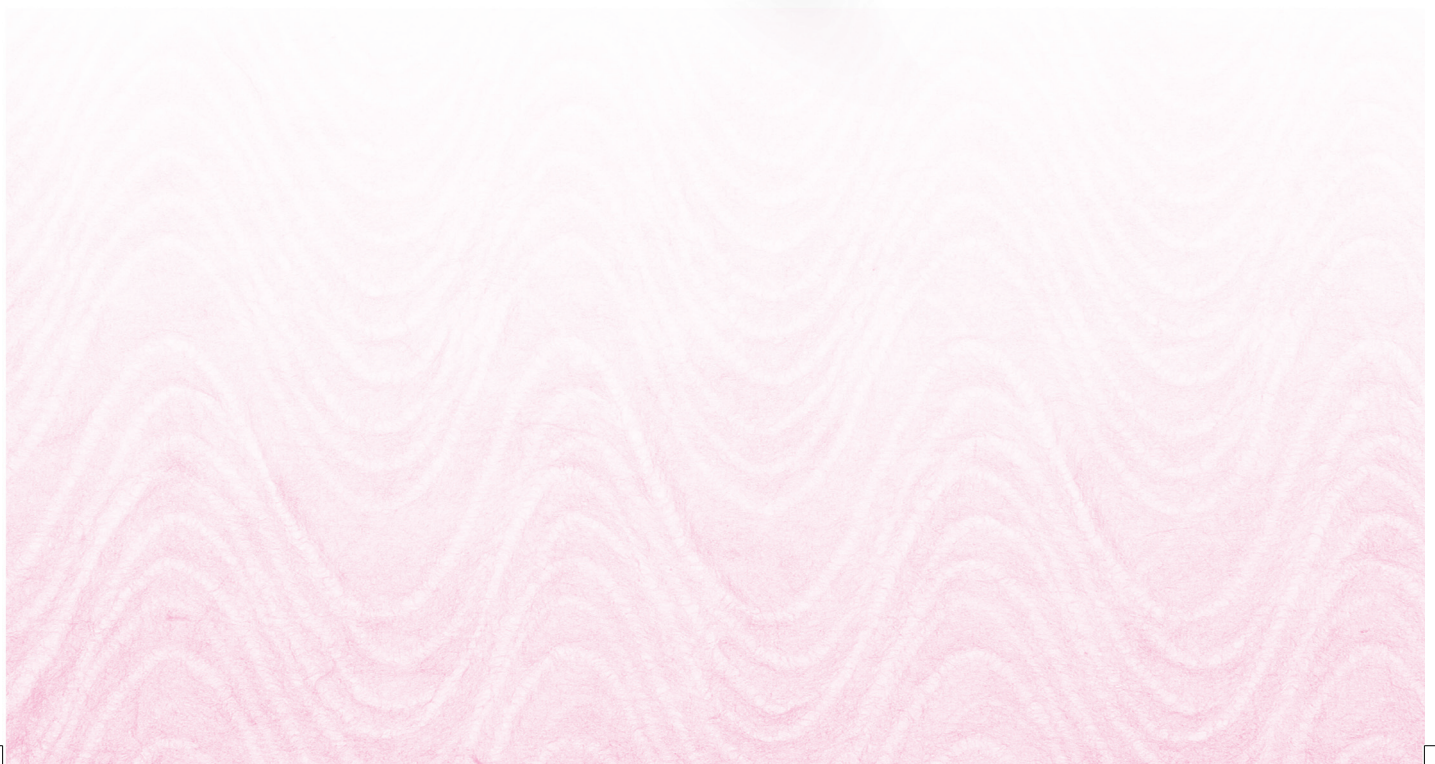
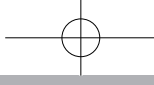


International Standard Library of Chinese Medicine

Pediatrics in Chinese Medicine





Project Editors: Zeng Chun, Liu Shui, Harry F. Lardner
Copy Editor: Ye Xiao & Zhang Yu
Book Designer: Yin Yan
Cover Designer: Yin Yan
Typesetter: Wei Hong-bo





International Standard Library of Chinese Medicine

Pediatrics in Chinese Medicine

Wang Shou-chuan

Professor and Chief Physician of TCM Pediatrics, Nanjing University of CM, Nanjing, China

Julie Mulin Qiao-Wong

Professor of Chinese Medicine, School of Health Sciences, Victoria University, Melbourne, Australia

Zhao Xia, Ph.D. TCM

Professor and Associate Chief Physician of TCM Pediatrics, Nanjing University of CM, Nanjing, China

Co-Author

Jiang Nan

Interpreter, School of Foreign Languages, Southwest Jiaotong University, Chengdu, China



人民卫生出版社
PMPH PEOPLE'S MEDICAL PUBLISHING HOUSE

Website: <http://www.pmph.com/en>

Book Title: Pediatrics in Chinese Medicine (International Standard Library of Chinese Medicine)
中医儿科学 (国际标准化英文版中医教材)

Copyright © 2012 by People's Medical Publishing House. All rights reserved. No part of this publication may be reproduced, stored in a database or retrieval system, or transmitted in any form or by any electronic, mechanical, photocopy, or other recording means, without the prior written permission of the publisher.

Contact address: No. 19, Pan Jia Yuan Nan Li, Chaoyang District, Beijing 100021, P.R. China, phone/fax: 8610 5978 7338, E-mail: pmph@pmph.com

For text and trade sales, as well as review copy enquiries, please contact PMPH at pmphsales@gmail.com

Disclaimer

This book is for educational and reference purposes only. In view of the possibility of human error or changes in medical science, the author, editor, publisher and any other party involved in the publication of this work do not guarantee that the information contained herein is in any respect accurate or complete. The medicinal therapies and treatment techniques presented in this book are provided for the purpose of reference only. If readers wish to attempt any of the techniques or utilize any of the medicinal therapies contained in this book, the publisher assumes no responsibility for any such actions. It is the responsibility of the readers to understand and adhere to local laws and regulations concerning the practice of these techniques and methods. The authors, editors and publishers disclaim all responsibility for any liability, loss, injury, or damage incurred as a consequence, directly or indirectly, of the use and application of any of the contents of this book.

First published: 2012
ISBN: 978-7-117-14725-5/R · 14726

Cataloguing in Publication Data:
A catalogue record for this book is available from the
CIP-Database China.

条形码

Printed in The People's Republic of China



Contributors

Ai Jun, Ph.D. TCM

Professor of Chinese Medicine, Head of the Teaching & Research Department of Preclinical Medicine, Guangxi Traditional Chinese Medical University, Nanning, China

Li Dan, Ph.D. TCM

Associate Chief Physician of TCM Pediatrics, Guangdong Provincial Hospital of TCM, Guangzhou, China

Lu Hai-yan, M.S. TCM

Attending Physician of TCM Pediatrics, Shanxi Provincial Hospital of TCM, Taiyuan, China

Yang Yan, Ph.D. TCM

Chief Physician of TCM Pediatrics, Beijing Children's Hospital, Capital University of Medical Science, Beijing, China

Wu Li-qun, Ph.D. TCM

Chief Physician of TCM Pediatrics, Dongfang Hospital; Head of the Teaching & Research Section of TCM Pediatrics, Dongfang College of Clinical Medicine, Beijing University of CM, Beijing, China

He Li, Ph.D. TCM

Associate Chief Physician of TCM Pediatrics, Shanghai Children's Hospital Affiliated to Shanghai Jiaotong University, Shanghai, China

Chen Xuan-ming, M.S. TCM

Attending Physician of Chinese External Medicine, Nanjing University of CM, Nanjing, China

Qin Yan-hong

Chief Physician of TCM Pediatrics, Shanxi College of TCM, Taiyuan, China

Xu Shan, M.S. TCM

Teaching Assistant of TCM Pediatrics, Nanjing University of CM, Nanjing, China

Gao Yan, M.S. TCM

Resident Physician of TCM Pediatrics, Jiangsu Provincial Second Hospital of TCM, Nanjing University of CM, Nanjing, China

Huang Ying, M.S. TCM

Resident Physician of TCM Pediatrics, Jiangning Hospital, Nanjing University of CM, Nanjing, China

Xia Chen, M.S. TCM

Attending Physician of Chinese External Medicine, Nanjing Children's Hospital, Nanjing, China

English Editors

Gavin Michael Wright, MBBS, FRACS

Clinical Associate Professor, Department of Surgery, University of Melbourne, Melbourne, Australia

Natasha Bakker

Traditional Chinese Medicine Practitioner, Former Academy of Traditional Chinese Medicine, Melbourne, Australia

**Ming-de Lin**

Practitioner of Chinese Medicine, Former
Chinese Medicine Faculty, Victoria
University, Melbourne, Australia

Zhen Zheng, PhD

TCM Research Group, Health
Innovations Research Institute, School
of Health Sciences, RMIT University,
Melbourne, Australia

Thomas P Cheung, PhD

Former Lecturer of Chinese Medicine
& Acupuncture, RMIT University,
Melbourne, Australia

Sophia Eve Wong

Studying Bachelor, University of
Melbourne, Melbourne, Australia

Laura Setyo

Studying Bachelor of Veterinary Science,
University of Queensland, Australia

Taniae Laura Wong

Studying Bachelor, Monash University,
Melbourne, Australia

Georghios Panayiotis Kounnas, MBBS

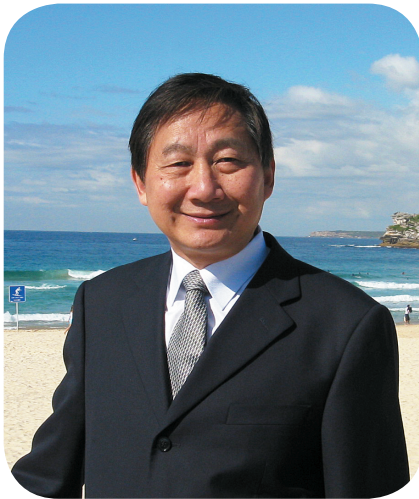
General Practitioner (V.R), Australia

Benlin You

Former Associate Professor, Nanjing
University of Chinese Medicine



About the Authors



Prof. Wang Shou-chuan is Director, Chief Physician, and Doctoral Supervisor at the Pediatrics Institute of Nanjing University of Chinese Medicine (NUCM), President of the WFCMS Pediatrics Specialty Committee, and a member of the Academic Degrees Committee of the China State Council. Prof. Wang has devoted himself to TCM pediatrics for more than 40 years and has been cited as a nationally outstanding teacher. He has taken charge of 22 research projects at the national, provincial and bureau levels, and has won 21 awards including the National Science and Technology Progress Award of Chinese Medicine. He has published

over 190 papers, 60 academic monographs and textbooks including various editions of the textbook, *Pediatrics in Chinese Medicine*.



In a career spanning more than 39 years, **Prof. Julie Mulin Qiao-Wong** has been a TCM pediatric practitioner and lecturer at some of the most renowned universities, hospitals, and clinics in both China and Australia. She first worked at a busy TCM hospital in southern China when U.S. President Nixon first visited China in early 1972. Since then, she was fortunate to apprentice under some of the most famous Chinese pediatric physicians in Jiangsu Province during the early 1980s, and as a senior pediatrician at the Guangzhou University of TCM in late 1980s. Prof. Mulin Qiao-Wong was one of the first registered Chinese medicine practitioners in Australia, where she has practiced and served as an instructor at Victoria University. She previously lectured at the RMIT University, the Academy of Traditional Chinese Medicine, and the Australia College of Natural Medicine.



Prof. Zhao Xia serves as an Associate Chief Physician and Doctoral Supervisor at the Nanjing University of Chinese Medicine. Prof. Zhao is General Secretary of the WFCMS Pediatrics Specialty Committee and serves as a committee member of the Pediatrics Branch of the China Association of Chinese Medicine, and is a leading scholar of TCM pediatrics at Nanjing University of Chinese Medicine.

Professor Zhao has been engaged in research on the treatment of pediatric lung and spleen conditions with Chinese medicine, and she has published over thirty different research articles and edited twenty professional books including *"Materia Medica for Dietotherapy"*, *"The New Century Chinese-English Dictionary of Chinese Medicine"* and *"Pediatrics in Traditional Chinese Medicine"*.



Editorial Board for *International Standard Library of Chinese Medicine*

Executive Directors

Li Zhen-ji (李振吉)

Vice Chairman and Secretary-general,
World Federation of Chinese Medical
Societies, Beijing, China

Hu Guo-chen (胡国臣)

President and Editor-in-Chief, People's
Medical Publishing House, Beijing,
China

Directors

You Zhao-ling (尤昭玲)

Former President and Professor of Chinese
Medical Gynecology, Hunan University of
TCM, Changsha, China

Xie Jian-qun (谢建群)

President and Professor of Chinese Internal
Medicine, Shanghai University of TCM,
Shanghai, China

General Coordinator

Liu Shui (刘水)

Director of International TCM Publications, People's Medical Publishing House,
Beijing

Members (Listed alphabetically by last name)

Chang Zhang-fu (常章富)

Professor of Chinese Materia Medica, Beijing
University of CM, Beijing, China

Chen Hong-feng (陈红凤), Ph.D. TCM

Professor of Chinese External Medicine,
Shanghai University of TCM, Shanghai, China

Chen Jia-xu (陈家旭), Ph.D. TCM

Professor of TCM Diagnostics, Beijing
University of CM, Beijing, China

Chen Ming (陈明)

Professor of *Shāng Hán Lùn*, Beijing University
of CM, Beijing, China

Cui Hai (崔海), Ph.D. TCM

Associate Professor of TCM, Capital Medical
University, Beijing, China

Deng Zhong-jia (邓中甲)

Professor of Chinese Medicinal Formulae,
Chengdu University of TCM, Chengdu, China

Ding Xiao-hong (丁晓红)

Associate Professor of Tui Na, International
Education College, Nanjing University of TCM,
Nanjing, China

Doug Eisenstark, L.Ac

Professor of Chinese Medicine, Emperors
College, Los Angeles, USA

Stephen X. Guo (郭鑫太), M.A. International
Affairs

Director of Jande International, New York, USA

Han Chou-ping (韩丑萍)

Associate Professor, International Education
College, Shanghai University of TCM, Shanghai,
China



Hu Jun (胡俊), B.A. Medical English

Currently pursuing Master's of Science in Social History of Medicine, Peking University, Beijing, China

Hu Ke-xin (胡克信), Ph.D. TCM

Professor of Otorhinolaryngology, Keelung City Municipal Hospital, Taiwan, China

Hu Zhen (胡臻)

Professor and Head of Department of Traditional Chinese Medicine, Wenzhou Medical College, Wenzhou, China

Huang Fei-li (黄菲莉)

Professor of Cosmetology, Hong Kong Baptist University, Hong Kong, China

Rebecca Parker, MSOM, TCM, L.Ac.

Doctor of Brooklyn Open Acupuncture, New York, USA

Jia De-xian (贾德贤), Ph.D. TCM

Professor of Chinese Materia Medica, Beijing University of CM, Beijing, China

Jin Hong-zhu (金宏柱)

Professor of Acupuncture & Tui Na, Nanjing University of TCM, Nanjing, China

Lao Li-xing (劳力行), Ph.D.

Professor of Acupuncture and Moxibustion, University of Maryland School of Medicine, Baltimore, USA
Past Co-President of the Society for Acupuncture Research

Hon K. Lee (李汉光), Dipl. OM, L.Ac.

Director of the Jow Ga Shaolin Institute, Herndon, Virginia, USA

Li Dao-fang (李道坊), Ph.D. TCM

Acupuncturist, Chinese American Acupuncture Center, Orlando, Florida, USA

Mei Li (李梅), M.S. TOM, L.Ac.

Translator and Editor, People's Medical Publishing House, Beijing, China

Li Ming-dong (李名栋), Ph.D. OMD, L.Ac.

Professor of Chinese Internal Medicine, Yo San University of Traditional Chinese Medicine, Los Angeles, USA

Li Wan-ling (李云宁)

Qi Gong and TCM Translator, Beijing, China

Liang Li-na (梁丽娜), Ph.D. TCM

Associate Professor of Ophthalmology, Eye Hospital of China Academy of Chinese Medical Sciences, Beijing, China

Liu Zhan-wen (刘占文)

Professor of Chinese Medicine, Beijing University of Chinese Medicine, Beijing, China

Lü Ming (吕明)

Professor of Tui Na, Changchun University of Chinese Medicine, Changchun, China

Mark L. Mondot, B.A. Chinese Language, L.Ac.

Translator and Editor, People's Medical Publishing House, Beijing, China

Jane Lyttleton, Hons, M Phil, Dip TCM, Cert Ac.

Lecturer, University of Western Sydney, Sydney, Australia

Julie Mulin Qiao-Wong (乔木林)

Professor of Chinese Medicine, Victoria University, Melbourne, Australia

Andy Rosenfarb, M.S. TOM, L.Ac.

Acupuncture Health Associates, New Jersey, USA



Paul Ryan, M.S. TCM (Beijing), Dipl. OM (NCCAOM), L.Ac.

Acupuncture Preceptor, Lutheran Medical Center, Department of Medicine, Brooklyn, New York, USA

Martin Schweizer, Ph.D. Molecular Biology, L.Ac.

Emeritus Professor of Medicinal Chemistry, University of Utah, USA

Secondo Scarsella, MD, DDS

Visiting Professor of Tui Na, Nanjing University of TCM, China Department of Maxillofacial Surgery, San Salvatore Hospital, L'Aquila, Italy

Sun Guang-ren (孙广仁)

Professor of TCM Fundamentals, Shandong University of TCM, Jinan, China

Tsai Chun-hui, Ph.D.

Associate Professor of Pediatrics, School of Medicine, University of Colorado, Denver, USA

Tu Ya (图娅)

Professor of Acupuncture and Moxibustion, Beijing University of CM, Beijing, China

Wang Shou-chuan (汪受传)

Professor of TCM Pediatrics, Nanjing University of CM, Nanjing, China

Wei Qi-ping (韦企平)

Professor of Ophthalmology, Beijing University of CM, Beijing

Douglas Wile, Ph.D.

Former Professor of History & Philosophy of Chinese Medicine and of Chinese Language at Pacific College of Oriental Medicine, New York; Professor of Chinese language at Alverno College, Milwaukee, USA

Jane Frances Wilson, M.S., L.Ac.

Senior Lecturer of School of Life Sciences, University of Westminster, London, UK

Xiao Ping (肖平)

Associate Professor, Hunan University of TCM, Changsha, China

Xu Shi-zu (徐士祖), M.A. Chinese Martial Arts

Chinese Traditional Sports and Health Cultivation Instructor, School of Physical Education in Wenzhou Medical College, Wenzhou, China

Yan Dao-nan (严道南)

Professor of Otorhinolaryngology, Nanjing University of CM, Nanjing, China

Ye Qiao-bo (叶俏波), Ph.D. TCM

Lecturer of Chinese Medicinal Formulae, Chengdu University of TCM, Chengdu, China

Zhang Ji (张吉)

Professor of Acupuncture and Moxibustion, Beijing University of CM, Beijing, China

Zhang Ji (张季), Ph.D. TCM

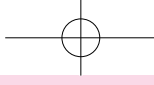
Professor of Chinese Materia Medica, Emperor's College of Oriental Medicine, Alhambra University, Dongguk University, Los Angeles, USA

Helen Q. Zhang (张齐), Ph.D. TCM, L.Ac.

Director of Qi TCM Clinic, New York, USA

Zhang Qing-rong (张庆荣)

Professor of TCM Fundamentals, Liaoning University of TCM, Shenyang, China



Zhao Bai-xiao (赵百孝), Ph.D. TCM

Professor of Acupuncture and Moxibustion,
Dean, School of Acupuncture and Moxibustion,
Beijing University of CM, China

Zhao Xia (赵霞), Ph.D. TCM

Professor of TCM Pediatrics, Nanjing University
of CM, Nanjing, China

Zhou Gang (周刚), Ph.D. TCM

Lecturer of *Shāng Hán Lùn*, Beijing University of
CM, Beijing, China

Gregory Donald Zimmerman, M.S. L.Ac.

Lecturer, Southern California University of
Health Sciences (formerly LACC), California,
USA

Sponsored by
World Federation of Chinese Medicine Societies



Preface

As an important part of TCM clinical medicine, the essence of TCM pediatrics emphasizes the overall concept of treatment based on pattern differentiation as associated with the interchange of yin and yang, integration of form and spirit, *zang-fu* organ and channel theory, formulas studies, and dietary therapy and nursing, all of which guide clinical practice.

Children are not simply miniature version of adults. Although TCM pediatrics and TCM internal medicine are similar to some degree, the differences are also quite obvious. They share the same theoretical foundation and the discrepancies might be summarized as follows:

1. Children are in the stage of growth and development, so the physiological and pathological features and the methods for prevention and nursing are unique.
2. The causes of pediatric diseases are also different, being mainly associated with exogenous pathogens attack, food damage, and prenatal factors. Diseases ascribed to lung and spleen channels account for an especially large proportion of conditions.
3. Children are susceptible to some diseases, e.g. influenza, hand-foot-and-mouth disease, chickenpox, mumps, and allergic purpura while some diseases are much more rarely seen such as stroke, coronary heart disease, high blood pressure and so on. Therefore, these features must be taken into account and combined with the knowledge of TCM internal medicine.

There is no doubt that TCM pediatrics has made a great contribution to the health of the Chinese nation throughout history. Today, TCM pediatrics is going global, providing health services for children in various countries and regions.

In past decades, children's health has improved along with the social and economical developments of each country. But, needless to say, we still have challenges: in developing countries, malnutrition, diarrhea, pneumonia and other diseases lead to millions of deaths; in developed countries, obesity, anorexia, behavioral disorders and other diseases bring new troubles to children and parents; infectious diseases such as AIDS, hand-foot-and-mouth disease, avian flu and all kinds of influenza are still hard to tackle. It is proven that TCM treatment has certain advantages and characteristics in some pediatric diseases; therefore, TCM and Western pediatrics should work together to further improve children's health in the world right now and in the future.

The development of overseas TCM education has called for a series of TCM textbooks. In order to meet this need, the World Federation of Chinese Medicine Societies, the World Federation of Acupuncture-Moxibustion Society, and the People's



Medical Publishing House have organized the compilation of this International Standard Library of Chinese Medicine, with *Pediatrics in Chinese Medicine* as part of the series.

This book is different from TCM pediatrics textbooks written in Chinese, and also different from any English textbooks available today. Before compiling this book we carefully studied the pedagogical targets, and the content and methodology of international TCM education in order to meet the training objectives of TCM of the target country and the basic global knowledge requirements. However, it is important to note that treatments in this text that include intravenous administration of Chinese patent medicines may not be within the reader's scope of practice. The treatment methods provided here should only be performed by medical professionals who are legally qualified to practice such procedures.

On the basis of traditional textbooks on TCM pediatrics and in consideration of our readership, we have added extra material on acupuncture and tui na. In the process of selecting diseases, we have listed those for which TCM treatments are effective and distinctive, and also have taken into account worldwide incidence of childhood diseases. In order to promote overseas teaching, we have provided here a DVD from which students can learn diagnostic and treatment methods of TCM more directly.

This book stresses standardization. Terms are accurate and in line with the relevant international standards (WHO standards) and the Chinese national standards. Western medical terms are also consistent with the relevant international standards. In the process of translation, we refer to PMPH term list, and for terms that do not appear in the PMPH list, we have adopted the *International Standard Chinese-English Basic Nomenclature of Chinese Medicine* published by WFCMS. As for other terms that have not been covered by the forside term lists, the translation principles involve transparency, consistency and conciseness.

The content of this book falls into two parts: TCM pediatric fundamentals and TCM pediatric diseases.

Part I Fundamentals of TCM Pediatrics introduces the basic knowledge including a brief history and discussions of age group distribution, growth and development, physiological, etiological and pathological characteristics, general healthcare, TCM pediatric diagnosis and an overview of treatment principles.

Parts II-VIII discuss children's diseases in detail, including the concept, incidence, pathogenesis, diagnosis and differential diagnosis, pattern differentiation, treatment, prevention and nursing care. In order to facilitate student's learning and clinical practice, we have attached case studies and study exercises to each chapter. Individual monographs include lung diseases (common cold, cough, pneumonia, asthma, recurrent respiratory infections), spleen diseases (oral thrush, aphthae, stomach-epigastric pain, anorexia, diarrhea, food accumulation, malnutrition in children, nutritional iron deficiency anemia), heart-liver diseases (sweating syndrome, attention deficit hyperactivity disorder, Tourette Syndrome, infantile



convulsions, epilepsy), kidney diseases (acute glomerulonephritis, nephrotic syndrome, frequent urination, enuresis, cerebral palsy, sexual precocity), infectious diseases (measles, exanthema subitum, rubella, chickenpox, HFMD, mumps, malaria, AIDS), neonatal diseases (fetal feebleness, sclerema neonatorum, neonatal jaundice), and others (anaphylactoid purpura, mucocutaneous lymph node syndrome, vitamin D deficiency rickets, infantile eczema).

For the student's convenience, our appendix includes dosages of Chinese medicinals, formulas, patent Chinese medicines for common pediatric diseases, a cross-reference of disease names in Chinese and Western medicine, and the answer keys to the exercises.

This book has received guidance, support and assistance of the following esteemed experts:

Professor Li Zhen-ji, Vice Chairman and Secretary-General, WFCMS

Hu Guo-chen, President and Editor-in-Chief, PMPH

Liu Shui, Director of International TCM Publications, PMPH

Zeng Chun, Project Editor of International Publications, PMPH

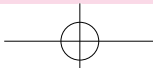
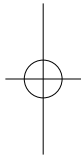
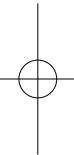
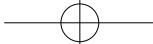
Harry F. Lardner, Project Editor of International Publications, PMPH

Prof. Wu Mian-hua, Academic Dean, Nanjing University of Chinese Medicine

Assoc. Prof. Gavin Michael Wright, Director of Surgical Oncology, St. Vincent's Hospital, Melbourne University

To all of the above-mentioned individuals we wish express our heartfelt gratitude and appreciation.

Wang Shou-chuan
Julie Mulin Qiao-Wong
Zhao Xia
January 2012





Contents

Part I Fundamentals of TCM Pediatrics 1

Chapter 1	A Brief History of TCM Pediatrics	2
Chapter 2	Age Group Distribution	20
Chapter 3	Childhood Growth and Development	26
Chapter 4	Physiological, Etiological and Pathological Characteristics	47
Chapter 5	Health Care for Children	63
Chapter 6	Essentials of Pediatric Diagnostics	86
Chapter 7	An Overview of Pediatric Therapeutics	117

Part II Lung Diseases 145

Chapter 8	Common Cold (<i>Gǎn Mào</i>)	146
Chapter 9	Cough (<i>Ké Sòu</i>)	168
Chapter 10	Pneumonia (<i>Fèi Yán Chuǎn Sòu</i>)	187
Chapter 11	Asthma (<i>Xiào Chuǎn</i>)	212
Chapter 12	Recurrent Respiratory Infections	237

Part III Spleen Diseases 251

Chapter 13	Oral Thrush (<i>É Kǒu Chuāng</i>)	252
Chapter 14	Aphthae (<i>Kǒu Chuāng</i>)	264
Chapter 15	Stomach-Epigastric Pain (<i>Wèi Wǎn Tòng</i>)	279
Chapter 16	Anorexia (<i>Yàn Shī</i>)	300
Chapter 17	Diarrhea (<i>Xiè Xiè</i>)	315
Chapter 18	Food Accumulation (<i>Jī Zhì</i>)	338
Chapter 19	Malnutrition in Children (<i>Gān Zhèng</i>)	356
Chapter 20	Nutritional Iron Deficiency Anemia	383

Part IV Heart-Liver Diseases 405

Chapter 21	Sweating Syndrome (<i>Hàn Zhèng</i>)	406
Chapter 22	Attention Deficit Hyperactivity Disorder	420
Chapter 23	Tourette Syndrome (Multiple Tic Disease)	438
Chapter 24	Infantile Convulsions (<i>Jīng Fēng</i>)	454



Chapter 25	Epilepsy (<i>Diān Xián</i>).....	482
------------	------------------------------------	-----

Part V	Kidney Diseases	507
---------------	------------------------------	------------

Chapter 26	Acute Glomerulonephritis	508
Chapter 27	Nephrotic Syndrome	533
Chapter 28	Frequent Urination (<i>Niào Pín</i>)	566
Chapter 29	Enuresis (<i>Yí Niào</i>).....	580
Chapter 30	Cerebral Palsy.....	599
Chapter 31	Sexual Precocity	618

Part VI	Infectious Diseases	633
----------------	----------------------------------	------------

Chapter 32	Measles (<i>Má Zhěn</i>)	634
Chapter 33	Exanthema Subitum (Roseola Infantum)	655
Chapter 34	Rubella (German Measles) (<i>Fēng Zhěn</i>)	665
Chapter 35	Chickenpox (<i>Shuǐ Dòu</i>).....	676
Chapter 36	Hand, Foot and Mouth Disease	687
Chapter 37	Epidemic Parotitis/Mumps.....	704
Chapter 38	Malaria (<i>Nüè Jí</i>).....	722
Chapter 39	AIDS	742

Part VII	Neonatal Diseases	765
-----------------	--------------------------------	------------

Chapter 40	Fetal Feebleness (<i>Tāi Qiè</i>).....	766
Chapter 41	Sclerema Neonatorum	778
Chapter 42	Neonatal Jaundice (<i>Tāi Huáng</i>)	791

Part VIII	Other Diseases	807
------------------	-----------------------------	------------

Chapter 43	Anaphylactoid Purpura	808
Chapter 44	Mucocutaneous Lymph Node Syndrome (Kawasaki Disease)	824
Chapter 45	Vitamin D Deficiency Rickets	837
Chapter 46	Infantile Eczema.....	850

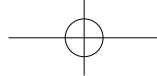
Appendix I	Pediatric Medicinal Dosage Charts	863
-------------------	--	------------

Appendix II	Formulas	874
--------------------	-----------------------	------------

Appendix III	Chinese Patent Medicines	896
---------------------	---------------------------------------	------------

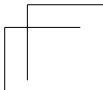
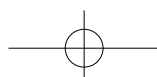
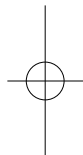
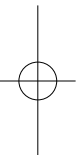


Appendix IV Cross-Reference of Disease Names in Chinese and Western Medicine	914
Appendix V Answer Key	918
Index	919



Part I

Fundamentals of TCM Pediatrics



Chapter I

A Brief History of TCM Pediatrics

TCM pediatrics developed along with the historical development of both Chinese culture and TCM, which naturally involved centuries of accumulated experience in child nursing, disease prevention and treatment. TCM pediatrics has a unique theoretical framework and specific clinical practices that have been influenced to some degree by the achievements of modern medicine and related disciplines while continuing to maintain the characteristics of a traditional medicine. The history of TCM pediatrics can be divided into the following four periods.

1. GERMINATION PERIOD (REMOTE ANTIQUITY TO NORTHERN AND SOUTHERN DYNASTIES)

Primitive child healthcare dates back to the earliest days of mankind, and the original sprout of TCM pediatrics can be traced back to since the emergence of the Chinese race. During the “Peking Man” period (approx. 500,000 years ago), human beings were vulnerable to natural disasters, hunger and disease because of the relatively severe living conditions. Life and health were often under threat and many people died at a young age. According to an archaeological survey on 40 individuals from 500,000 years ago, the average life span of the “Peking Man” was about 14 years. Among 39 early Chinese cavemen, 39.5% were found to have died at around age 14, and 3 out of 7 “Zhoukoudian cavemen” had died during childhood. So in a certain sense, medical healthcare during ancient times mainly referred to child healthcare.

Medical practices for pediatric diseases were recorded as early as the time of the Yellow Emperor (28th-27th century B.C.). According to legend, Wu Fang was a practitioner of pediatrics during the middle ancient times. The *Treatise on the Origins and Manifestations of Various Diseases—Pediatrics* (Zhū Bing Yuán Hòu Lùn—Yǎng Xiǎo Ēr Hòu) from the Sui Dynasty records, “There was a physician called Wu Fang in the middle ancient times. He wrote *Children’s Fontanelle and Skull Classic* (Xiǎo Ēr Lú Xīn Jīng), a book that could forecast a person’s life span, which also discussed the severity of various diseases. As a reference on children’s diseases, this book has been passed down from generation to generation and it is still in use today.”

As evidenced by ancient rock paintings and totems unearthed by archeologists, the ancient Chinese considered the act of reproduction as sacred in regards to their ancestors and descendants. *The Book of Changes* later stated, “sexual intercourse engenders everything”.

Bone and tortoise shell inscriptions unearthed from the Yin Ruins of the Shang Dynasty record more than 20 diseases names and pediatric conditions including tooth decay and parasitic diseases. There are also oracle inscriptions that record children’s diseases; one example refers to the son of Shang Dynasty Emperor Wu Ding, who had a “head disease”.

Literature from the Western Zhou to the Spring and Autumn Periods also contain related content regarding pediatrics. The *Book of Songs—Daya* (Shī Jīng—Dà Yǎ) advised that to ensure healthy full-term babies, pregnant women should abstain from sexual activity.

The *National Ceremony—Da Situ* (Guó Lǐ—Dà Sī Tú) also outlined six tasks for maintaining the nation, with care of the young as the priority.

During the Warring States Period, Bian Que was the first clearly recorded pediatrician. The *Historical Record—Bian Que Biographies* (Shǐ Jì—Biǎn Què Cāng Gōng Liè Zhuàn) stated, “Bian Que was famous around the country; when he came to Xian Yang and was told that the Qin people were very fond of children, he then became a pediatrician”. The monograph *Formulas for Fifty-two Diseases* (Wǔ Shí Èr Bīng Fāng) recorded children’s diseases such as “infantile epilepsy” even earlier than *The Yellow Emperor’s Inner Classic* (Huáng Dì Nèi Jīng).

The Yellow Emperor’s Inner Classic established the theoretical framework of TCM and elaborated on many pediatric topics associated with etiology, pathology, diagnostic methods, prognosis, and acupuncture treatment.

The Yellow Emperor’s Inner Classic—Basic Questions (Huáng Dì Nèi Jīng—Sù Wèn) states: “When a girl is age 7, kidney qi starts to grow prosperously, the teeth are replaced, and the hair grows. When she reaches 14, *tianguì* (reproduction-stimulating essence) is produced, the *ren mai* is smooth, the *tai chong mai* is prosperous, and the menstrual period begins regularly.” (女子七岁，肾气盛，齿更发长；二七而天癸至，任脉通，太冲脉盛，月事以时下。)

Also, “When a boy is age 8, the kidney qi is in excess, the hair grows and teeth are replaced. When he reaches 16, the kidney qi grows prosperous, producing *tianguì*; the essence-qi overflows and rushes down and then he is capable of reproduction.” (丈夫八岁，肾气实，发长齿更；二八肾气盛，天癸至，精气溢泻，阴阳和，故能有子。)

The Yellow Emperor’s Inner Classic—The Spiritual Pivot (Huáng Dì Nèi Jīng—Líng Shū) pointed out the physiological characteristics of infants were “fragile muscles, scant blood, and weak qi.” *The Inner Classic* contains many records on diagnosis and prognosis for pediatric illnesses. *The Inner Classic: Basic Questions* claimed that “if a baby has a heat condition, the pulse is thready and weak. What is the prognosis for this infant? Qi Bo said: if his hands and feet are warm, the prognosis is good; if his hands and feet are cold, then he is going to die.” (乳子而病热，脉悬小者何如？岐伯曰：手足温则生，寒则死。)

“If a baby is attacked by wind-heat and has symptoms of panting, rales, and lifted shoulders, what is the pulse manifestation? Qi Bo said: For a baby with panting, rales and lifted shoulders, the pulse is excess and large. If the pulse is relatively moderate, the prognosis is favorable; if the pulse is rapid, the disease is life-threatening.”

In regard to fetal diseases, *Basic Questions* states: “If a baby is born with epilepsy, what is the name and cause of this disease? Qi Bo answered: it is called fetal disease. When the baby was still in the uterus, the mother was terrified suddenly, resulting in qi rebelling upwards with essence and qi aggregating and failing to disperse; after this the newborn will be born with epilepsy.” (人生而有病癫疾者，病名曰何？安所得之？岐伯曰：病名为胎病。此得之在母腹中时，其母有所大惊，气上而不下，精气并居，故令子发为癫疾也。)

In regards to acupuncture, *The Spiritual Pivot* states, “Huang Di asked: what is the method for applying acupuncture to infants? A filiform needle is used; insert the needle shallowly and withdraw it quickly, do this twice a day.” (黄帝曰：刺婴儿奈何？……刺此者，以毫针，浅刺而疾发针，日再可也。)

From the Qin to the Han Dynasties, the earliest pediatric cases were recorded by physicians such as Chun Yu-yi, a famous physician in the Western Han Dynasty who employed *Xià Qì Tāng*—Qi-Descending Decoction to treat hiccups, while Eastern Han



Dynasty physician Hua Tuo applied *Sì Wù Nǚ Wǎn Wán*—Four Kinds of Medicinals Pill to treat dysentery.

At the end of the Eastern Han Dynasty, Zhang Zhong-jing wrote *Treatise on Cold Damage and Miscellaneous Diseases* (*Shāng Hán Zá Bìng Lùn*), which treated exogenous disease with six channel differentiation, and miscellaneous diseases with *zang-fu* differentiation. This text greatly influenced the formation of pattern differentiation in pediatrics in later generations.

Wang Shu-he of the Western Jin Dynasty discussed children's pulses in *The Pulse Classic* (*Mài Jīng*), claiming that "it is a normal manifestation that when adults breathe once, the pulse of a 4-5 year-old child beats eight times and the pulse is thready and rapid". This statement points out that thready and rapid pulses in children are different from those in adults.

In the Northern and Southern Dynasties, China had established a system of medical education. According to *Tang Six Code* (*Táng Liù Diǎn*) in the Southern Dynasty, Emperor Song Wen-di had already set up court medical education; there were many well-known physicians taught over the generations during the Northern and Southern Dynasties.

The Xu family was most famous because more than 40 generations had engaged in medical services from the time span lasting from the Northern and Southern Dynasties to the Sui, Tang, Song and Yuan Dynasties. Among their family members there were many famous pediatricians such as Xu Shu-xiang who wrote *Formulas for Treating One Hundred Children's Diseases* (*Liáo Shào Xiǎo Bǎi Bìng Zá Fāng*) and *Formulas for Treating Children's Diseases* (*Liáo Shào Xiǎo Zá Fāng*); Xu Zhi-cai also wrote *Children's Formulas* (*Xiǎo Ér Fāng*). Unfortunately, all of these monographs have been lost.

2. FORMATION PERIOD (SUI AND SONG DYNASTIES, 581-1279)

Chao Yuan-fang of the Sui Dynasty compiled *Treatise on the Origins and Manifestations of Various Diseases* (*Zhū Bìng Yuán Hòu Lùn*) which is the earliest monograph on pediatric etiology and patterns. 6 volumes in this book discussed 255 patterns associated with children's disease. Chao divided children's external diseases into cold damage and seasonal epidemics, with *zang-fu* differentiation applied to internal diseases. The book also laid a good foundation for Qian Yi to establish further differentiation systems in TCM pediatrics.

This book suggests that "although a newborn's muscles are delicate and immature, they do not need to be covered by thick clothing, as this can lead to flaccid weak muscles and bones. Parents should take babies outdoors, allowing them to breathe fresh air and have sun exposure; otherwise, their skin and muscles will be weak and vulnerable to injury. When the climate is clear and sunny, mothers should take their babies outside to play, breathing fresh air and basking in the sunshine so that their babies' qi and blood are prosperous, and so that their muscles are strong enough to protect the body from cold, wind, and diseases". All of these ideas are correct views of child raising and nursing, and thus play a significant role in pediatric care, even today.

In 624 A.D. during the period of Emperor Tang Gao-zu, it was possible to achieve a degree in medical science at the Imperial Academy of Medicine, and pediatrics was included in the curriculum. Students were qualified as pediatricians by passing an examination after five years of study.

Tang Dynasty physician Sun Si-miao listed and discussed women's and children's diseases before other diseases in his book *Important Formulas Worth a Thousand Gold*

Pieces for Emergencies (*Bèi Jí Qiān Jīn Yào Fāng*), because he believed that “to keep people prosperous, raising children is first and foremost. Without healthy babies, there are no healthy adults.”

In his book, children’s diseases were listed in 9 categories and described in great detail. Thereafter, he wrote *Supplement to ‘Important Formulas Worth a Thousand Gold Pieces* (*Qiān Jīn Yì Fāng*); these two books record more than 500 formulas based on clinical experiences in pediatrics before the Tang Dynasty. In Wang Tao’s *Arcane Essentials from the Imperial Library* (*Wài Táí Mì Yào*), 2 of the 40 volumes discuss prevention and treatment of pediatric diseases.

The *Fontanelle and Skull Classic* (*Lú Xīn Jīng*) is the earliest known pediatric monograph written anonymously between the end of the Tang Dynasty and the beginning of the Song Dynasty. The first volume of the book puts forward that children under 3 years old belong to “pure yang” (*chun yang*), and that children’s pulse manifestations are different from adults, then also briefly discussing infantile convulsions and malnutrition. The second volume discusses 15 kinds of fire and *dan* toxin (erysipelas), as well as 16 miscellaneous diseases. The book records 56 formulas widely applied in pediatric medicine, internal medicine treatments using pills and powders, and 28 formulas for external application.

TCM pediatrics in the Song Dynasty, like other medical branches, underwent a rapid progression with developments in science and technology. In the organization of a medical system, the Imperial Physician’s Bureau established a Pediatrics Department (*Xiǎo Fāng Mài*) as one of the nine departments; 20 out of 300 medical students belonged to the department of pediatrics. It was later stipulated that for every three physicians, there should be one pediatrician. The imperial court attached great importance to children’s healthcare; in 1249, the Children’s Bureau was established to adopt abandoned infants.

Northern Song Dynasty physician Qian Yi (1032-1113) was a pediatric practitioner for more than 40 years who made outstanding contributions to the development of TCM pediatrics. His academic achievements were collected and compiled by his student Yan Ji-zhong, who edited the book *Keys to Diagnosis and Treatment of Children’s Diseases* (*Xiǎo Ér Yào Zhèng Zhí Jué*) which contains 3 volumes published in 1119, 350 years before the earliest Western pediatric monograph.

The first volume discussed the treatment methods of pulse patterns, the second volume listed 23 medical records, and the third volume recorded formulas. The physiological characteristics of children were described as being with “delicate and immature organs”; “although the organ is formed, it is not yet mature; although mature, it is not yet strong”, while the pathological characteristics were summarized as being with “an easy interchange between excess and deficiency, and between cold and heat”. These statements still serve as a significant guide in pediatric clinical practice.

As one of the pediatric four diagnostic methods, inspection is the most important, with facial signs (*miàn shàng zhèng*) and eye signs (*mù nèi zhèng*) as the major concerns.

The *Keys to Diagnosis and Treatment of Children’s Diseases* discusses 6 common pulse manifestations. The book clearly described differential diagnosis of several eruptive diseases (e.g. smallpox, chickenpox and measles) and gave detailed information about the symptoms, diagnosis and the treatment of measles. Convulsions and seizures were also distinguished. Acute and chronic convulsions were classified into different patterns as follows: acute convulsions belong to yang, heat and excess; this should be treated with cold



and purging medicinals. Chronic convulsions belong to yin, cold, and deficiency, and thus should be treated with warm and supplementing medicinals. These ideas comprised the main guidelines for the treatment of convulsions in later generations.

Qian Yi pioneered the five *zang* differentiation system, suggesting that the “heart governs fright”, “liver governs wind”, “spleen governs tiredness”, “lung governs panting”, and “kidney governs deficiency”. Each organ pattern was further differentiated into deficiency, excess, cold, and heat, along with the corresponding treatment methods, namely warming, clearing, supplementing and purging. The core treatment principle was to supplement deficiency and purge excess, accompanied by softening and moistening, clearing and nourishing, activating and supplementing, attacking pathogens without damaging healthy qi, and supplementing deficiency without hindering the elimination of pathogens.

He specialized in creating modifications of old formulas (e.g. *Dì Huáng Wán*—Rehmannia Pill) and developed new formulas (e.g. *Yì Gōng Sǎn*—Special Achievement Powder, *Xiè Bái Sǎn*—White-Draining Powder, *Dǎo Chì Sǎn*—Red Guiding Powder, *Bái Zhú Sǎn*—Rhizoma Atractylodis Powder). He developed 134 formulas, among which there were 70 pill formulas, 45 powder formulas, 6 paste formulas, 6 decoction formulas and 7 formulas for external use. Many formulas such as *Dì Huáng Wán*—Rehmannia Pill, *Yì Huáng Sǎn*—Yellow-Boosting Powder, *Xiè Bái Sǎn*—White-Draining Powder, *Bái Zhú Sǎn*—Rhizoma Atractylodis Powder are still used in pediatrics today. Qian Yi has made outstanding contributions to TCM pediatrics and is entitled to being known as the “Saint of Pediatrics”.

In the Northern Song Dynasty, smallpox, measles and other infectious diseases were prevalent. Dong Ji, a famous physician from Shandong province (who specialized in cold-cool treatment methods), compiled *Emergency Formulas for Children's Rashes* (*Xiǎo Ér Bān Zhěn Bèi Jí Fāng Lùn*), which recorded treatments using *Bái Hǔ Tāng*—White Tiger Decoction and medicinals such as *qīng dài* (Indigo Naturalis), *dà huáng* (Radix et Rhizoma Rhei), and others. Qian Yi wrote the preface for the book, which was also the first monograph discussing smallpox and measles.

A New Book of Pediatrics (*Yòu Yòu Xīn Shū*) compiled by Liu Fang during the Southern Song Dynasty contained 40 volumes and 627 categories. Many pre-Song Dynasty pediatric articles lost previously were collected with spleen-stomach diseases accounting for ¼ of the 2000 formulas collected. Also used by physicians before the Song Dynasty were the inspection methods for the venules of the three passes of the index finger, but among those extant medical books recording finger venules, this book contains the earliest description.

In the same period, *Discussions on Formulas for Healthy Children* (*Xiǎo Ér Wèi Shēng Zǒng Wēi Lùn Fāng*) was published by anonymous authors. This book collected and discussed many kinds of diseases from newborns to senior childhood, claiming that umbilical wind was a result of improper cutting of the umbilical cord at birth and that its cause was the same as tetanus in adults, thus urging people to cauterize the umbilical cord in order to prevent umbilical wind. When the author discussed incurable illnesses, he pointed out that “while our predecessors could not cure the illness, later generations will come to deal with it. It is certain that after hundreds of years, people will be able to tackle these incurable diseases.” (昔人之不能，而后人得之，千载之后，必有治今人不治之病者。)

Southern Song Dynasty physician Chen Wen-zhong was especially proficient in treating

pediatric exanthema variolosum (including smallpox, measles, and other infectious diseases with rashes), and in 1241 he wrote *Discussion on Formulas for Children's Pox* (*Xiǎo Ēr Dòu Zhěn Fāng Lùn*). This book discussed the causes of diseases with pox or rashes at onset, then covered treatment methods for these kinds of diseases with relevant empirical formulas. He warned not to use cold and cool formulas impetuously, and also advocated using warm supplementing medicinals such as *ròu guì* (Cortex Cinnamomi), *fù zǐ* (Radix Aconiti Lateralis Praeparata), *dīng xiāng* (Flos Caryophylli) to treat those with delayed eruptions or rash swellings due to yin excess and yang deficiency.

Chen Wen-zhong was the founder of the school of warm and supplementing treatments for rashes. In the year 1254, he published *Children's Diseases: Sources and Remedies* (*Xiǎo Ēr Bīng Yuán Fāng Lùn*), which contains 4 volumes. The first volume discussed general child-rearing and also the treatment of infantile fevers with excess perspiration. In the second volume, the author used many graphs and diagrams to help illustrate the work. The third volume discussed each pattern of convulsions along with formulas, and the fourth volume referred to rashes and convulsions. This book had two features, one emphasizing disease prevention from the aspects of nursing and care, and secondly expounding on the causes of children's disease from the aspect of pathology.

Regarding pox and pediatric rashes, the debates between the Chen Wen-zhong school of warm-supplementation and Qian Yi and Dong Ji school of cold-cooling acted to promote the development of TCM pediatrics while also providing a comprehensive theoretical basis and extensive treatments based on pattern differentiation.

3. DEVELOPMENT PERIOD (YUAN DYNASTY–ESTABLISHMENT OF THE PEOPLE'S REPUBLIC OF CHINA)

In the Jin and Yuan Dynasties, TCM developed quite rapidly. At that time, there were many famous physicians and each one made a strong point in the academic field.

Liu Wan-su considered that “when infants become ill, because their physiques belong to pure yang, most illnesses belong to heat type and few illnesses belong to the cold type.” Liu primarily employed pungent-bitter-cold-cool treatment methods for heat diseases like *Liáng Gé Sǎn*—Diaphragm-Cooling Powder.

Zhang Cong-zheng excelled at treating heat diseases with purgative methods, and Li Gao attached great importance to spleen and stomach regulation with an emphasis on ascending, descending, supplementing, and purging.

Zhu Dan-xi advocated that “yang qi is often superabundant, while yin qi is often insufficient” in children. He valued yin-nourishment methods and the formula *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill.

The *Complete Manual of Pediatrics* (*Yòu Kē Quán Shū*) written by Zhu Dan-xi contained a comprehensive description of the diagnosis and treatment of measles, holding that the causes of measles were fetal toxins and seasonal pathogens, and also that it was communicable. The disease locations are the spleen, heart and lung, and its pathogenesis involves “toxins leading to the occurrence of measles”. “At the onset, a spleen disease pattern appears, followed by pathogenic heat flowing to the heart. The kidney is not affected during the course of measles, and among the *zang-fu* organs, the lung is the most seriously damaged.” (毒起于脾，热流于心，始终之变，肾则无证，脏腑之伤，肺则尤甚) The treatment principle here is to clear the lung and descend fire.



The description of measles and the symptoms are very similar to that of current times; the book also discussed the treatment and prognosis of complications such as “thoracic fullness, shortness of breath, and lung heat”. (胸高气促肺炎)

Zeng Si-rong of the Yuan Dynasty practiced medicine for 60 years and then compiled the *Essential Book for Saving Children* (3 volumes) and *Discussions on Saving Children* (*Huó Yòu Kǒu Yì*) (20 volumes), which discussed the various newborn diseases in detail. His books were the earliest elaboration on neonatology. Zeng applied *Tiáo Yuán Sǎn*—Original Qi-Regulating Powder and *Bǔ Shèn Dì Huáng Wán*—Kidney-Supplementing Rehmannia Pill to treat fetal feebleness. He thoroughly discussed the pattern categories of children’s diseases and their treatments and put these diseases into different categories. For example, he summarized acute convulsions as including “4 patterns and 8 symptoms” with treatment methods including: calming fright, preventing wind, abating heat and resolving phlegm; formulas included *Hǔ Pò Bào Lóng Wán*—Succinum Arming Dragon Pill and *Zhèn Jīng Wán*—Convulsion-Sedating Pill. He also set forth some original ideas such as “three episodes of convulsions may lead to epileptic seizures” and “blood stasis may cause seizures”.

Pediatrician Lu Bo-si in the Ming Dynasty wrote *One Hundred Questions on Children’s Diseases* (*Yīng Tóng Bǎi Wèn*) (10 volumes), which arranged children’s diseases into 100 questions, each question about one disease. The causes and treatment methods were listed along with 886 formulas with detailed descriptions of the differential diagnosis and treatment methods for measles and chicken pox.

Xue Kai and Xue Yi (father and son) wrote the *Essentials of Infant Care* (*Bǎo Yīng Cuō Yào*), which discussed 221 pediatric diseases listing 1540 case records on 70 pediatric diseases associated with external medicine, dermatology, bone fractures, ophthalmology, ENT, stomatology and proctology. Formula prescription was based on *zang-fu* and channel pattern differentiation, while internal and external treatment methods were also covered. This book made a great contribution to the foundation of pediatric external medicine in TCM.

Wan Quan (1488–1578) wrote *Family Secrets for Nursing Infants* (*Yù Yīng Jiā*) (4 volumes), *Elaboration on Pediatrics* (*Yòu Kē Fā Huī*) (2 volumes), *Teachings on Pox* (*Dòu Zhěn Xīn Fǎ*) (23 volumes), *Enlightening Treatise on Children’s Diseases* (*Piàn Yù Xīn Shū*) (5 volumes), *Enlightening Treatise on Pox* (*Piàn Yù Dòu Zhěn*) (13 volumes) and others. He advocated the “four child-nursing methods” i.e. “Pre-pregnancy care lays the foundation for the infant’s original qi; caring for the body during pregnancy protects the original qi; taking care during the perinatal stage decreases disease; protecting and caring for the baby after birth prevents diseases.”

These ideas became the main concepts of TCM child healthcare. On the basis of the nourishing yin principle advocated by Zhu Dan-xi, he systematically set forth a physiological and pathological theory on “three superabundances and four insufficiencies” i.e. yang is often superabundant and yin is often insufficient, the liver is often superabundant and the spleen is often insufficient, the heart is often superabundant and the lung and kidney are often insufficient. He also emphasized stomach qi protection and stated that stomach qi was the root of five *zang* organs, which depended on the nourishment of stomach qi. “If a *zang* organ is afflicted, regardless of whether the treatment uses supplementing or purging methods, it is important to use them with caution in order to prevent impairment of stomach qi”, and also “protecting stomach qi is the most important”.

Because infants' spleen and stomach are immature and vulnerable, they are easily damaged by accumulation, e.g. milk and food damaging the stomach leads to vomiting, and milk and food damaging the spleen leads to diarrhea. The pathogenesis of this condition is "the spleen is easily encumbered", so treatment to "assist transportation and regulate spleen and stomach without the excessive use of cold or heat" is emphasized in order to avoid damage to the postnatal root. He was the first one to put forward the concepts of sequelae in infantile convulsions as: "acute infantile convulsions develop into epilepsy", "acute infantile convulsions develop into limb paralysis" and "acute infantile convulsions develop into aphasia". He also created formulas that accurately and simply met the conditions of the disease such as *Wan's Niú Huáng Qīng Xīn Wán*—Wan's Bovine Bezoar Heart-Clearing Pill, an excellent pill still used for acute infantile convulsions.

In the *Standards for Diagnosis and Treatment—Pediatrics* (*Zhèng Zhì Zhǔn Shéng—Yòu Kē*) Wang Ken-tang summarized the ideas of pediatric practitioners while adding his own opinions. This book was a major achievement of academic pediatric knowledge in the Ming Dynasty with a distinct, orderly and incisive analysis with extensive content and a balanced layout. Wang held a distinctive opinion on malnutrition, considering that it was a disease mixed with deficiency and excess, and that treatment should act to attack and resolve the stagnation and supplement and nourish the deficiency; for a deficiency-excess complex pattern the treatment was to use both resolving and supplementing methods. He classified infantile malnutrition into 61 categories, including "five *zang* organ malnutrition", "mild malnutrition", "malnutrition with accumulation" and "dryness malnutrition". He summarized the opinions of the different schools of thought which then became an inspiration for modern studies of classification, pattern differentiation and treatment of malnutrition.

The Complete Works of [Zhang] Jing-yue—Pediatrics (*Jǐng Yuè Quán Shū—Xiǎo Ér Zé*) by Zhang Jie-bing contains 8 volumes on pediatrics emphasizing the mother and child relationship. "Generally speaking, the method of infant care is to check and treat the sick infant meanwhile keeping an eye on the mother's condition". He followed Qian Yi, Chen Wen-zhong and Xue who claimed that the essentials of pattern differentiation were to focus on the aspects of exterior and interior, cold and heat, and deficiency and excess. He also stated that "children's yang is not superabundant" and "yin is often insufficient". With respect to treatment methods, he considered that the "qi of the *zang-fu* organs is light and agile and responsive to various treatments". He emphasized using warming and sweet medicinals and supporting yang as his main treatment method.

The Grand Compendium of Materia Medica (*Běi Cǎo Gāng Mù*) by Li Shi-zhen had value in clinical practice with medicinals and formulas collected for 411 kinds of pediatric diseases.

The Qing Dynasty text *Iron Mirror of Pediatrics* (*Yòu Kē Tiě Jìng*) by Xia Yu-zhu states that "disease begins inside the body and then manifests on the outside. The outside manifestations are caused by factors inside the body." He suggested that people may identify deficiency and excess and cold and heat of the *zang-fu* organs by inspecting the complexion and orifices, because infants and young children's six channels and pulse conditions are not mature, and little valuable information can be gained through inquiry; therefore, diagnosis was mainly dependent on inspection. He argued that "inspecting the color and shape of three passes of the index finger is just based on some physicians' biased view". He proposed that the etiology and pathology of convulsions were "exuberant heat



generating wind, exuberant wind generating phlegm, and exuberant phlegm generating fright". In treatment, he stated that "to treat convulsions, resolve phlegm first; to resolve phlegm, disperse wind first; to disperse wind, resolve heat first; to resolve heat, dispel the pathogens first."

This is significant in that this principle is also applied to treat pediatric summer warm diseases and convulsions. He also used a distinct method of "13 scorches of fire" to treat umbilical wind and convulsions. He also stressed tui na massage, claiming that in many cases tui na might replace medicinal treatment.

The Golden Mirror of the Medical Tradition—Essential Teachings on Pediatrics (Yī Zōng Jīn Jiàn—Yòu Kē Xīn Fǎ Yào Jué) was compiled by the Qing Dynasty Imperial Court. It extensively collected and classified the clinical practice of pediatrics before the Qing Dynasty. The arguments were incisive, appropriate, coherent, easy to remember, and the book was rich with effective treatment methods.

In the book, *Complete Treatise for Saving Lives from Measles* (Má Kē Huó Rén Shū), Xie Yu-qiong summarized various physicians' experiences in treating measles, also presenting his own clinical experiences with detailed information on pattern differentiation and treatment for measles in different stages along with its complications. He considered that measles started at the six *fu* organs and was usually excessive heat rather than cold. For the treatment of measles, it is better to follow the principles of promoting eruption of the rash and cooling blood by releasing the flesh. He was the first to put forward "pneumonia with dyspnea and cough", claiming that it was caused by lung heat failing to clear, with the suggested formula being *Jiā Wèi Xiè Bái Sǎn*—Supplemented White-Draining Powder, which is still used in modern TCM pediatrics.

Correction of Errors in Medical Works (Yī Lín Gǎi Cuò) by Wang Qing-ren recorded materials about pediatric postmortem examinations, pointing out that "intelligence and memory do not lie in the heart, but in the brain". He expounded the application of activating blood and resolving stasis methods to treat pediatric diseases such as purpura wind, malnutrition and masses in the abdomen.

The Complete Recording of Medicine—Pediatrics (Yī Bù Quán Lù—Ér Kē) compiled by Chen Meng-lei in the time of Qing Dynasty Emperor Yong-zheng contained two parts and 100 volumes, collecting 120 different medical documents.

Chen Fu-zheng, a famous Qing Dynasty pediatrician wrote the 6 volume *Grand Compendium of Pediatrics* (Yòu Yòu Jí Chéng). He put forward the concepts of "natural endowment" and "fetal care", claiming that the fetus is influenced by the mother's spirit, diet, work, and rest periods, thus to protect the fetus, pregnant women should also pay attention to these factors.

Chen's beliefs in regard to finger vein inspection were: "superficial and deep venules indicate exterior and interior patterns; red and purple venules indicate cold or heat patterns, pale and stagnated venules indicate deficiency and excess". "If venules appear at the wind pass, the condition is mild; if venules appear at the qi pass, the condition is severe; if venules appear at the life pass, the condition is critical".

These ideas and guidelines are very practical and had been widely used by physicians in the following generations. Chen's theory was integrated with extensive collections of theories and practical experiences from physicians, folk practitioners and clarified with his own opinions.

Wu Tang was not only a master of warm disease, but also a pediatrician. He wrote *Systematic Differentiation of Warm Diseases—Resolving Children's Diseases* (*Wēn Bīng Tiáo Biàn—Jiě Ēr Nán*) and described children's physiological characteristics as “the yin (material basis) is not prosperous and yang (physiological function) is immature”. He wrote that the child's basic pathological feature was the increased susceptibility to disease with a greater tendency of transmission and change. Regarding medication, he stated that greasy medicinals have greater tendency to cause stagnation, and that immoderate medicinals might harm the child body. He also mentioned opinions such as the “six qi (natural climatic factors) causing disease”, “*sanjiao* pattern identification” and “treating diseases from the root” etc. His exposition was precise and the formulas were appropriate with significant pattern differentiation and treatment methods for external and internal pediatric diseases. For example, he pointed out that “if convulsions are caused by summerheat, treat the cause and the convulsions will stop. Physicians should not confine themselves to the symptoms only, and thus find other ways to tackle the disease.” (瘧因于暑，只治致瘧之因，而瘧自止，不必沾沾但于瘧中求之。)

He developed formulas such as *Dà Dīng Fēng Zhū*—Major Wind-Stabilizing Pill, *Xiǎo Dīng Fēng Zhū*—Minor Wind-Stabilizing Pill, *Èr Jiǎ Fù Mài Tāng*—Two Shells Pulse-Restoring Decoction, and *Sān Jiǎ Fù Mài Tāng*—Three Shells Pulse-Restoring Decoction. These formulas are used frequently and are applicable for yin impairment and yang hyperactivity which exhibit less excess pathogens and more deficiency symptoms in the later stage of warm disease.

During the Ming and Qing Dynasties, smallpox, measles and other infectious diseases were prevalent, thus pediatricians attached great importance to prevention and treatment of these diseases. Among 200 kinds of monographs on pediatrics (more than 600 volumes published between 1368 and 1840), 120 of these monographs (more than 320 volumes) discussed smallpox and measles. It was said that there was a physician from Mt. Emei who gave a smallpox vaccination to the son of Prime Minister Wang Dan.

During the Ming and Qing Dynasties, smallpox vaccinations were widely used. *Wide Collections of Discussions on Smallpox Formulas* (*Bó Jí Xī Dòu Fāng Lùn*) (1577) had recorded *Formulas for Smallpox* (*Xī Dòu Fāng*). *Sān Gāng Shí Lüè* (1653) recorded *Dòu Yī Fǎ*. Zheng Wang-yi recorded in *Formulas for Smallpox Vaccination* (*Zhòng Dòu Fāng*) “Collect smallpox scabs in bottles, add water and grind into a paste. Dip a piece of cotton in the paste and put this into the nostril”. This method was called water vaccination, which was found to gradually eliminate toxins when applied 7 times or more.

Yu Mao-kun stated in the 2nd volume of the *Explanation of Mirror Song for Smallpox* (*Dòu Kē Quán Jīng Fù Jí Jiě*) (1727): “Vaccinations started during the Longqing period (1567-1572) of the Ming Dynasty, in the Taiping county of the Ning Guo prefecture. Though the inventor was unknown, it was said that the inventor was from an alchemist family. Thereafter, inoculation spread nationwide. Among the people who practiced inoculation, many were from the Ning Guo prefecture.”

Later on, inoculation was spread overseas. In the book *Guǐ Sì Cún Gǎo* (*Gui Si Manuscripts*) by Yu Li-chu of Daoguang period in the Qing Dynasty, it was recorded that “in 1687, somebody was sent by the government office of the Russian government to the Ministry of Tribal Affairs of the Qing government to study inoculation in Beijing.”

The *History of Arriving Western Medicine* (*Xī Yáng Yī Xué Chuán Lái Shǐ*) recorded that

in 1744, Li Ren-shan of Hangzhou went to Nagasaki and taught inoculation. In the book, *Compilation on Pox (Dòu Zhěn Huì Tōng)* (1793) it was recorded that inoculation had spread into Korea. The Russians later spread inoculation into Turkey, and in 1717 the wife of the British Ambassador to Turkey received inoculation. Later, she brought inoculation back to Britain, where later spread it to Europe, northern Africa and Tunisia. Although Edward Jenner created vaccination in 1796, it was believed that Chinese inoculation had given inspiration to Jenner's vaccinations, and that artificial immunization in modern immunology originated from China.

Western medicine came to China in the late Qing Dynasty, and some pediatricians first suggested the integration of Western and Chinese medicine. In addition to the content of traditional Chinese medicine, *New Writings on Pediatric Diagnosis (Xīn Zuǎn Ēr Kē Zhěn Duàn Xué)* by He Bing-yuan introduced inspection and diagnosis through observing changes in the oral cavity, temperature, and genital regions.

During the Republican Period, some pediatric diseases became epidemic and many physicians sought to integrate ancient codes and records with their newly acquired knowledge. For example, Xu Xiao-pu used yang-warming medicinals to restore yang and rescue collapse and thus was able to save many severe cases, whereas Xi Yong-shang specialized in the use of cold and cool medicinals to treat warm febrile diseases.

4. NEW ERA OF TCM PEDIATRICS (SINCE 1949)

After the founding of the People's Republic of China in 1949, the government attached greater importance to children's health care. Because of the government's policy of supporting the development of traditional medicine, Chinese medicine pediatrics then entered a new stage of rapid progress along with an improved academic atmosphere and rapid changes in modern science and technology.

During the 1950s, TCM secondary and higher education were instigated, followed by the master's program in the 1970s, the Doctoral program in the 1980s and the post-Doctoral program in the 21st century, and the expertise of TCM pediatric practitioners has been steadily upgraded through international exchange.

During this period, many TCM pediatric textbooks of different levels have been published, including English versions and English-Chinese bilingual versions of *Pediatrics in TCM* and other monographs. Masterpieces of pediatrics of each Dynasty have been arranged and published, extracting a large number of materials that guide theoretical studies and clinical practice.

Zhang Qi-wen edited *Collection of Books on Summary of Pediatrics (Ēr Kē Yī Jí Jí Yào Cóng Shū)* (6 volumes). He collected ancient medical literature from previous generations and classified and added notes to the contents in order to provide a guide for modern clinical practice. *Practical Pediatrics of Chinese Medicine (Shí Yòng Zhōng Yī Ēr Kē Xué)* by Jiang Yu-ren and Zhang Qi-wen is another academic publication closely linked with clinical practice.

The *Advanced Collection of Books of Chinese Medicine—Pediatrics in Chinese Medicine (Zhōng Yī Yào Xué Gāo Jí Cóng Shū—Zhōng Yī Ēr Kē Xué)* by Wang Shou-chuan comprehensively reflects the progress of modern TCM pediatrics by introducing scientific research applicable to clinic, research, master's programs and continuing education.

Although there are academic contentions in the fundamental theoretical research

of TCM pediatrics, they are on the verge of becoming identical on many issues. Such discussions include children's growth and development, physiological and pathological characteristics, e.g. "pure yang", "immature yin and yang", "transmutation and steaming", "deficiency", and "surplus" of the five *zang* organs.

Take the "transmutation and steaming" theory proposed by Wang Shu-he in the Western Jin Dynasty as an example. After an analysis of the traditional medicine and a comparative study of Chinese and Western medicine, it is clear that the "transmutation and steaming" theory correctly summarizes the growth and development principles in both infants and young children.

During the past 50 years a number of pediatricians proposed some original thoughts on pediatrics by means of continuing the traditional theories and combining them with the practices of modern clinical TCM pediatrics.

Professor Jiang Yu-ren proposed that "fortifying the spleen lies in activating rather than supplementing". That is to say, spleen and stomach diseases are caused by impaired transportation, so the basic treatment principle is to activate splenic transportation. Professor Wang Lie divided the conditions and treatment of asthma into three periods: onset, remission and stationary phases, proposing that treating the root and branch are both important.

Professor Zhang Qi-wen proposed the "lung-stomach-intestine relevance theory" with the treatment principles of "do not forget to relieve the exterior when dispersing the lung; do not forget to clear the intestine when clearing the lung; do not neglect to resolve phlegm when checking cough; do not neglect to activate the spleen when resolving phlegm; do not neglect to nourish the stomach when moistening the lung; and do not neglect to cultivate the root when the branch has been resolved." (宣肺勿忘解表、清肺勿忘清肠、止咳勿忘化痰、化痰勿忘运脾、润肺勿忘养胃，标去勿忘培本)

Professor Wang Shou-chuan proposed that "treatment for children's pneumonia corresponds to 4 types: heat, depression, phlegm and stagnation"; this idea has also launched new clinical and experimental research.

Much work has also been done regarding objective inspections, e.g. color diagnosis quantification, microscopic views of the tongue, and effective analysis of sounds produced by the patient. People have tried to expand the contents of the traditional four diagnostic methods by applying blood chemical examinations, molecular biology tests, ultrasound and other imaging techniques to collect information about pediatric diseases. The aforementioned aspects have been added into the pattern differentiation of TCM pediatrics, i.e. the integration of macro- and micro-pattern differentiation, with a deepening of our understanding of TCM pattern differentiation. Research on treatment principles and methods is growing especially in regards to pediatric tui na, acupuncture, external therapies, and patent medicines.

Preventive medicine in TCM pediatrics is guided by the principles of "treating disease before it arises" and by actively exploring more effective methods of prevention to strengthen children's bodies and lower morbidity rates. The scientific content of prenatal care and education has been verified, and the promotion and popularization of traditional prenatal care and education also plays an active role in the promotion of eugenics. Because "medicinals reach the fetus through the mother" medicine taken by the pregnant mother may act upon the fetus to prevent neonatal jaundice and fetal feebleness.

Preventive medicine in TCM pediatrics has the excellent advantage of reinforcing healthy qi, securing the root, and regulating functional activity of the whole body. TCM treats frail children by differentiating their patterns and following with treatment to improve their general health conditions and enhance immunity, often reducing morbidity rates in children with recurrent respiratory tract infections or spleen deficiency. It can also extend remission stages in those with bronchial asthma and nephritic syndromes.

During epidemics of influenza, viral hepatitis and other infectious diseases, Chinese medicine has effectively protected susceptible children and prevented diseases through the use of decoctions, sprays, and other new methods. Research and development of healthcare medicine, healthcare food and products has also extended the applications of preventive medicine in TCM pediatrics.

TCM pediatric clinical research has reached great achievements along with the technological progress of modern clinical diagnostic techniques and the steady improvement of clinical research methods. Clinical diagnostic techniques and therapeutic efficacy have been greatly improved through summarizing and verifying the traditional clinical experiences by modern scientific methods, making comparisons and exploring new methods.

Since the 1950s, the “summer warmth in children” theory has been used to guide pattern differentiation and treatment of epidemic encephalitis B, which has significantly increased the clinical efficacy and reduced mortality rates. TCM treatments of influenza, pneumonia, whooping cough, dysentery, viral hepatitis, infectious mononucleosis, epidemic hemorrhagic fever and other infectious diseases have shown beneficial clinical efficacy.

Pharmacodynamics studies showed that many traditional Chinese herbs not only have antibacterial and antiviral effects but also adjust the body's immunological functions, improve organ function and metabolism, and reduce pathological reactions, i.e. the main feature of TCM treatment is the overall effects of the prescription, or a multi-target effect.

As for diseases caused by the shortage of mineral elements, vitamins and other nutrients, e.g. anorexia, iron deficiency anemia, rickets, malnutrition, etc., TCM shows many advantages, i.e. a lot of Chinese medicinals contain a certain amount of mineral elements and vitamins, therefore the administration of Chinese medicinals increases the intake of mineral elements and vitamins. More importantly, Chinese medicine activates the spleen and promotes its functions of transportation, absorption, and the utilization of various nutrients.

The development of new drugs and formulations has improved efficacy and convenience, e.g. Qing Kai Ling Injection for infectious diseases, arteannuin (*Qing Hao Su*) for malaria, tripterygium wilfordii (*Lei Gong Teng*) for nephrotic syndrome, arsenic preparations for leukemia and so on.

TCM clinical studies have achieved fruitful results in developing treatments for acute pediatric diseases, e.g. high fever, acute convulsions, lung diseases, asthma, lung abscess, diarrhea, obesity, viral myocarditis, hyperactive syndrome, epilepsy, tic disorder, nephrotic syndromes, cerebral palsy, neonatal jaundice, and neonatal scleroderma.

Experimental study is one of the most important modern scientific research methods. In pediatric research, common experimental research is on animal models, with pharmacological and toxicological experiments carried out on the basis of pattern

characteristics. A series of pathological models for pediatrics have been established for studying the nature of a disease and developing new formulas with models for anorexia, stagnation, and malnutrition which are developed according to the causes of “improper diet” and also models for fetal feebleness according to “insufficient endowment”.

Standard research methods of pharmacodynamics have been established for some common pediatric diseases. For instance, the pharmacodynamic research of a spleen deficiency pattern is to first establish a mouse spleen deficiency model and then to test the effects of fortifying the spleen and boosting qi (stress ability, immunological function tests), transporting and transforming water and food (gastric function tests, intestinal function tests). The pharmacodynamic research of externally contracted fever involves testing the effects of medicinals that expel pathogens (antiviral, antibacterial), antipyretic effects, diaphoretic effects, anti-inflammation, etc.

Pharmacological experimental research in TCM is currently undergoing a rapid and steady development, with the application of microbiology, immunology, enzymology, endocrinology, biochemistry, molecular biology, microscopy, nuclear technology, computer sciences and other research methods on TCM pharmacodynamics. These studies not only validate our predecessor’s experiences but also play a significant role in fundamental modern pediatric research, clinical research, new technology, new treatments, and new drug research and development.

The fast developments of modern science and technology constantly produce new theories, techniques and methods. The development of a certain subject largely depends on the application of these results to enrich, enhance and develop its own efficiency. The development of TCM is constrained because the theory and practice of TCM are self-contained, thus it is hard for TCM to communicate with modern science and technology. However, our predecessor’s experiences are rich and valuable and accumulated by long-term practice. To accelerate the development of pediatrics in TCM, we have to absorb the heritage of traditional medicine, find the point of integration with modern science and technology, and then conduct innovative research.

In this current age, Chinese medicine has quickly spread throughout the world. In the 1950s, colleges of Chinese medicine started to enroll overseas students. In the past 30 years, the postgraduate program of Chinese medicine has cultivated a large number of overseas practitioners of CM. According to incomplete statistics, there are PhDs and Masters of CM engaging in the practice of CM in over ten countries and regions. Since 1963, the Chinese government has dispatched medical teams to 69 countries and regions on the five continents. In each medical team, there are acupuncturists and physicians of Chinese medicine, providing their population (including children) with services. In June 2009, the 62nd World Health Assembly of WHO passed Resolution on Traditional Medicine, which specified the leading position of Chinese medicine among the world’s traditional medicines and advocated their governments to integrate traditional medicine into national health systems. This resolution will greatly promote the development of traditional medicine in the future.

TCM pediatrics has set many world records during its formation and development. In the 21st century, as we look back on the past and look into the future, we are clearly able to see that at the present time, TCM pediatrics is developing more rapidly than at any other historical time. However, in comparison with the development of other natural sciences,

TCM pediatrics lags behind, despite its great potential.

In the future we can utilize the inherited traditional Chinese pediatrics and vigorously promote clinical diagnostic and treatment techniques, while at the same time, increase scientific research investment and propel the steady improvement of academic standards to provide better health services for children everywhere.

Table 1-1 TCM Pediatric Monographs

Title	Year	Author
<i>The Classic of the Cranial Fontanelles (Lú Xìn Jīng)</i>	Tang and Song Dynasties	Anon.
<i>Key to Diagnosis and Treatment of Children's Diseases (Xiǎo Èr Yào Zhèng Zhí Jué)</i>	1119	Qian Yi (Complied by Yan Ji-zhong)
<i>Emergency Formulas for Children's Rashes (Xiǎo Èr Bān Zhěn Bèi Jí Fāng Lùn)</i>	1093	Dong Ji
<i>New Book of Pediatrics (Yòu Yòu Xīn Shū)</i>	1150	Liu Fang
<i>Discussion on Formulas for Children's Health (Xiǎo Èr Wèi Shēng Zōng Wēi Lùn Fāng)</i>	Approx. 1150	Anon.
<i>Discussion on Formulas for Children's Pox (Xiǎo Èr Dòu Zhěn Fāng Lùn)</i>	1241	Chen Wen-zhong
<i>Children's Diseases: Sources and Remedies (Xiǎo Èr Bīng Yuán Fāng Lùn)</i>	1254	Chen Wen-zhong
<i>Essential Book for Saving Children (Huó Yòu Xīn Shū)</i>	1294	Zeng Shi-rong
<i>One Hundred Questions on Children's Disease (Yīng Tóng Bǎi Wèn)</i>	1506	Lu Bo-si
<i>Essentials of Infant Care (Bǎo Yīng Cuō Yào)</i>	1555	Xue Kai, Xue Yi
<i>Wide Collections of Discussions on Smallpox Formulas (Bó Jí Xī Dòu Fāng Lùn)</i>	1577	Guo Zi-zhang
<i>Family Secrets of Nursing Infants (Yù Yīng Jiā Mì)</i>	1579	Wan Quan
<i>Elaboration on Pediatrics (Yòu Kē Fā Huī)</i>	1579	Wan Quan
<i>Classic of Children's Massage (Xiǎo Èr Àn Mó Jīng)</i>	1604	Si Ming Chen Shi
<i>Standards for the Diagnosis and Treatment—Pediatrics (Zhèng Zhì Zhǔn Shéng—Yòu Kē)</i>	1607	Wang Ken-tang
<i>The Complete Works of [Zhang] Jīng-yue—Pediatrics (Jīng Yuè Quán Shū—Xiǎo Èr Zé)</i>	1624	Zhang Jie-bing
<i>Compromise of Pediatrics (Yòu Kē Zhé Zhōng)</i>	1641	Qīng Chang-yu
<i>Iron Mirror of Pediatrics (Yòu Kē Tiě Jīng)</i>	1695	Xiao Yu-zhu
<i>New Book of Smallpox Vaccinations (Zhòng Dòu Xīn Shū)</i>	1741	Zhang Yan
<i>Golden Mirror of the Medical Tradition—Essential Teachings on Pediatric Diseases (Yī Zōng Jīn Jiàn—Yòu Kē Xīn Fǎ Yào Jué)</i>	1742	Wu Qian et al.
<i>Complete Treatise for Saving Lives from Measles (Má Kē Huó Rén Shū)</i>	1748	Xie Yu-qiong

Continued

Title	Year	Author
<i>The Grand Compendium of Pediatrics</i> (Yòu Yòu Jí Chéng)	1750	Chen Fei-xia
<i>Essentials of Pediatrics</i> (Yòu Kē Yào Lüè)	1764	Ye Tian-shi
<i>Interpretation of Mystery for Pediatrics</i> (Yòu Kē Shì Mí)	1773	Shen Jin-ao
<i>Systematic Differentiation of Warm Diseases—Resolving Children's Diseases</i> (Wēn Bìng Tiáo Biàn—Jiě Ēr Nán)	1811	Wu Tang
<i>Collection of Books on Summary of Pediatrics</i> (Ēr Kē Yī Jí Jí Yào Cóng Shū)	1990	Zhang Qi-wen et al.
<i>Practical Pediatrics in Chinese Medicine</i> (Shí Yòng Zhōng Yī Ēr Kē Xué)	1995, 2005	Jiang Yu-ren et al.
<i>Advanced Collection of Books of Chinese Medicine—Pediatrics in Chinese Medicine</i> (Zhōng Yī Yào Xué Gāo Jí Cóng Shū—Zhōng Yī Ēr Kē Xué)		Wang Shou-chuan et al.

[CASE STUDIES]

► Case #1

Female, 10 months old.

Chief complaint: Frequent drastic vomiting of fluid and milk with a sour odor immediately after eating for one week. There are sunken eye sockets and fontanelle, fever at night, and she defecates 2-3 times daily; the stools are thin and loose with undigested food and a hot foul odor. She has a slight cough. Her limbs are warm and without twitching. The tongue is red with a thin white tongue coating.

Before the current illness, she had suffered from pathogenic warm-heat accumulation in the *yangming*. She was recently attacked by cold and latent toxins were evoked, causing stomach qi counterflow and an inability to separate the clear and turbid leading to diarrhea with loose stools. There is also frequent vomiting due to liver fire invading the stomach. The treatment principle here is to harmonize the middle, descend adverse qi, and pacify the liver and stomach.

Prescription: *Bàn xià* (Rhizoma Pinelliae) 3 g (processed with ginger juice), *huò xiāng* (Herba Agastachis) 10 g (stem), *chuān huáng lián* (Rhizoma Coptidis) 1 g, *guǎng chén pí* (Pericarpium Citri Reticulatae) 5 g, *wú zhū yú* (Fructus Evodiae) 1 g, *chǎo mài yá* (Fructus Hordei Germinatus) 10 g (stir-fried), *zhú rú* (Caulis Bambusae in Taenia) 6 g (processed with ginger juice), *shēng jiāng* (Rhizoma Zingiberis Recens) 0.3 g.

Administer one pill of *Bì Wēn Dān*—Scourge-Repelling Elixir, divided into two doses, taken with water.

After one dose, the vomiting was checked, food intake became regular, and all other symptoms were relieved.

Analysis: The child has frequent nausea and vomiting immediately after food intake with a sour odor caused by liver-fire invading the spleen and stomach. When the spleen qi cannot ascend, loose stools occur, and when stomach qi cannot descend, vomiting occurs. The pathogenesis here involves a mixture of cold and heat, and the treatment principle is to harmonize the middle, descend adverse qi, pacify the liver, and calm the stomach; modified

Zuǒ Jīn Wán—Left Metal Pill is the selected formula. In this formula, bitter and pungent medicinals act to descend turbidity and check vomiting with a rapid effect. Wang Quan of the Ming Dynasty stated: “In children, the liver is often in superabundance and the spleen is often insufficient.”

Source: Jiang YR, Wang SC. *Clinical Application of Treating the Liver in Spleen Diseases in Pediatrics* [J]. Hunan Journal of Traditional Chinese Medicine, 1986; 2(4): 20-21.

► Case #2

Male, age 4. Initial Visit: 9/26/63

The patient cannot speak, walk or sit, and his muscles are flaccid. He has an enlarged head with withered hair, and his fontanelle had closed only six months previously. He can not control urination and defecation. He has a pale complexion with an indifferent countenance; appetite and sleep are normal. The tongue coating is thin and white; his pulse is thready and weak.

Prescription: *Dǎng shēn* (Radix Codonopsis) 6 g, *huáng qí* (Radix Astragali) 6 g, *shú dì huáng* (Radix Rehmanniae Praeparata) 6 g, *huái shān yào* (Rhizoma Dioscoreae) 10 g, *fú líng* (Poria) 6 g, *bái zhú* (Rhizoma Atractylodis Macrocephalae) 6 g (stir-fried), *bǔ gǔ zhī* (Fructus Psoraleae) 10 g, *lù róng* (Cornu Cervi Pantotrichum) 0.3 g, *yì zhì rén* (Fructus Alpiniae Oxyphyllae) 3 g, *ròu guì* (Cortex Cinnamomi) 3 g, *fù zǐ* (Radix Aconiti Lateralis Praeparata).

Analysis: Although this is cerebral palsy in Western medicine, TCM views this case as being in the category of the five retardations and five flaccidities. The growth and development indicators here are significantly lower than that of normal children of the same age, and the child cannot speak or walk. Flaccid muscles indicate spleen deficiency; the withered hair, pale complexion and an indifferent look indicate heart deficiency; the inability to sit, delayed closure of the fontanelle, and thready weak pulses indicate kidney deficiency. Although the child has spleen-heart-kidney deficiency as well as a qi-yin-yang insufficiency, according to Qian Yi's words: “the kidney governs deficiency”, so the predominant pattern is kidney deficiency associated with pre-natal factors. The formula used for treatment is a modified *Jīn Guì Shèn Qì Wán*—Golden Cabinet's Kidney Qi Pill. The condition is chronic and firmly established; therefore medicinal treatment should be accompanied by acupuncture, massage and functional training (refer to Chapter 30 *Cerebral Palsy*). Consistent long-term treatment is definitely required in this case.

Source: Liu BC. *Clinical Experience Digest of Liu Bi-cheng* [M]. Beijing: Chinese Medical and Pharmaceutical Science Press, 2002: 575.

[QUESTIONS]

1. An 18-month-old child has frequent common colds and pneumonia. The parents explain that the child seldom goes out and often wears many clothes. The physician asks the parents not to overdress the child and to take the child outside to have sun exposure.

Where does this idea originate?

- A. *Treatise on the Origins and Manifestations of Various Diseases* (*Zhū Bīng Yuán Hòu Lùn*)
- B. *Important Formulas Worth a Thousand Gold Pieces for Emergency* (*Bèi Jí Qiān Jīn Yào Fāng*)
- C. *Keys to Diagnosis and Treatment of Children's Diseases* (*Xiǎo Èr Yào Zhèng Zhí Jué*)
- D. *Children's Diseases: Sources and Remedies* (*Xiǎo Èr Bīng Yuán Fāng Lùn*)

E. *Elaboration on Pediatrics (Yòu Kē Fā Huī)*

2. A 6-month old baby panics easily, cries, and is restless after hearing noises.

In which organ does the pathological change mostly lie?

- A. Lung B. Spleen C. Heart D. Liver E. Kidney

3. A one year-old infant has a fever for 4 hours with a temperature of 39.4°C and a blocked and runny nose. The child has a sudden seizure and is unconscious for 2 minutes.

Which of these pathological characteristics are described by Wan Quan?

- A. The liver and heart are often in superabundance.
B. The lung is often insufficient, the spleen is often insufficient.
C. The kidney is often insufficient.
D. Yang is often in superabundance.
E. Yin is often insufficient.

4. A 6-year-old child has bedwetting 2-3 times per night with clear long voidings, a pale and dull complexion, weak lumbus and legs, cold limbs, and an aversion to cold. The tongue is pale with a greasy white coating; the pulse is deep and weak.

Which of these pathological characteristics are reflected by Wan Quan in this case?

- A. Interchangeable deficiency and excess. B. Interchangeable cold and heat.
C. The lung is often insufficient. D. The spleen is often insufficient.
E. The kidney is often deficient.

5. An 8-month-old infant has recurrent seizures after birth and has been diagnosed with epilepsy. The seizures occur again suddenly.

Which acupuncture method is the best choice?

- A. Puncture deep, retain the needle. B. Puncture deep, do not retain the needle.
C. Puncture shallow, retain the needle. D. Puncture deeply, do not retain the needle.
E. Retain the needle, repeated puncture.

[REFERENCES]

- [1] Yu JM. An Introduction to the Theories of Pediatricians [J]. Journal of Zhejiang College of Traditional Chinese Medicine, 1984; 8 (2): 10-12; 8 (3): 6-8.
[2] Wang SC. Status and Trends of TCM Pediatrics [J]. Journal of Nanjing University of Traditional Chinese Medicine (social science), 2007; 8 (1): 7-10.

Chapter 2

Age Group Distribution

Life starts at the embryonic stage. *The Spiritual Pivot—The Birth of Life* (Líng Shū—Běnn Shén) said: “The original substance of life is called essence, while the essence of male and female integrate, producing spirit.” After fertilization, life remains in a dynamic process of development.

There are different characteristics of physique, physiology and pathology in children of various ages that are influenced by the environment, weather and living conditions. In addition, the illnesses, pathological changes and clinical manifestations are quite different according to the child’s age. Therefore, there are varying requirements for nurturing, health care and disease prevention according to the age of the child. In practice, childhood is often divided into several stages called age periods.

The earliest childhood age period division appeared in *The Spiritual Pivot—Wei Qi Disorders* (Líng Shū—Wèi Qì Shī Cháng) “Under age 18 the stage is called adolescence, and under 6, childhood.” In the Song Dynasty, the upper age limit was 14 years of age.

In modern times, in both China and the West, those patients less than 18 years old are considered to be pediatric cases; furthermore, childhood has been divided into 7 different stages.

[PRENATAL PERIOD]

The prenatal period starts at fertilization and ends when the umbilical cord is cut at parturition.

The gestational age begins on the first day of the last menstruation and lasts for 40 weeks or 280 days. There are four weeks in a gestational month and ten gestational months all together.

Internationally, the “perinatal period” defines the period occurring “around the time of birth”, specifically from 28 completed weeks of gestation to 7 completed days after birth.

The prenatal period begins as a new life starting at fertilization, which is considered to be an aspect of the transformation and engendering of the yin and yang of heaven and earth. During gestation, the fetus is connected to the uterus by a placenta, through which oxygen and nutrition are supplied by the mother, allowing for its growth. In this period the fetus is influenced not only by the parents’ physical constitution and heredity, but also by the mother’s nutritional, psychological, hygienic, and environmental condition.

The Grand Compendium of Pediatrics—Nursing Fetus (Yòu Yòu Jí Chéng—Hù Tāi) claims that “The father gives yang and qi just like rain and dew from the sky, while the mother gives yin and essence in the same way that the earth nourishes everything. When the fetus is formed, yang and qi integrate with yin and essence. The fetus depends especially upon the protection of yin and essence. So the fetus within the womb is tightly connected with and deeply influenced by the mother in terms of diet, fatigue, emotions, temperature, and daily life, etc.”

During pregnancy, especially in the first trimester of pregnancy (from fertilization



to 12 completed weeks), the embryo (which develops from the oosperm) is susceptible to pathological factors, e.g. infection, certain drugs, fatigue, physical factors, nutritional deficiencies, and poor mental conditions; any of these can lead to miscarriage, stillbirth or congenital malformations.

In the second trimester (from the 13th week to 28 completed weeks), the fetal organs develop rapidly and their functions gradually mature.

In the third trimester (from 28 completed weeks to 42 completed weeks), there is a rapid and marked growth of muscle with a considerable amount of fat and weight gain. If certain pathological factors affect the developing fetus in the second or third trimesters, there may be a premature birth. Good health care during pregnancy protects not only the pregnant female, but also the vulnerable fetus, thus ensuring its healthy growth.

Perinatal mortality is 70% of total neonatal mortality, making it the most affected age group. For this reason, perinatal health care has become a specific medical discipline in and of itself.

[NEONATAL PERIOD]

The neonatal period begins with ligation of the umbilical cord and terminates at the end of the first 28 days.

The newborn baby, separated from the mother, must adapt to the internal and external environmental changes within a short period of time as the lungs start to breathe and the spleen begins to receive and transform food, transport essence, and drain turbidity. The heart is in charge of mental activities, the liver governs the free flow of qi, and the kidney controls growth. Because an infant's *zang-fu* organs are fragile and delicate, the physiological features of the physique and qi are underdeveloped.

The adaptive capacity and disease resistance of newborn babies is still very weak, so if the newborn gets ill, the disease tends to transmit and deteriorate quickly. Many diseases and health problems such as malformations, suffocation, jaundice, tetanus, and umbilical diseases are mainly related to intrauterine factors, delivery, and inadequate nursing care.

[INFANCY]

Infancy is the stage between ligation of the umbilical cord after birth and the first year of life. During this period, which is called the first leap in life (adolescence being the second leap) the baby grows and develops relatively rapidly.

By the end of the first year, an infant has tripled in weight, increased in length by 50 percent and in head circumference by 1/3. As the functions of their *zang-fu* organs steadily improve, the body grows rapidly and also requires more nutrition. However, the spleen's functions of transportation and transformation are still weak, thus resulting in a contradiction between the demand for food and the deficient functioning of the spleen. Improper feeding may lead to spleen diseases such as vomiting, diarrhea, malnutrition, and food stagnation.

The lung is delicate and insecure. As the immunity passed on from the mother gradually decreases and self-immunity is still at a low level (although it has increased to some extent), pulmonary and infectious diseases can easily develop.



[TODDLER PERIOD]

The toddler period is defined as 1-3 years of age.

The child's physical growth in this period is slower than during infancy, e.g. the body weight increases at only 2 kg per year after 2 years of age, and the body length increases by 5-7 cm per year. However, development of the central nervous system speeds up. Toddlers have more opportunity to have contact with their environment because they can walk around; their intelligence develops rapidly while language, thinking, perception and motor abilities are all increased.

Though all 20 deciduous teeth have erupted successively and they are able to eat a varied diet, spleen and stomach functions still remain relatively weak thus spleen disorders such as vomiting and malnutrition are common. As they age, toddlers engage in increased outdoor activity where there are more opportunities to contact sources of infection and contagious diseases such as chickenpox, mumps and scarlet fever. Toddlers lack the ability and experience to recognize other dangers, and therefore have a high probability of accidents such as poisoning and burns. These are the key points for health care during the toddler period.

[PRE-SCHOOL AGE]

The pre-school age or early childhood is from 3-6 or 7 years old.

Physical growth and development during pre-school age increases steadily. The cerebral cortex develops rapidly and its function is more comprehensive, so intellectual development is increased. In this period, abstract concepts begin to form, e.g. numbers, time and so on. They can jump, climb stairs, sing songs, paint, and learn to read and use more complicated words to express their thoughts and feelings. Children are interested in imitation and have a strong curiosity. It is a crucial period for personality formation.

As the functions of the *zang-fu* develop, the child's disease resistance ability is obviously enhanced. They are more likely to get infections because they have more opportunities to contact with the external environment. However, the course of the disease is comparatively milder. The incidence of some allergic diseases increases, e.g. rheumatism, acute glomerulonephritis, anaphylactic purpura (Henoch-Schonlein purpura), etc. Prevention and health services should be carried out according to their physiological and pathological features at this time. Early education can be also arranged according to their character and intellectual development at this stage.

[SCHOOL AGE]

The period between entering primary school (6-7 years) and adolescence (female 12 years, male 13 years) is called school age or childhood.

At school age a child's physique develops steadily; *zang-fu* organ functions have developed fully so that their constitution and resistance to seasonal diseases become stronger. Deciduous teeth are replaced by permanent teeth. The configuration of the brain is similar to that of an adult and they develop a more mature intelligence with enhanced

capacities of self-control and understanding with an ability to adapt to school and social environments.

The diseases that they may catch during this period and their manifestations are similar to that of an adult; nephritis and asthma are quite common, yet morbidity is further reduced in this period. It is important for children to receive education and increase knowledge along with judicious guidance to help maintain health and promote all-round development.

[ADOLESCENCE]

For females, adolescence is from ages 11-12 to 17-18, and for males 13-14 to 18-20. The beginning of adolescence varies depending on region, climate and race, starting earlier in tropical zones. The average starting age of adolescence has also become earlier over the past 30 years.

Adolescence is a transitional period from childhood to adulthood, where the main characteristics include kidney qi becoming more sufficient. As *tian gui* arrives, kidney-essence begins to take effect for the promotion of growth, development and reproduction. Yin and yang become harmonized, and the reproductive system becomes mature; girls commence menarche and boys have their first ejaculation. This is the second leap in growth of their body weight and length; however, because neuro-endocrine regulation is not yet fully stable, psychological, behavioral and mental instabilities may also appear.

On the other hand, new situations and increased exposure to society may contribute to these instabilities as well. Therefore, to meet the demands of accelerated growth and development in this period, adequate nutrition should be supplied. It is meanwhile necessary to strengthen education and guidance according to their psychological characteristics to help cultivate a good moral character for stepping into an independent lifestyle.

[CASE STUDY]

► Case #1

Infant, 2 days old.

The patient presented with a pale complexion, cold limbs, loose dark stools and an inability to suck milk. The infant was premature with low original spirit, weak congenital constitution, and also in a critical condition. Therefore, the treatment principle was to restore yang and supplement the middle.

Formula:

制附子	<i>zhì fù zǐ</i>	2 g	Radix Aconiti Lateralis Praeparata
炙甘草	<i>zhì gān cǎo</i>	2 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
人参	<i>rén shēn</i>	2 g	Radix et Rhizoma Ginseng (decocted and infused)
白术	<i>bái zhú</i>	3 g	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	5 g	Poria

Second Visit: the above formula was modified as below:

人参	rén shēn	2 g	Radix et Rhizoma Ginseng (decocted and infused)
炙黄芪	zhì huáng qí	3 g	Radix Astragali Praeparata cum Melle
法半夏	fǎ bàn xià	3 g	Rhizoma Pinelliae Praeparatum
白术	bái zhú	3 g	Rhizoma Atractylodis Macrocephalae
茯苓	fú líng	5 g	Poria
广陈皮	guǎng chén pí	2 g	Pericarpium Citri Reticulatae
炙甘草	zhì gān cǎo	2 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle

Third Visit: The patient cries loudly and displays sucking movements. Yang qi is gradually being restored (observed a warm breath).

Formula:

人参	rén shēn	2 g	Radix et Rhizoma Ginseng
白术	bái zhú	5 g	Rhizoma Atractylodis Macrocephalae
茯苓	fú líng	5 g	Poria
广陈皮	guǎng chén pí	2 g	Pericarpium Citri Reticulatae
炙甘草	zhì gān cǎo	1 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle

Analysis

This patient was a 2-day-old premature newborn infant with a weak congenital constitution, underdeveloped physique and qi, and delicate *zang-fu* organs. Because yang qi was both deficient and on the decline, the infant was in a critical condition.

Modified *Shēn Fù Tāng*—Ginseng and Aconite Decoction was applied to powerfully supplement the original yang, and the infant survived.

Yì Gōng Sǎn—Special Achievement Powder was then used to supplement qi and activate the spleen in order to cultivate postnatal qi. The infant overcame the dangerous period and survived.

Source: Zhang BL, Ling XS. 中医儿科集成 [The Grand Compendium of TCM Pediatrics]. Changsha: Hunan Science and Technology Press; 1991:152.

[QUESTIONS]

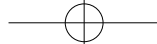
1. A newborn infant has congenital heart disease.

Which of the following periods during gestation is more likely to show congenital malformations?

- A. Within 12 weeks B. 12-19 weeks C. 19-26 weeks
D. 26-33 weeks E. 33-40 weeks

2. An 11-year-old girl has two menstrual cycles in 2 month intervals with minimal flow. Then menstruation stopped for three months until the present time. The etiology of irregular menstruation is?

- A. Liver qi is insufficient B. Heart qi is insufficient C. Spleen qi is insufficient.
D. Lung qi is insufficient E. Kidney qi is insufficient



[REFERENCE]

Wang SC, Editor. 全国普通高等教育中医药类精编教材·中医儿科学 [Selected TCM Textbooks of Chinese General Higher Education-Pediatrics of TCM]. Shanghai: Shanghai Scientific and Technical Publishers; 2006: 9-11.

Chapter 3

Childhood Growth and Development

Growth and development is a continuous process that begins with a child's fetal life, continues through the postnatal period ensuing childhood, and then onto puberty. There are significant characteristics that differentiate children from adults. "Growth" generally involves changes in body size and form with increases in cell size and/or cell numbers, which are responsible for most of the physical growth during childhood. "Development" involves changes in physiological functions and biological maturation. For example, it can be the enhancement of a skill or increasing specialization or development of new functional capacities. Growth mainly represents quantitative changes, and development mainly represents qualitative changes.

Growth and development are closely related; body and spirit develop concurrently. Growth is the material foundation of development. As organs increase in size and mature, their functional capacity also increases. For this reason, growth and development are often mentioned at the same time. It is important to be familiar with the regular phases of children's growth and development due to their great significance in guiding child healthcare and disease prevention and treatment.

[PHYSICAL GROWTH]

A child's physical growth is often expressed by average physiological constants or in growth charts. These constants are obtained from statistics of large-scale measurements which date and display the ranges of growth. This data is used for measuring and reflecting the standard deviations in growth and development while also providing a basis for diagnosis of particular diseases, as well as the drugs used in treatment. For practical application, several formulas are listed in accordance with the child's average physical growth stages; the data can be used to calculate the physical constants within each age group.

There are certain disparities in average physical growth rates and normal values of children in different countries around the world which relate to the factors of ethnicity, genetic attributes, environmental differences and various socio-economic conditions. Physical growth has increased from the late 19th to the mid 20th century, especially after WWII. Average growth rates, especially height has been increasing steadily, but in the last few decades the height increments have decreased.

1. BODY WEIGHT

Weight is the total body growth in children and is mainly composed of the weight of bones, muscles, organs, body fat and body fluids.

(1) Measurement Techniques

Weight should be measured early in the morning with an empty stomach and empty bowels and minimal clothing; an ideal measurement is taken 2 hours after food intake at meal times. For infants, use a 10-15 kg disk-beam-scale with measurements reading to the

nearest 10 g (see Fig. 3-1). For children, use a 50 kg beam-scale and the weight should be read to the nearest 50 g (see Fig. 3-2). For children over 7 years, use a 100 kg beam-scale and the weight should be read to the nearest 100 g (see Fig. 3-3). The zero weight on the scale's horizontal beam should be checked before measuring. The child should not touch any other objects or wobble while measuring; otherwise it may be difficult to obtain an accurate weight.

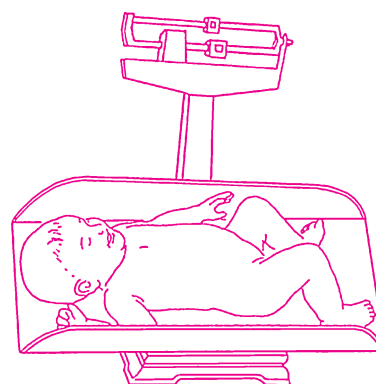


Fig. 3-1 Weight Measurement for Infants

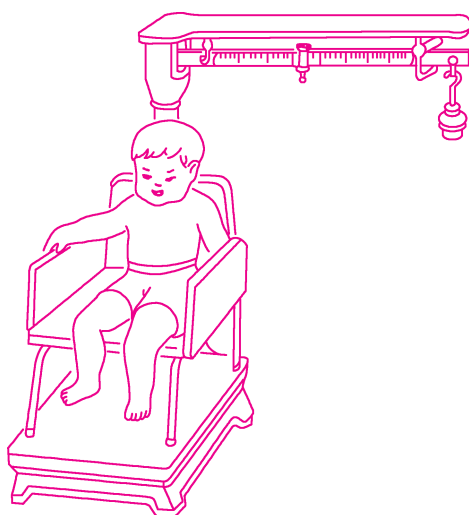


Fig. 3-2 Weight Measurement for Pre-school Aged Children

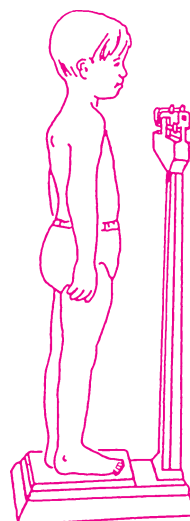


Fig. 3-3 Weight Measurement for School Age Children

(2) Normal Weight Gain Range

The ranges of normal weight gain in childhood issued by WHO and China are as follows:

a. Normal ranges of weight gain in childhood released by WHO in 2007. See Fig. 3-4, Fig. 3-5.

In the following charts, "0" is the mean value, "2 to -2" is the normal range, "2 to 3" and "-2 to -3" are the alert zones, ">3" and "<-3" are the danger zones.

b. Chinese standard ranges of weight gain in urban children released by "The 4th National Survey of Growth and Development in Children under 7 Years Old in Nine Chinese Cities, 2005".

Table 3-1 displays the ranges of growth, as expressed in percentiles. The median or midpoint is the 50th percentile and the normal range of average weight on the chart falls between the 3rd and 97th percentile.

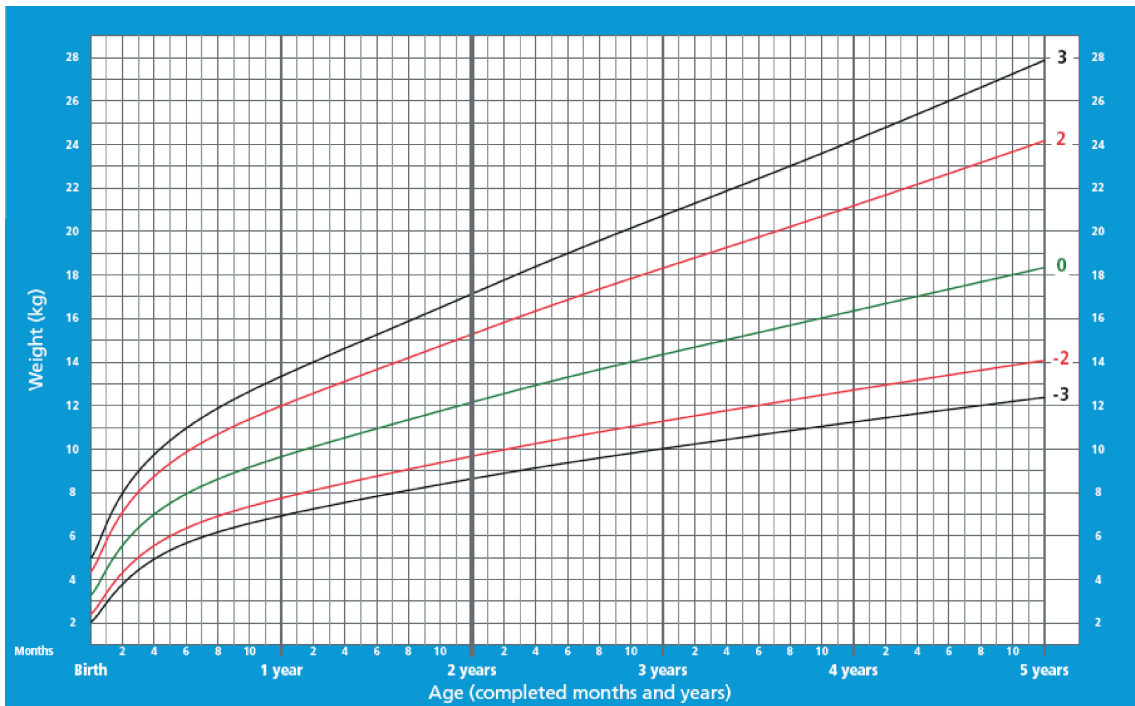


Fig. 3-4 Weight-for-Age Curve, Boys (0-5 years)

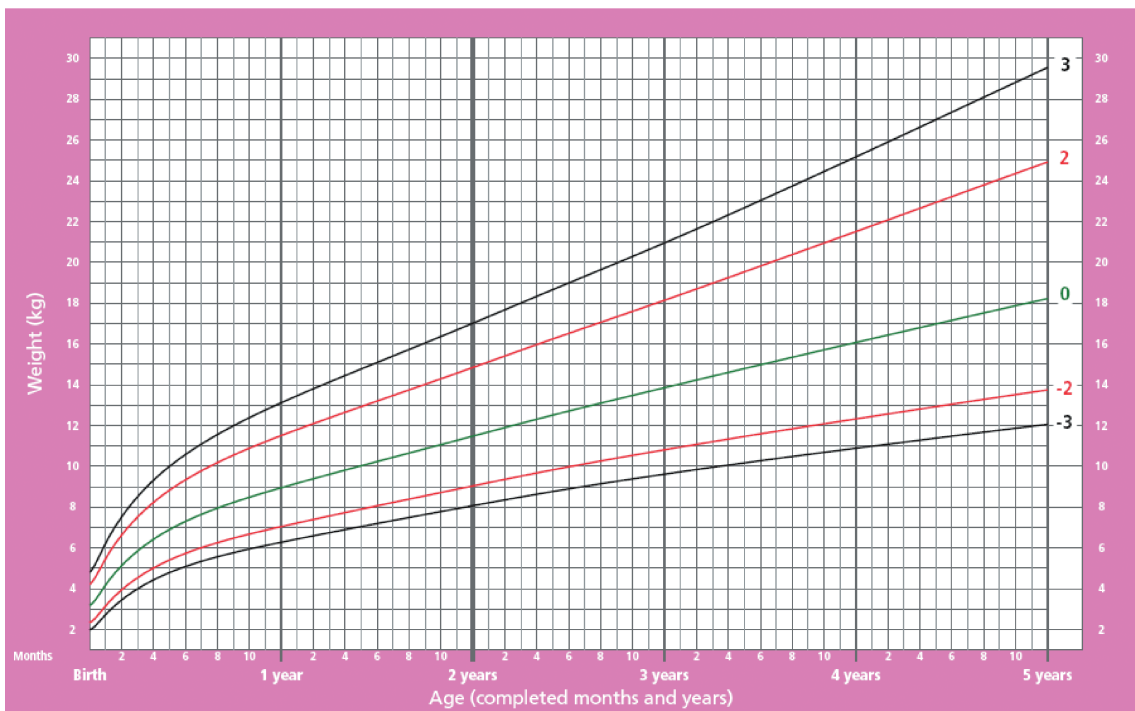


Fig. 3-5 Weight-for-Age Curve, Girls (0-5 years)

Table 3-1 Standard Weight Range (kg) of Chinese Children from Birth to 7 Years

Age	Male			Female		
	3 rd	50 th	97 th	3 rd	50 th	97 th
Birth	2.62	3.32	4.12	2.57	3.21	4.04
3 months	5.37	6.70	8.29	4.96	6.13	7.62
6 months	6.80	8.41	10.37	6.34	7.77	9.59
9 months	7.56	9.33	11.49	7.11	8.69	10.71
12 months	8.16	10.05	12.37	7.70	9.40	11.57
15 months	8.68	10.68	13.15	8.22	10.02	12.33
18 months	9.19	11.29	13.90	8.73	10.65	13.11
21 months	9.71	11.93	14.70	9.26	11.30	13.93
2.0 years	10.22	12.54	15.46	9.76	11.92	14.71
2.5 years	11.11	13.64	16.83	10.65	13.05	16.16
3.0 years	11.94	14.65	18.12	11.50	14.13	17.55
3.5 years	12.73	15.63	19.38	12.32	15.16	18.89
4.0 years	13.52	16.64	20.71	13.10	16.17	20.24
4.5 years	14.37	17.75	22.24	13.89	17.22	21.67
5.0 years	15.26	18.98	24.00	14.64	18.26	23.14
5.5 years	16.09	20.18	25.81	15.39	19.33	24.72
6.0 years	16.80	21.26	27.55	16.10	20.37	26.30
6.5 years	17.53	22.45	29.57	16.80	21.44	27.96
7.0 years	18.48	24.06	32.41	17.58	22.64	29.89

(3) Assessment Method

Growth rate is not distributed evenly through a child's life; prior to adolescence, the younger the child then the faster the rate. The average birth weight of newborns is about 3 kg. After birth, the postnatal incremental growth weight increases, accelerates briefly, then with a gradual decrease of weight gain each month and reaching about 10 kg at 1 year old. After that, there is steady growth during childhood. After 1 year, average weight gain per year is 2 kg. In clinical practice, normal weight can be calculated by the following formulas:

1-3 months: weight (kg) = 3 (kg) + 1.0 (kg) × month of age.

3-6 months: weight (kg) = 6 (kg) + 0.7 (kg) × (month of age-3).

7-12 months: weight (kg) = 8 (kg) + 0.3 (kg) × (month of age-6).

1-7 years: weight (kg) = 8 (kg) + 2 (kg) × age.

Adolescence usually starts at 12 years old and is the final accelerative phase of growth and development seen after birth. Influenced by internal secretions, weight is quickly gained with subsequent deceleration and cessation of linear growth. As girls enter this period about 2 years earlier than boys, the weight of girls at 10-13 years may exceed that of boys. But after 12-15, a boy's weight exceeds that of girl's.

(4) Clinical Significance

- Weight is one of the most important indicators of children's physical growth and nutritional condition.
- Weight is one of the major factors to calculate clinical doses.
- Abnormal excess weight gain may indicate obesity or gigantism while children weighing less than 85% of the normal value are classified as malnourished.

2. LENGTH & HEIGHT

Length & height refers to the vertical length from the head to the soles of the feet. As children under the age of 3 years cannot be measured accurately in the standing position, it is recommended to measure them with a measuring device in a supine position.

(1) Measurement Techniques

For infants under 3 years old, the measuring device should have a stationary headboard with a sliding vertical foot piece on the horizontal board to which a metal tape measure is attached. To measure, they must have their hat, shoes, socks and coat removed and be placed face up with the body in the centerline of the backboard on the measuring device. Place their head against the board with their knees are pressed firmly so that they are straight against the backboard; then with the other hand move or slide the mobile rod against the soles of the feet and ensure that the footboard is at right angles to the backboard (see Fig. 3-6). The length should be recorded to the nearest 0.1 cm.

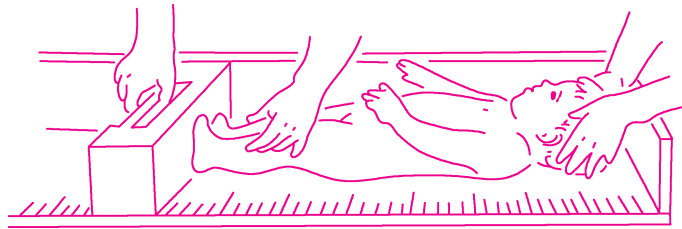


Fig. 3-6 Infant Length Measurement

For children over 3 years old, height measurement is recommended. After they take off their shoes and hat, the child stands straight with eyes looking straight ahead, heels together firmly against the backboard and flat on the floor with toes separated at a 60° angle, buttocks and shoulders against the board. The child should be asked to take a deep breath, stretch as tall as possible but keep the shoulders relaxed. Lower the grooved horizontal headboard onto the top of the head to determine height. Keep the headboard in a right angled horizontal position and read the measurement to the nearest 0.1 cm (see Fig. 3-7).

(2) Normal Height Range

The range of normal height/length gain in children as issued by WHO and China.

- Children's Normal Height/Length Range released by WHO in 2007. See Fig. 3-8, Fig. 3-9.

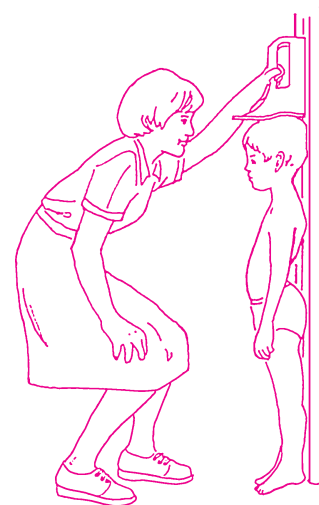


Fig. 3-7 Height Measurement of Children over 3 years old.

In the following chart, "0" is the mean value, "2 to -2" is the normal range, "2 to 3" and "-2 to -3" are the alert zones, ">3" and "<-3" are the danger zones.

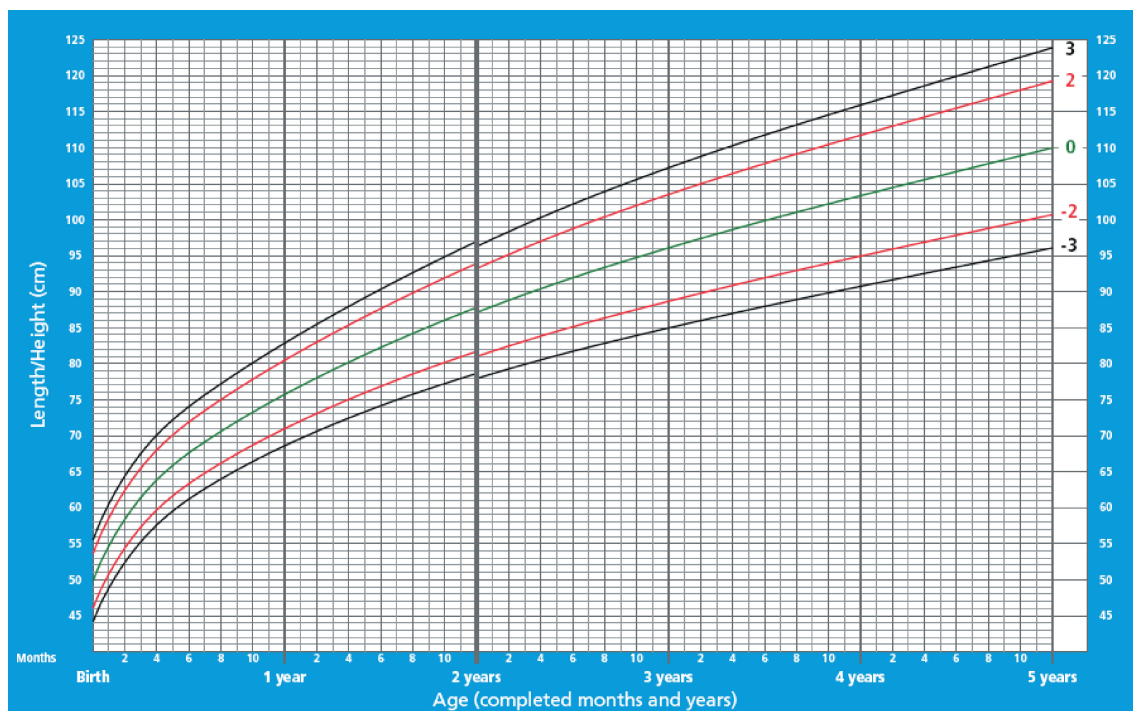


Fig. 3-8 Length & Height-for-Age Curve, Boys (0-5 years)

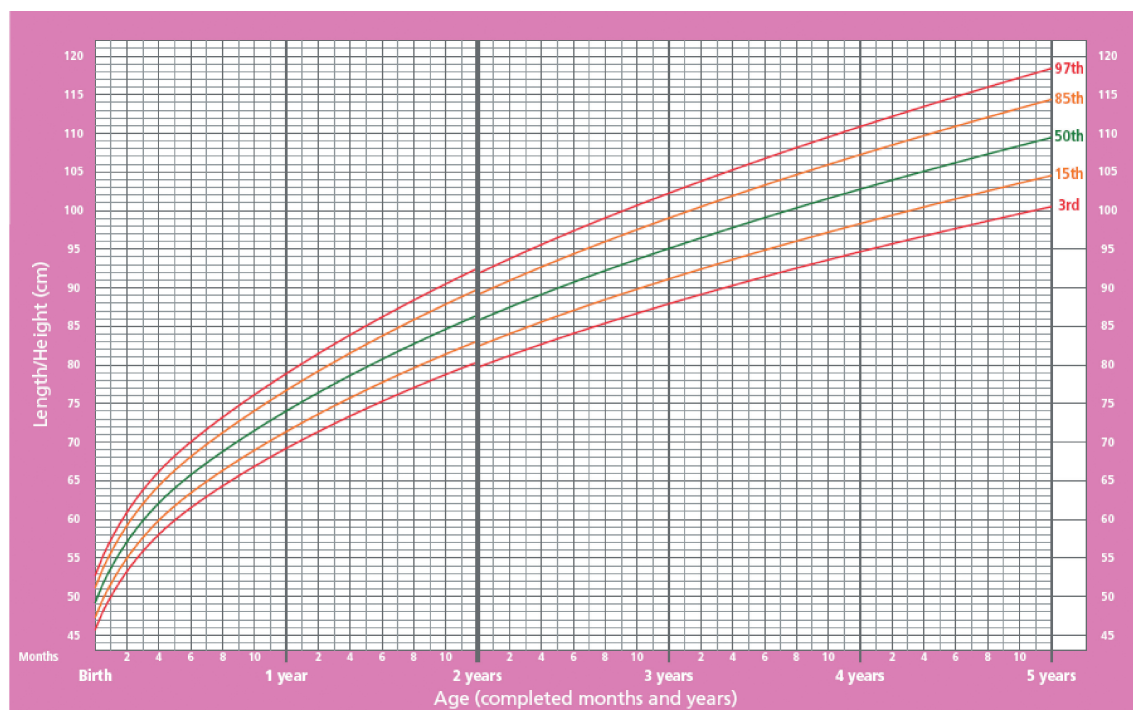


Fig. 3-9 Length & Height-for-Age Curve, Girls (0-5 years)

b. Chinese standard height/length ranges in urban children released by “The 4th National Survey of Children’s Physical Growth and Development under 7 Years Old in Nine Chinese Cities, 2005”.

The following table considers the growth ranges, as expressed in percentiles. The median or midpoint is the 50th percentile and the normal range of average height on the chart falls between the 3rd and 97th percentile.

Table 3-2 Standard Height (cm) Ranges of Chinese Children from Birth to 7 Years

Age	Male			Female		
	3 rd	50 th	97 th	3 rd	50 th	97 th
Birth	47.1	50.4	53.8	46.6	49.7	53.0
3 months	57.7	62.0	66.3	56.5	60.6	64.9
6 months	64.0	68.4	73.0	62.5	66.8	71.2
9 months	67.9	72.6	77.5	66.4	71.0	75.9
12 months	71.5	76.5	81.8	70.0	75.0	80.2
15 months	74.4	79.8	85.4	73.2	78.5	84.0
18 months	76.9	82.7	88.7	76.0	81.5	87.4
21 months	79.5	85.6	92.0	78.5	84.4	90.7
2.0 years	82.1	88.5	95.3	80.9	87.2	93.9
2.5 years	86.4	93.3	100.5	85.2	92.1	99.3
3.0 years	89.7	96.8	104.1	88.6	95.6	102.9
3.5 years	93.4	100.6	108.1	92.4	99.4	106.8
4.0 years	96.7	104.1	111.8	95.8	103.1	110.6
4.5 years	100.0	107.7	115.7	99.2	106.7	114.7
5.0 years	103.3	111.3	119.6	102.3	110.2	118.4
5.5 years	106.4	114.7	123.3	105.4	113.5	122.0
6.0 years	109.1	117.7	126.6	108.1	116.6	125.4
6.5 years	111.7	120.7	129.9	110.6	119.4	128.6
7.0 years	114.6	124.0	133.7	113.3	122.5	132.1

(3) Calculation Methods

A newborn’s length is about 50 cm. The most rapid growth period is during the first year of life, when they can gain about 25 cm. During the first 3 months, a newborn can gain almost 12 cm. There is a general deceleration of the rapid incremental height gain that occurs during infancy. The increase in the height rate is about 10 cm during the second year of life. By 3-7 years old, the height increment is less and has become steady, with a rate of around 6-8 cm a year. From 7-10 years old in girls and 7-12 years in boys, the height increment is generally 6 cm per year. The formula for calculating children’s height between 2-7 years old is:

$$\text{Height (or length) (cm)} = 70 \text{ (cm)} + 8 \text{ (cm)} \times \text{age.}$$

During adolescence, body transformation involves changes in height. In the female, the mean age of onset of puberty is 10.5 years (range 9-12 years). At the age of 10 years, a female has attained 84 percent of her ultimate height and achieves the additional 23-28 cm during the course of her pubertal development. Girls who mature early will become tall sooner and attain their final height at a younger age, although those that mature earlier

tend to be slightly shorter than those that mature later.

In males, pubertal development is normally initiated later than in females, at a mean age of 12 years (range 11-16 years). 84 percent of mature height is attained at 12 years old. The total growth accumulated during the 5-6-year pubertal phase is usually 28 cm.

(4) Clinical Significance

a. Height (length) is one of the major indexes that indicate skeletal development, and its increment is related to and influenced by factors such as race, genes, physical fitness, nutrition, exercise and various disease conditions.

b. A marked height (length) abnormality indicates that there is a chance of disease. For example, if height (length) is below 70% of the normal mean, the disorders of dwarfism, cretinism and malnutrition should be considered.

In addition, there is the upper segment (from top of the head to the upper edge of the pubic symphysis) and the lower segment (from the upper edge of pubic symphysis to the sole). The upper segment measurement is closely linked with spinal development while the lower segment measurement is closely linked with bone growth of the lower limbs. Before the age of 12 years, the upper segment is greater than the lower segment; there are appropriate changes in the body proportions after 12 years of age with a greater increase in limb than trunk length. The upper to lower segment ratio is about 1.3 at 3 years, 1.1 at 6 years, and 1.0 at 10 years of age.

3. FONTANELLES

The fontanelles are classified into anterior fontanelle and posterior fontanelle. The anterior fontanelle is a diamond-shaped open area where the two frontal and two parietal bones join. The posterior fontanel is a triangle-shaped open area where the two parietal bones adjoin the occipital bone (see Fig. 3-10).

(1) Measurement Methods and Normal Values

The size of the anterior fontanelle is represented by the length between the midpoints of the opposite sides. It is about 1.5-2 cm at birth and is usually closed by 12-18 months old. It can be felt by palpation. For some children, the posterior fontanelle is closed at birth. For those that are open, the posterior fontanel will close between 2-4 months. Cranial sutures are usually closed by the age of 3-4 months.

(2) Clinical Significance

Fontanelles indicate the closure state of the skull sutures, so they are significant for the diagnosis of some diseases. If the fontanelle closes too early and the head circumference is less than normal, this is called a small head deformity. If the fontanelle closes too late and the head circumference exceeds the normal size, this generally indicates the likelihood of an ununited skull (hydrocephalus), rickets, or congenital hypothyroidism psychosis.

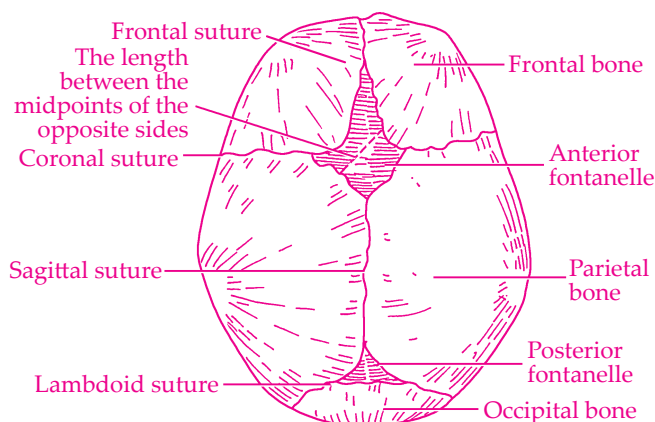


Fig. 3-10 Anterior Fontanelle Measurement Method

A sunken fontanelle is usually due to yin-fluid exhaustion or extremely emaciation. A bulging fontanelle usually reflects intracranial hypertension and is especially common in encephalitis and meningitis caused by intense heat in the qi and *ying* levels.

4. HEAD CIRCUMFERENCE

(1) Measurement Methods

Head circumference refers to the length of a circle that starts at the upper edge of the eyebrow arch passing the occipital bone nodules going around the skull. Head circumference is measured with a tape measure. With the 0 point at the upper edge of one eyebrow, press the tape measure against the head go through the highest point of the occipital bone nodules and the upper edge of the other eyebrow and return to the starting point (see Fig. 3-11); selecting the maximal occipitofrontal circumference from two or three measurements. The measurement should be read to the nearest 0.1 cm.



Fig. 3-11 Head Circumference Measurement Method

(2) Normal Values

A full term infants' head circumference is about 33-34 cm at birth. In the first 3 months after birth they gain 6 cm in head circumference and another 6 cm during the next 9 months. The head circumference is about 46 cm at 1 year old, 48 cm at 2 years, 50 cm at 5 years and 54-58 cm at 15 years old, approaching that of the adult.

The normal value of head circumference by age percentiles for children aged from birth to 5 years issued by WHO in 2007. See Fig. 3-12, 3-13.

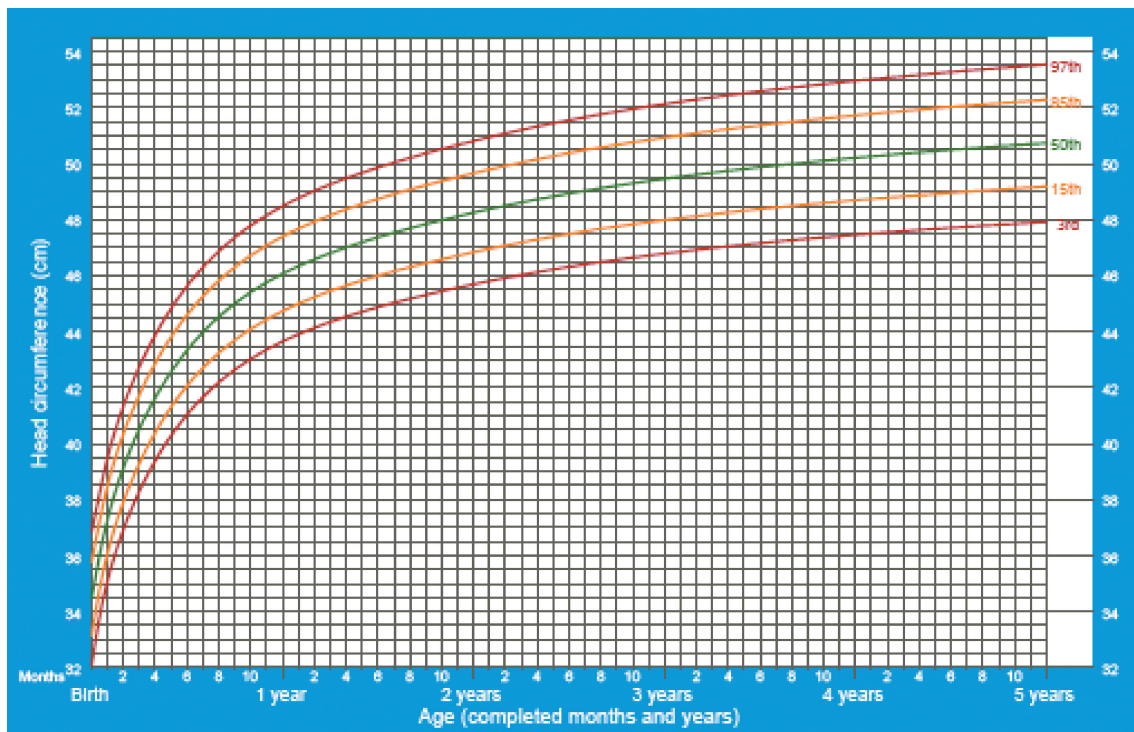


Fig. 3-12 Head Circumference-for-Age Curve, Boys (0-5 years)

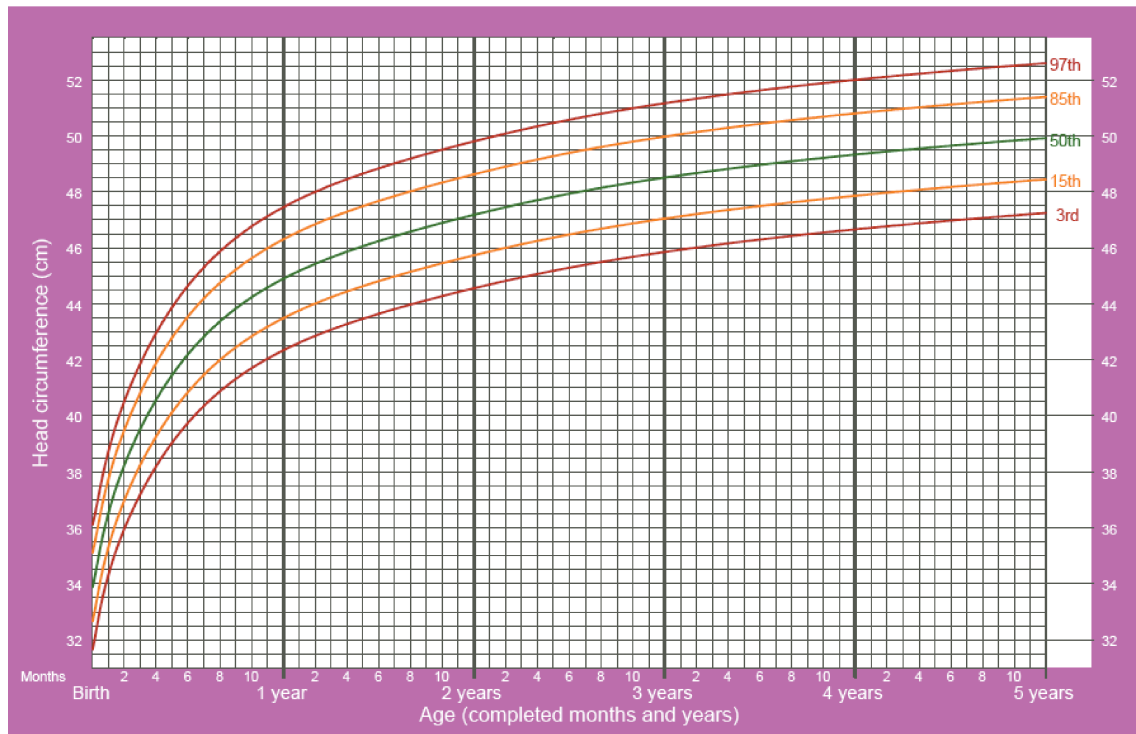


Fig. 3-13 Head Circumference-for-Age Curve, Girls (0-5 years)

(3) Clinical Significance

Head circumference reflects the rates of brain and skull bone growth and development. A small head circumference indicates poor development of the brain. An excessive increase in head circumference indicates a non-united skull (hydrocephalus).

5. CHEST CIRCUMFERENCE

(1) Measurement Methods

For children under the age of 3 years, erect or supine postures are chosen. For children over 3 years of age, erect posture is preferred. The children should have settled down before starting to take the measurements, arms by their sides, eyes looking straight ahead. The measurer stands to the right, in front of the child. Put the zero point of the tape measure at the lower edge of the nipple (for girls whose mammary glands have developed, put the zero point at the 4th rib on the sternum midline). Press the tape measure tightly against the skin; stretch the tape measure to the lower edge of scapulae and return to the zero point. Record the average value of the measurements during exhalation and inhalation. When measuring, the tape measure should not be too tight or too loose; the symmetry between bilateral and sagittal aspects needs to be maintained.

(2) Normal Values

A newborn's chest circumference is about 32 cm. The chest circumference is about 44 cm at 1 years old, approaching the head circumference and gradually exceeding the head circumference after 2 years of age. Chest circumference minus head circumference approximately equals age minus one.

(3) Clinical Significance

Chest circumference indicates the rate of growth and development in the thoracic, thoracodorsal muscle, subcutaneous fat and the lung. Generally the time when chest circumference exceeds head circumference occurs earlier among well-nourished children, otherwise the chest circumference occurs later than the head circumference in children with malnutrition or lack of exercise which leads to slow increase and poor development of the thorax.

6. TEETH

(1) Normal Value

Humans have two sets of teeth throughout a lifetime, which are 20 primary teeth/milk teeth and 32 permanent teeth. Primary teeth erupt during the 4th to the 10th month after birth. The first teeth appear in the lower jaw and then the upper jaw, first in the central area, then in the back, with the canines as an exception. All the primary teeth erupt and become visible at about 2-2.5 years of age. At around 6 years old, the first eruption of the permanent teeth appears. From age 7-8 years, the primary teeth fall out one by one in the order of eruption priority and are replaced by permanent teeth. The last permanent tooth (wisdom tooth) (third molar) usually erupts between 20-30 years old. The third molars may be invisible for some people during their lifetime.

By the age of 2 years old, the number of primary teeth can be calculated according to the following formula:

$$\text{Number of primary teeth} = \text{month of age} - 4 \text{ (or 6)}$$

(2) Clinical Significance

Delays in teeth eruption or teething in a disordered sequence are common in rickets, cretinism, malnutrition, etc. There may be some reactions during teething such as salivation, sleep disorders, anxiety and so on. These are normal and should not be considered as an illness. Frequent use of the drug Tetracycline may cause yellow-stained teeth and dentine damage.

7. BREATHING AND PULSES

(1) Measurement Methods

Breathing and pulse examinations should be conducted when the child is settled and quiet. Respiratory rates can be observed by calculating the up and down movements of the abdomen or by placing a small amount of cotton fiber on the edge of child's nose and observing the oscillation frequency of the cotton fiber. Pulse detection for children can be completed by palpation of the radial pulse or cardiac auscultation.

(2) Normal Values

Children's breathing and pulses are prone to being influenced by heat, movement, crying, etc. For normal values for all age groups, see Table 3-3.

Table 3-3 Breathing and Pulse Frequencies in Each Age Group

Age	Breathing (times/min)	Pulse (times/min)	Breathing : Pulse
Newborn	45-40	140-120	1 : 3
≤1 year	40-30	130-110	1 : (3-4)
2-3 years	30-25	120-100	1 : (3-4)
4-7 years	25-20	100-80	1 : 4
8-14 years	20-18	90-70	1 : 4



8. BLOOD PRESSURE

(1) Measurement Methods

Choose cuffs in different widths for different age groups to measure the blood pressure. The cuff width should be 2/3 of the upper arm length. If the cuff is too wide, the measured blood pressure will be lower than the actual blood pressure. If the cuff is too narrow, the measured blood pressure will be higher than the actual blood pressure. In children, the younger their age, the lower the blood pressure.

(2) Normal Values

Children's blood pressure in different age groups can be calculated according to the following formulas: (Notes: kPa \approx mmHg \div 7.5)

$$\text{Systolic pressure (mmHg)} = 80 + 2 \times \text{age}$$

$$\text{Diastolic pressure} = \text{Systolic pressure} \times 2/3$$

[INTELLECTUAL DEVELOPMENT]

Just like physical growth, intellectual development is another important indicator reflecting whether the child's growth and development are normal or not. Intellectual development refers to neurological and psychological development, including perception, motor movement skills, language acquisition, temperament, character and so on. Apart from the congenital factors, intellectual strength and development are closely related to environmental stimuli and education.

1. PERCEPTION AND COGNITIVE DEVELOPMENT

(1) Visual Perception and Development

A newborn's vision is not sharp, being clearest at 10-20 cm away. Newborns can focus temporarily on and spontaneously follow a slow moving object at a short distance. During the second month, infants are beginning to coordinate their eyes and head together and can focus on an object. During the third month, infants are able to track moving objects or a person with improved eye-head coordination.

From the 4th to the 5th month, infants begin to recognize their mother and show signs of happiness at the sight of a feed bottle. During the 6th month, infants are able to reach for objects in their visual field, turn around and coordinate movements of their hands and eyes. This allows the child to bring whatever they have grasped closer to themselves for the purpose of a visual inspection. At 9 months, visual depth perception develops and infants can see small objects. At 1.5 years old, infants are able to make a distinction between different shapes. At 2 years, they can distinguish vertical and horizontal lines and follow falling objects. At 5 years, they can distinguish colors. This development continues up until 6 years of age, when their eyesight can reach 1.0 (5.0).

Visual development will depend on repeated experiences triggered by external stimulus, as conceptualization regarding the physical universe begins. When the notion of object permanency has been acquired, discrimination on the basis of form, size and color is possible. This awareness is built upon the visual and tactile properties of the objective world.

(2) Auditory Perception Development

An infant's auditory apparatus is functional at birth and hearing is quite good during the first 3-7 days after birth. At the third month, infants are able to turn their head towards a sound. During the fourth month, infants can smile at musical sounds. During the fifth month, they can respond to their mother's voice. During the 8th month, they can differentiate the meaning of speech and discriminate between the voices of familiar and unfamiliar people. During the 9th month infants will actively seek and locate the source of sounds that interest them, that come from different directions.

At the age of one year, they may understand their own name, enjoy their own vocalizations and engage in imitative noisemaking games with their families. At 2 years of age, they can understand simple orders. The auditory development becomes mature at four years of age. Auditory development is very significant for the children's language development and the most important function of auditory perception is comprehension and production of speech production.

(3) Smell and Taste

The senses of smell and taste are reasonably mature at birth; infants know the breast milk flavor and have different responses to different tastes such as sweet, sour, bitter and so on. From the 3rd to the 4th month, infants are able to distinguish pleasant unpleasant smells. At the 5th month, infants are sensitive to tiny variations of taste; it is normal to supplement and add many different kinds of food to their diet during this period in order for them to adapt to different tastes.

(4) Skin Sense Perception

The newborn is very sensitive to touch, particularly on the lips, palms, feet, forehead and eyelids. Pain sensors exist at birth. Their whole body may react to a pain trigger or they may have a partial response. Newborns are also very sensitive to temperature changes, particularly cold. For example, newborns cry when they leave an ambient mother's body temperature or the environmental temperature plunges. At 2-3 years old, children are able to distinguish the size of objects, whether they are soft or hard, cold or hot and so on through touch and hand-eye coordinated activities. At 5 years old, children can differentiate objects of the same size but with different weights.

(5) Perception

Perception is a comprehensive reflection of the details of environmental stimuli, received by the brain from the central nervous system through various sense organs which are then processed and organized into meaningful concepts. It is closely related to each previously mentioned sensory development. The infant begins to develop space and time perception by the end of the first year. At 3 years old, children are able to distinguish up and down directions. They can identify the front and back of objects and are beginning to understand time concepts at about 4 years old. At 5 years old, children are able to recognize their left and right sides.

2. MOTOR DEVELOPMENT

The precursor of motor function development is brain development. Fetal movements emerge in the third trimester of pregnancy and these are the initial forms of movement. A child's motor status development depends upon the participation of vision and perception. This is significantly important for the experiences available



to them and the quality and quantity of feedback that they receive from their social and physical surroundings. This in turn influences the development of social and psychological functions.

The development of a child's motor skills follows certain laws to achieve various motor landmarks. The development sequence is from top to bottom, gross to fine, and uncoordinated to coordinated progress. The processes of gross motor development can be summarized as follows: "at 2 months old, they will lift up their head; at 4 months old, they can turn over; at 6 months old, they can sit up; at 7 months old, they roll around; at 8 months old, they crawl and at 12 months old, they can walk".

Newborns only have reflexes (such as sucking, swallowing, etc.) and involuntary actions: at 1 month of age, infants usually stretch their body after awakening; at 2 months old, they can manage to hold their heads up while being held sitting up or lying on their sides; at 4 months old, they can support the upper body with their hands; at 6 months old, infants will sit alone for a while; at 8 months old, they can crawl; at 10 months old, they may stand up and walk with support; at 12 months old, they can walk on their own; at 18 months old, they are able to run and walk backwards; at 24 months old, they can jump with two feet joined together; at 36 months old, they can ride a tricycle.

The development processes of the delicate movements of the fingers are as follows:

Infants can clench their fists during the first 3-4 months of life, play with their own hands and attempt to grasp things; at 5 months, co-ordinate their hand-eye movements and consciously grab items; during the 5th to the 7th months of life, they begin changing hands, kneading, knocking and other exploratory movements; at 9-10 months, they can pick up things by the thumb and index fingers; during 12-15 months, they learn to use spoons and paint arbitrarily; at 18 months, they can place 2-3 square blocks together; at 2 years old, they can roughly turn pages and browse books and at 3 years old, they can put on simple clothes.

3. LANGUAGE ACQUISITION AND DEVELOPMENT

Language is a way of expressing thinking and understanding and has a direct connection with intelligence. The acquisition of language in children progresses through three phases of development which are pronunciation, understanding and expression. Newborn infants already show responses to auditory stimuli and are able to cry. By the age of 2 months, they can produce a variety of guttural sounds. By 3 months old, they begin to utter sounds. By 4 months old, they produce sounds of laughter. By 7-8 months, they can produce double sounds, such as "mama, papa" etc. By 8-9 months old, they like to copy a family member's pronunciation, and by 10 months old, infants are able to consciously call "mama, baba" etc.

The majority of children are able to produce a few recognizable words by their first birthday. As each infant is exposed to a mixture of language, visual, tactile and auditory stimulus, they are able to receive, analyze and synthesize these into the meaningful pattern of their own words. They gradually understand some daily necessities such as "bottle", or "blanket". Short phrases and three-word sentences appear later, as the child's vocabulary expands, although the rate of progression is highly individualized. By about one and half years old, children can use words to express their basic needs. Around the second birthday, most children can have a simple conversation, and after the age of 5, children can use

complete sentences to express themselves.

4. TEMPERAMENT DEVELOPMENT

Temperament refers to the individual's behavioral style and psychological characteristics such as attitudes and emotional reactivity towards people and objects, as well as the types of interaction with their environment. For example: courage, assertiveness, weakness, rudeness, and other personality features.

Psychological evaluation suggests that development of temperament and the formation and change of individual personality development in children are influenced by social, environmental and educational factors developing through continuous quantitative and qualitative changes. Personality behavior in children is displayed as early as the neonatal period.

For example, infants can express their eagerness to try to find breast milk whenever they are held in their mother's arms. By the second month of life, infants can react with a special "innocent and joyful response" to their baby sitters by looking at their minder's face, excitedly moving their arms and legs and maybe even smiling. This initial, early manifestation of temperament is unstable and the individual's personality characteristics are not yet clear.

Along with the many individual differences of psychological characteristics that are part of a child's identity, there are environment features such as different living conditions, socio-economic class, child-rearing practices and parental personalities that all interact to form the personality of the individual. In this development process, personal interest, abilities and adaptability can vary accordingly, as well as the growth, development and formation and establishment of the child's temperament and character.

(1) The Infancy Stage

Although the activities associated with feeding and suckling are necessary for survival, the infant is in a passive-dependent position and all their physical needs are dependent on an adult's care, which consequently establishes a character marked by strong emotional dependency or with dependent and self-centered traits. Infants of 2-3 months show joy when they see their parents by smiling or ceasing to cry, reaching out their hands, showing expression in their eyes or making sounds.

Infants of 3-4 months can laugh out loud at amusing things. Infants of 7-8 months are shy with strangers or people that they are not familiar with. Infants between 9-12 months show different facial expressions towards different circumstances and objects of the outside world. It is important to establish a sense of trust in their physiological needs during this period (such as eating, holding). On the contrary, if the infant's needs are not satisfied, the child may easily form a feeling of distrust towards people and society.

(2) The Early Childhood Stage

During this stage, children can walk independently, feed themselves, and have reached a certain degree of ability in their language expression. The possession of these abilities is then equated with a sense of self-independence with less dependence than before. This phase is a mixture of characteristics of emotional/behavioral dependence and self-independence traits. If the parents are too restrictive with excessive criticism or punishment, then the child may easily develop a sense of shame and inferiority.



(3) The Preschool Stage

The child's motor and language skills develop rapidly with a certain independence and initiative during this period. If the parents often laugh at the child's activities, then the child may begin to feel guilt associated with certain activities.

(4) The School Age Stage

If the child often receives recognition in their studies, they will become more and more diligent. On the contrary, when children are criticized because of failures in their studies, they may become easily tired of studying and develop a sense of inferiority.

(5) The Puberty Stage

This is the stage when there is physical maturation and a great development in psychological adaptability. By this time they have achieved a sense of their identity and future goals. If there are emotional, partnership, career choice problems or moral value issues that are not handled properly, then an identity disorder may result.

[GROWTH AND DEVELOPMENT EVALUATION]

Ancient China and TCM used the *biàn zhēng* theory as a theory for growth and transmutation change in childhood growth, development, and intelligence testing, while modern pediatricians have developed many other methods to test and evaluate children's intelligence.

1. BIÀN-ZHĒNG THEORY

Ancient TCM doctors used *biàn zhēng* theory to explain the regular patterns of growth and development in infants and young children. Children under 2 years old have particularly rapid growth, and after a period of time there are significant changes. The children become more intelligent and express more lively facial expressions and gradually grow taller with increasingly stronger bones and muscles. The process of change during this period is called *biàn zhēng* by TCM doctors.

The *biàn zhēng* theory first appeared in *The Pulse Classic* (*Mài Jīng*) by Wang Shu-he in the West Jin Dynasty. Later, *Treatise on the Origins and Manifestations of Various Diseases* (*Zhū Bīng Yuán Hòu Lùn*), *Important Formulas Worth a Thousand Gold Pieces for Emergency* (*Bèi Jí Qiān Jīn Yào Fāng*) and many monographs on pediatrics have elaborated on the *biàn zhēng* theory. The character *biàn* means emotional changes (intelligence) and enlightening of the mind, while the character *zhēng* means steady growth of blood vessels and bone. In other words, infants and young children grow rapidly with continuous changes in mind and body, progressing day by day and gradually developing strength and maturity.

The regular patterns of *biàn zhēng* proposed by the ancient doctors are as follows: The first 32 days after birth are called a *biàn*; the next *biàn* of 32 days added to the first 32 days makes a total of 64 days which is called a *zhēng*. That is, *biàn* comes first, and *zhēng* follows, and two *biàn* equal one *zhēng*. 320 days consist of ten *biàn* and five small *zhēng*. After a total of five small *zhēng* are followed by the large *zhēng* intervals of 64 days, and followed by a double large *zhēng* interval of another 64 days, then the double large *zhēng* are repeated with intervals of 128 days. That is a total of three large *zhēng* within 256 days.

So far, there are 320 days of small *zhēng* and 256 days of big *zhēng*, totaling 576 days altogether, so *biàn zhēng* ends around 1 year 7 months. During the process of *biàn zhēng*, it

is not only a child's body that has a continuum of growth (with changes in size and form) but also the development of their physiological organ functions and biological maturation; coordinated development of the child's body and spirit manifest during this period.

TCM classics often explain the processes of growth and development in infants and young children according to the *biàn zhēng* on the basis of the five-*zang* theory. *A New Book of Pediatrics: Volume 7—biàn zhēng* (Yòu Yòu Xīn Shū: Volume 7—Biàn Zhēng) states: "After the first *zhēng*, the liver stores the soul, the soul settles and the eyes brighten; after the second *zhēng*, the lung stores the inferior spirit extending to the nose, and the child is able to sneeze and cough; after the third *zhēng*, the heart stores the spirit, and child is able to speak and smile; after the fourth *zhēng*, the spleen generates intelligence, and the child is able to move freely; after the fifth *zhēng*, the kidney stores essence, the marrow develops and *qi* flows smoothly; after the sixth *zhēng*, the tendons and vessels stretch and bind together, the nine orifices are moving and body fluids circulate properly, then the child is able to stand; after the seventh *zhēng*, the tendons, physical strength and spirit develop further, and the child is able to walk; after the eighth *zhēng*, breathing is even and sustained with 13,500 breaths as one cycle; the child exhales turbid air produced by the heart and lung and inhales the clear air of nature, then forming essence *qi* that enters the kidney and liver. The number of breaths reaches a normal value, and blood circulation flows evenly through the vessels 5,000 times."

Chinese ancient *biàn zhēng* theory summarizes the patterns of growth and development in infants and young children. The rate of growth and development accelerates most rapidly during the infant period. Children's growth and development is a continuous process of change, and after a certain period of time there are significant changes in growth and development. The *biàn zhēng* cycle gradually extends into longer cycles, indicating that the rate of growth and development slows down along with the increasing age. The *biàn zhēng* period ends at a definite age (576 days), and incremental growth accelerates briefly but with a decreased yet steady state of growth and development during childhood.

2. INTELLIGENCE/APTITUDE TESTS

The pediatric intelligence/aptitude test is mainly an assessment of psychological and behavioral development from birth to 6 years old and includes movement, senses, perception, language, adaptive behavior, social behavior and other aspects. Over past decades, tests for infants and children have rapidly developed and a variety of testing methods have become established.

(1) The Neonatal Behavioral Assessment Form (NBAF) was developed by a well-known American pediatrician Dr. T. B. Brazelton in 1973. This behavioral scale is applicable to the youngest infants aged from the first day of birth to 1 month old; this scale is used for the purpose of diagnosis and prediction. The NBAF consists of 27 items which fall into 6 categories:

- a. Habituation: an infant's reaction to the same stimulus (light or sound) decreases when they are repeatedly exposed to it.
- b. Orientation: this is the ability to have a response of facing towards a living stimulus (such as people) and abiotic stimulus (such as an object).
- c. Motor system control maturation: includes tonus, motor maturity, pull-to-sit, defensive movements and levels of activity.



d. Range of changeable states: includes the changes from the stages of waking to deep sleep, skin color changes, changing activity levels, changes from peaks of excitement, acceleration intensity, irritability, liability of states and the cluster and whether the change is relatively easy or not.

e. Regulated states of composure: includes consolability, ability to calm themselves, and hand-to-mouth activity.

f. Socialization behavior: includes smiling and responses to being cuddled.

These points are scored up to nine grades with the middle grades being normal reactions and with both ends of the scale as deviations from the normal. This scale is the most commonly used scale for testing neonatal infant behavior.

(2) The Bayley Scales of Infant Development (BSID) was published in 1933 and reprinted in 1969, formerly known as the Californian Infant's First Year Mental Scale. It is applicable to infants and toddlers aged 2-30 months. The degree of standardization is better than other intelligence tests for young children because its general sample is stratified sampling.

It consists of three sub-scales:

a. Intelligence Scale (163 items) which focuses on adaptive behavior, language, exploration activities, etc.

b. Motor Scale (81 items), focusing on significant major movement and fine motor skills.

c. Infant Behavior Record which records children's personality characteristics at each month of age. BSID uses the intellectual developmental index and psychological activity developmental index to separately assess intelligence levels and motor levels. The mean is 100 and the standard deviation is 16.

(3) The Denver Development Screening Test (DDST) developed and introduced by U.S. Denver Scholar W.K. Frankenburg and J.B. Dodds is a conventional method of screen testing for infants and young children that is used by child-care centers and healthcare institutions in the U.S. DDST targets children aged from birth to 6 years. Children may have some problems and need further diagnostic inspections if they cannot complete the chosen tasks.

DDST consists of 105 items, separately inspecting the following 4 types of abilities: Social contact ability (the child responding to others, and self-care abilities); Fine motor-responding material world skills (looking ability, picking things and drawing picture skills), language capability (listening and understanding language ability) and gross motor skill (sitting, walking and jumping abilities).

(4) Gesell Development Schedules (GDS) is a schedule for infants and young children schedules as founded by American psychologist Arnold Gesell. He believed that as the infant and young child nervous system continuously develops, matures and differentiates, corresponding behavioral molds are produced. For example, when the neuro-motor system produces behavior reactions such as reacting to a certain situation, those behavior patterns will form into an orderly behavioral mold system alongside with age increases. Therefore, normal behavioral patterns are an indicator of maturity.

Gesell observed thousands of children and found out the emerging sequence of patterns of various behavioral models at different ages in normal infants and young children. He evaluated that by using the normal behavioral models as standard guidelines to make an objective evaluation, one can discover the defects in a child's nervous system and provide

an opportunity for early treatment. Based on this diagnostic thinking, he programmed the GDS for infants and young children in 1940.

This assessment mainly evaluates phases of abilities: motor skills, adaptive abilities, language skills and personal-social skills. These four phases of abilities have corresponding behavioral molds for children in each age period. Normal child behavior appears within these four phases and should parallel, interrelate and overlap with each other.

[CASE STUDY]

► Case #1

Male, age 18 months. Initial Visit: 10/4/1983.

The child presented with a pale complexion and thin body, weight 9 kg. He had thin yellow hair, his spirit was low, and he frequently had spontaneous sweating. There was a poor appetite, eating only 3-5 spoons of porridge each meal. He liked sweet food and was susceptible to colds and had frequent diarrhea.

He had been sick with fever 4 times during the previous month and had experienced diarrhea 12 times a day with loose stools mixed with undigested food. The tongue was pale with a thin coating.

The pattern differentiation here was spleen-lung qi deficiency with failure of transportation and transformation. The treatment method was to fortify the spleen and assist transportation.

Modified *Yì Gōng Sǎn* (Special Achievement Powder, 异功散)

Formula

党参	<i>dǎng shēn</i>	10 g	Radix Codonopsis
茯苓	<i>fú líng</i>	10 g	Poria
淮山药	<i>huái shān yào</i>	10 g	Rhizoma Dioscoreae
陈皮	<i>chén pí</i>	4 g	Pericarpium Citri Reticulatae
焦山楂	<i>jiāo shān zhā</i>	10 g	Fructus Crataegi Praeparata
焦神曲	<i>jiāo shén qū</i>	10 g	Massa Medicata Fermentata Praeparata

One dose per day.

After 7 doses, his appetite gradually improved with increased food intake and less attacks of the common cold, as well as a reduced fever. He continuously took the formula for one month, and his food intake reached 50-100 g at every meal. Color returned to his face and he became lively with reduced sweating and normal stools. His weight increased to 10 kg and he was considered to be recovered.

Analysis

The child's age was 18 months but his weight was only 9 kg, which is markedly below the normal level of children of the same age. As a result, he manifested a series of signs and symptoms of deficiency in the whole body, with an obvious spleen-lung qi deficiency. Spleen deficiency leads to less food intake and diarrhea, while lung deficiency leads to profuse sweating and a tendency to catch common colds easily. The root of this pattern is due to the spleen and stomach lacking generation and transformation after birth. So the treatment



method here was to fortify the spleen to assist transportation by using a modification of *Yi Gong Săn*—Special Achievement Powder. After one month of treatment the child gained 1 kg and his weight reached the normal level.

Source: Wang SC. Pediatric Spleen-Activating Treatment Methods and Utilization [J]. Practical Medical Magazine. 1986; 2 (3): 33

[QUESTIONS]

1. A 2-day-old male infant, weight 2.3 kg. His body length is 50 cm. His head circumference is 33 cm. His posterior fontanelle has already closed and no teeth have erupted.

Which of the following growth and development indicators are abnormal?

- A. Weight
- B. Length
- C. Head circumference
- D. Posterior fontanelle
- E. Teeth

2. A child patient is three years old. His weight is 14 kg and his height is 85 cm. His pulse is 100 times per minute. His head circumference is smaller than the chest circumference. All of his primary teeth have erupted.

Which of the following growth and development indicators are abnormal?

- A. Weight
- B. Height
- C. Head circumference
- D. Teeth eruption
- E. Pulse

3. An infant patient is 2 years old. His head circumference is 52 cm, and the interior fontanelle has not closed.

Which is the most possible diagnosis?

- A. Un-united skull hydrocephalus
- B. Fetal feebleness
- C. Sclerema neonatorum
- D. Malnutrition
- E. Small head/microcephaly

4. An infant patient is 15 months old. His weight is 12 kg. 4 primary teeth have erupted.

Which diagnosis is the most likely?

- A. Fetal feebleness
- B. Cretinism
- C. Rickets /Malnutrition
- D. Obesity
- E. Normal growth and development

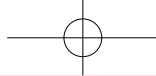
5. An infant patient is 9 months old, weight is 9 kg and body length is 72 cm. He has just been able to stand up straight and consciously grabs objects with a full hand in front of him.

Growth and development of this baby may be summarized as:

- A. Growth abnormal, both gross and fine motor skills normal.
- B. Growth abnormal, gross motor skills normal, fine motor skills abnormal.
- C. Growth abnormal, gross motor skills abnormal, fine motor skills normal.
- D. Growth normal, gross motor skills normal, fine motor skills abnormal.
- E. Growth normal, gross motor skills abnormal, fine motor skills normal.

[REFERENCES]

[1] WHO Multi Centre Growth Reference Study Group. WHO Child Growth Standards: Head



Circumference-for-Age, Arm Circumference-for-Age, Triceps Skin Fold-for-Age and Subscapular Skin Fold-for-Age: Methods and Development. Geneva: World Health Organization, 2007:217.

- [2] WHO Multi Centre Growth Reference Study Group. WHO Child Growth Standards—Length/Height-for-Age, Weight-for-Age, Weight-for-Length, Weight-for-Height and Body Mass Index-for-Age. Methods and Development. Geneva: World Health Organization, 2006: 312.
- [3] Maternal and Child Health Care & Community Health Department, Ministry of Health, The People's Republic of China, Coordinating Study Group of Nine Cities on the Physical Growth and Development of Children, Capital Institute of Pediatrics. A National Survey on Children's Physique, Growth and Development under 7 Years of Age in Nine Cities of China, 2005[M]. Beijing: People's Medical Publishing House, 2008: 19-168.



Chapter 4

Physiological, Etiological and Pathological Characteristics

From birth to adulthood, children go through a dynamic continuous process of growth and development. The younger they are, the faster the rate of growth and development. Children cannot simply be regarded as adults in miniature because they are significantly different from adults in the terms of their physical, physiological, etiological and pathological features.

The characteristics of children's physiology, etiology and pathology have been discussed by many of the ancient Chinese medical scholars, who summed up their ideas as follows: the physiological characteristics of children include delicate and immature *zang-fu* organs, insufficient physique and qi, vigorous activity, and rapid growth and development.

The main etiological causes of disease include external contraction, food damage and congenital factors. The main pathology that they manifest is that they are easily attacked by diseases, and while they are sick, their condition tends to change quickly. Children also have pure and clear *zang* qi and that helps them to make a quick recovery. These basic characteristics of children are very important guidelines in clinical practice, child healthcare and disease prevention.

1. PHYSIOLOGICAL CHARACTERISTICS

(1) Delicate and Immature *Zang-Fu* Organs, Insufficient Physique and Qi (*zàng fǔ jiāo nèn, xíng qì wèi chōng*)

Zàng fǔ refers to the five *zang* organs and the six *fu* organs, *jiāo* means delicate and unable to endure cold, summer-heat, and strong medications, *nèn* means immature physique, *xíng* refers to the body constitution of the limbs, bones, tendons, muscles, essence, blood, fluids and so on. *Qì* refers to a variety of physical functions including lung qi, spleen qi, kidney qi and so on. *Chōng* means sufficiency and maturity.

“[*Zàng fǔ jiāo nèn, xíng qì wèi chōng*] or delicate and immature *zang-fu*, insufficient body physique and qi” briefly explains that children are in the process of dynamic growth and development, and that their morphology and organs are not yet well-developed. Complex physiological functions and skills have not fully developed, the *zang-fu* organs are delicate and immature, there is lower resistance to attack by pathogens, and there is a lower tolerance to strong medications.

As compared with adults, it is easier for children to be attacked by wind-cold or wind-heat pathogens presenting with symptoms of fever, nasal congestion, runny nose, coughing and so on. Another example is that when using strong purgative and expelling medicinals the prescribed dose is relatively smaller; there are also more contraindications and it is much easier to damage healthy qi.

Apart from that, children's physique (*xíng*) and qi are less sufficient. The full complexity of functional activities and skills has not yet become well-developed, such as language skills. Their behavioral abilities are usually poorer than or incomparable with adults, and it

is only at puberty that reproductive capacity begins to develop.

Kidney qi acts as a motivating force for stimulating and promoting the process of growth, development and functional maturity of the *zang-fu* organs. There is a description about this process in *The Yellow Emperor's Inner Classic: Basic Questions* which states, "When a female is 7 years of age, her kidney qi is sufficient, her permanent teeth start to erupt and replace the milk teeth, and her hair grows longer. When she reaches the age of 14, *tian gui* (reproduction-stimulating essence) is produced, the *ren* channel is opened and the *tai chong* channel is prosperous; her menstrual period begins to arrive regularly, so she is capable of reproduction. When a male is 8 years of age, his kidney qi becomes sufficient. His hair grows longer and his milk teeth are replaced by permanent teeth. When he reaches 16 years of age, kidney qi grows prosperous, producing *tian gui* and sufficient essence-qi which overflows and spills out. Yin and yang are in harmony and integrated, and he has reproductive capability."

The children's *zang-fu* organ functions are immature and lacking in sufficiency; they need to be stimulated and promoted by kidney qi to work properly. Their functions gradually reach maturation around 14 years of age for girls and at 16 years for boys.

Kidney qi includes original yin and yang, which resides inside the kidney and comes from the congenital constitution. After birth, the kidney continually depends upon and is maintained by the nutrient qi that comes from food and water. This enables the kidney qi itself to gradually achieve sufficient development alongside the child's growth and development.

A historical Chinese medical exposition of physiological characteristics in children is first seen in *The Yellow Emperor's Inner Classic: The Spiritual Pivot*, which states, "In infants, the muscles are fragile, the blood is limited, and qi is weak." Fragile muscles (*ròu cuì*) mean that the muscles and the visible substances are fragile. Limited blood (*xuè shǎo*) means that the quantity of blood and body fluids are relatively insufficient. Weak qi (*ruò*) means that *zang-fu* organ function is not yet well-developed.

Chao Yuan-fang (550-630 AD) also described this in *Treatise on the Origins and Manifestations of Various Diseases—Pediatrics* (*Zhū Bīng Yuán Hòu Lùn—Yǎng Xiǎo Ēr Hòu*) as "In young children, *zang-fu* qi is weak." These descriptions indicate that as early as the Spring and Autumn Periods (475-221 BC) and the Sui Dynasty (581-618), Chinese physicians had already realized the physical characteristics of young children.

In the Northern Song Dynasty book *The Key to Diagnosis and Treatment of Children's Diseases—Transmutation and Steaming* (*Xiǎo Ēr Yào Zhèng Zhí Jué—Biàn Zhēng*) (1119 AD), Qian Yi pointed out that young children have "five *zang* organs and six *fu* organs formed but not yet well-developed", and in the "Original Preface" he stated that "their bones and other bodily functions are not perfect; body size and voices are not fully developed, and their emotional expressions such as sadness, crying, joy, laughter and smiling are unstable and easily changeable with their moods. This means that both the *zang-fu* organs and the psyches of young children have not yet matured completely.

Chen Wen-zhong of the Southern Song Dynasty pointed out in the book *Treatise on Children's Diseases: Sources and Remedies—Ten Methods to Raise a Child* (*Xiǎo Ēr Bīng Yuán Fāng Lùn—Yǎng Zǐ Shí Fǎ*) (1253 AD) that "in infants up to one year old, the skin, hair, muscles, sinews, bones, marrow, brain, five *zang* organs, six *fu* organs, nutrient qi and defensive qi, and qi and blood are all relatively weak."



He compared this situation to the newly grown grass and trees in nature: “When the grass and trees have just sprouted, they are fine and soft, and they have not yet gone through the cold and summerheat, so they are immature and fragile. Human infants are similar”.

In the Ming Dynasty book, *Family Secrets in Child Care* (Yù Yīng Mì Jué) (1579 A.D) Wan Mi-zhai also pointed out that young children are “blood and qi deficient, the intestines and stomach are weak, and the psyche is timid”.

Such classical expositions indicate that in young children, particularly newborns and infants, the physiological characteristics of their *zang-fu* organs are immature, their muscles and skin are delicate and fragile, their blood is limited and the qi is weak, the channels are not well-developed and the psyche is timid. The material basis of life is formed but not well-substantiated or solid, and physiological functions are acquired but not yet mature.

The growth and developmental requirements in young children often cause them to present with relative insufficiencies of the lung, spleen and kidney qi due to the *zang-fu* organs having delicate and immature characteristics. In particular, the lung and the spleen often present with insufficiency and the kidney often presents with weakness. Just like adults, young children not only need to maintain normal physiological activity but they are also in the phase of vigorous growth and development and have more urgent requirements for nutrients such as water, grain, essence and qi than that of adults. These particular needs must be satisfied. Thus, young children require increasing capacities from the lung, spleen and kidney in lung qi dispersion, spleen qi transportation and transformation, and kidney qi generation.

The lung governs the whole body's qi, the kidney is the foundation of the congenital constitution, and the spleen is the foundation of the acquired constitution. These three *zang* organs have a closely interrelated relationship. The kidney is the foundation of the congenital constitution and also governs and stores essence, houses the original yin and yang, and governs growth and development. It receives and stores essence from the five *zang* and six *fu* organs while nourishing yin and warming the yang of every other *zang* organ. The spleen is the foundation of the acquired constitution, governing the transportation and transformation of water and grain. It is the source of qi and blood production and transformation.

a. The Lung is Often Insufficient

The lung governs qi, breathing, the functions of ascending and dispersion, and purification and descending. The lung in young children often manifests with uneven and rapid breathing.

In TCM, the spleen and lung are in a mother-son relationship according to the five-phase theory. The splenic function of transformation and transportation depends on the lung function of dispersion and descending. If both organs work well, then nutritional essence can get through to support the whole body. On the other hand, the lung function of governing qi depends on the continual support of the nutritional essence provided by the splenic function of transformation and transportation, thus enabling lung qi to circulate inward and outward and disperse. If the spleen and stomach are solid and strong, the lung *wei* system will be healthy and able to strengthen the whole body. However, the spleen is often insufficient in young children and this can lead to weak lung qi. This allows external pathogens to enter the body and cause lung conditions such as common cold, cough and

asthma.

Lung insufficiency in young children is embodied in two ways; first there is a certain insufficiency when compared with adults, and secondly there is a relative insufficiency in comparison to the growth and development needs of the child.

b. The Spleen is Often Insufficient

The spleen is the foundation of the acquired constitution, governing the transformation and transportation of the nutritional water and grain. It is the source of qi and blood production and generation. On account of the fast growth in young children, there is a greater demand for essence, blood, fluid and nutritional substances compared with that of adults. But their spleen's functions of transportation and transformation are not well developed, so it is relatively insufficient.

The spleen is often insufficient in young children and manifests with weak transportation and transformation functions. Young children need soft and easily digested food and a well controlled diet, or they can easily develop spleen system disorders such as food stagnation, poor appetite, vomiting, and diarrhea.

The spleen in young children also embodies two aspects. First it has an absolute insufficiency in comparison with adults and secondly, there is a relative insufficiency in comparison to their growth and development needs.

c. The Kidney is Often Insufficient

The kidney is the foundation of congenital constitution, with the functions of storing essence, governing the water and taking charge of growth and development. Kidney insufficiency in young children includes insufficient kidney essence and weak kidney qi. These manifest in young children being unable to control their bladders, immature physique and body functions such as: no menstruation for girls and no overflow of essence (seminal fluid) for boys, until both the sexes reach puberty. Some disorders are commonly connected with kidney insufficiency such as an un-united skull (hydrocephalus), five retardations syndrome, five kinds of flaccidity and enuresis.

The kidney, (being the foundation of the congenital constitution) is able to devote its functions to promoting growth and development. It must get support and nourishment from the spleen (which is the foundation of the acquired constitution) to provide a continual production and generation of qi and blood. On the other hand, while the spleen (being the foundation of acquired constitution) is able to produce and generate qi and blood, it is also reliant on the warming and qi transformation functions of the kidney.

The kidney qi is not strong and the spleen is often insufficient in young children. Wan Quan summarized it as "The spleen is often insufficient and kidney is often deficient" in the book *Family Secrets of Child Care* (*Yù Yīng Mì Jué*) (1579).

The kidney is often insufficient in young children and is also embodied in two aspects. First there is an absolute insufficiency when compared with adults and second there is a relative insufficiency when considering the need for their own growth and development.

Young children's heart and liver functions are also immature. The heart governs the blood vessels and the spirit. The heart qi of young children is imperfect, their spirit is timid and their mental activity is unstable. This is revealed in rapid pulses, being easily scared and frightened, poor cognition and dexterity and minimal self-control.

The liver governs the free flow of qi and it is the viscus of wind and wood. In young children the liver qi is less substantial and the activities of contraction and relaxation



of the sinew-membranes and the channels are not properly harmonized with a balance between strength and gentleness. This presents in children being very active, easily restless, frightened and prone to spasms and convulsions.

Wu Ju-tong (1758-1836) of the Qing Dynasty, based his philosophical view on the yin-yang theory, pointed out that “Young children have immature yang that is not sufficient and have immature yin that is not well developed.” He discussed young children’s physiological features in his book *Detailed Analysis of Warm Febrile Diseases—Resolving Children’s Diseases*. It established the theory of “tender yin and immature yang (zhì yīn zhì yáng)”.

Zhì means young, yīn refers to the tangible body substances such as essence, blood, fluid, the *zang-fu* organs, tendons, bones, brain, marrow, blood vessels, muscles and skin, and yáng refers to the human body’s various physiological functions and activities.

The childhood immature yin and yang theory presents the idea that young children’s bodies in terms of physique and physiological functions are in a stage of relative insufficiency, and that they are continuously growing and developing as they become older, to gradually approach the stage of completion and maturity.

The Yellow Emperor’s Inner Classic: Basic Questions states “Human bodies are formed and body function depends on the change of yin and yang.” (人生有形，不离阴阳) In the chapter *Great Treatise on the Correspondences and Manifestations of Yin and Yang* (Yīn Yáng Yīng Xiàng Dà Lùn), it states “Yang transforms into qì while yin constitutes form.” (阳化气，阴成形)

Wu Ju-tong claims that in children, the manifestations of immature yin and yang are represented by an immature body, insufficient qì and blood, weak spleen and stomach and less-developed bones, sinews and tendons. The processes of growth and development in children are growing yin and developing yang. He explains that “At 16 years old males are capable of ejaculation and reproduction, at 24 years old their wisdom teeth grow, their yin-essence is sufficient, their tendons and bones are strong and they are capable of sexual activities because the yin-essence increases and yang qì is sufficient. At 14 years old females produce *tian gui*, at 21 years old their wisdom teeth grow and the yin-essence grows becoming full and sufficient. It is only when the yin is sufficient that the yang qì can be exuberant.”

In childhood, the *zang-fu* organs are immature and the physique and qì are insufficient. This is specifically because the immature yang is not sufficient and the immature yin is not well developed. The childhood immature yin and yang theory is a summarization of the physiological features for young children. It outlines that their bodies are immature, their qì and blood are not flourishing, spleen and stomach are weak, kidney qì is not sufficient, striae and interstitial spaces are loose, their spirit is timid and weak-willed and their sinews and bones are not strong.

These views manifest in infants and young children as thin and soft skin, fragile and weak intestines and stomach, restricted movements and limited language skills. They easily become sick when attacked by external wind-pathogens or internal food damage. The conditions of their diseases change easily and are likely to present with deteriorated patterns of yin exhaustion and yang collapse. These manifestations represent the characteristics of the delicate and immature *zang-fu* organs, insufficient body physique and qì and are typical traits of insufficient yang and yin.

(2) Vigorous Life Activity, Rapid Growth and Development (*shēng jī péng bó, fā yù xùn sù*)

Shēng jī means vitality and life force. “Vigorous life activity, rapid growth and development” refers to a rapid continuum of growth that involves physical changes in body size and form, physiological functions and biological maturation during the dynamic processes of child development and growth. As children grow there is an increase in body height, weight, power, chest circumference and head circumference. All these increase as the children age and grow. The intellectual power of young children, including their thinking and comprehension, language usage and motor skills are also developing rapidly and increasing as they grow. The younger they are, the more vigorous the growth and development.

Young children’s physical characteristics of vitality, rapid growth and development can be summarized by the *chún yáng*—pure yang theory. *Chún* means that the original qi which is received from congenital qi prior to birth has not become exhausted after birth. *Yáng* is used to promote life and is also the power to promote the young child’s growth and development.

The earliest Chinese monograph on pediatrics, *The Classic of the Cranial Fontanelles: Pulse Diagnosis* (*Lú Xìn Jīng: Mài Fǎ*) first claims that “children under 3 years of age are called *chún yáng* because their original qi has not been exhausted.” (凡孩子三岁以下，呼为纯阳，元气未散。) This means that the young children’s congenital yin and yang have not been damaged and exhausted and are full of vitality, thus children are able to grow and develop quickly.

Pure yang theory is a masterly summation of the physical phenomenon of the processes of growth and development in young children, their yang becoming strong, yin increasing and the manifestation of rapid development and a full vigorous life. This resembles the steady ascension of a sunrise or the sprouting of new plants and their flourishing and thriving.

Pure yang is neither equal to exuberant yang nor the imbalanced condition of yang exuberant and yin deficient, nor that of solo-yang. Pure yang is only represented in the physical characteristics of young children as vigor, exuberant vitality and continuously rapid growth and development.

Solitary yin cannot increase and lone yang cannot grow. Yin and yang are rooted and generated in each other in a co-dependent relationship. Only when yin is calm and yang is sound and in harmony can the functional state of the human essence-spirit be normal.

The theories of “childhood immature yin and yang” and the “pure yang body” sum up two aspects of young children’s physiological features. The former reflects the young child’s immature body where both yin and yang qi are insufficient, while the latter points out the young child’s vitality in life and rapid growth and development. These two theories mention both aspects of the subject and are not in contradiction.

2. ETIOLOGICAL CHARACTERISTICS

The causes of childhood diseases are almost the same as in adults, however it is because children have their own physiological characteristics and react differently to pathogens, that their susceptibility level to diseases is distinctly different to that of adults. For children, the causes of diseases are relatively simple compared with adults. These are



mostly external contraction, food damage and congenital factors; while emotional factors, accidents and other factors are also worth noting. Different age groups have a different level of susceptibility to the etiological causes. For example, the younger they are, the more susceptible they are to the six external pathogens and the easier it is to become affected by milk and food damage.

(1) External Contraction

Young children can be easily attacked by externally contracted factors such as the six pathogenic factors and pestilential qi.

a. Six Pathogenic Factors

The six pathogenic factors are the collective terms for the six externally contracted pathogenic factors of wind, cold, summerheat, dampness, dryness and fire. Under normal circumstances, wind, cold, summerheat, dampness, dryness and fire are called the “six qi”. They represent the six different climate changes in the natural world.

When the “six qi” occur as an extreme change or as a result of insufficient change, or when a certain qi appears outside of its normal time, then those qi manifest the cause of disease; these are called the “six evils” or the six pathogenic factors. In comparison with adults, young children have less ability to adapt themselves to climatic changes and so are more easily attacked by pathogenic qi.

Wind

As a cause of disease, wind is the first and chief pathogenic factor. Because children's *wei* qi function is weaker than adults, they are unable to adapt easily to weather changes and therefore are more likely to be attacked by pathogenic wind-heat and wind-cold.

Wind pathogens enter the body through the nose, mouth or skin to invade the lung-*wei* level. “When wind attacks, the upper parts of the body suffer first”. In another words, when wind attacks the body, it usually invades the lung first because the lung is located on top of the five *zang* organs. Wind is a yang pathogen with the characteristics of fast movement and rapid change, so it usually leads to a sudden onset of disease with symptoms that transform quickly. Wind pathogens are usually accompanied by other pathogens such as cold to form pathogenic wind-cold, heat to form wind-heat, or with dryness to form wind-dryness.

Cold

Cold belongs to yin pathogens and thus can easily damage yang qi, especially as the immature yang is not strong enough to easily fight against it. Externally contracted cold pathogens can damage the lung and impair yang, possibly causing fluid and water retention, even resulting in cold wheezing. If a cold pathogen directly invades the spleen and stomach, it can impair spleen-yang to cause abdominal cold pain, vomiting, and diarrhea.

The characteristic features of cold pathogens cause congealing, stagnation and contraction; they easily cause qi and blood to move sluggishly. Newborns and especially premature babies have insufficient yin and yang qi. If attacked by cold pathogens their yang qi can become constrained and obstructed and unable to warm the muscles and skin; furthermore, cold in the blood vessels can cause qi and blood to congeal and stagnate which can result in sclerema neonatorum.

Summerheat

This is a yang pathogen with the character of sweltering heat belonging to the seasonal qi of summer. If a child has an inadequate constitution and physique, they may be unable

to endure the hot weather and may suffer a summerheat disorder that usually manifests with a prolonged fever, thirst with desire to drink, an absence of sweating and increased urination.

The summerheat pathogen is usually mixed with dampness. The child spleen is often insufficient and while the spleen prefers dryness it is also averse to dampness. Summerheat and dampness often combine together to cause disease in the summer season which often present with fatigue, a heavy feeling body, nausea, loose stools, and a greasy tongue coating. Summerheat easily damages yin as well as consuming the qi, so it often causes syndromes of qi deficiency, yin damage, or in the later stages of summer-heat diseases, damage to both qi and yin.

Dampness

Dampness is a yin pathogen. The child spleen is often insufficient, so dampness encumbering the spleen will cause failure to transport and transform presenting with poor appetite, diarrhea and fatigue. The characteristic of dampness is stickiness; with pathogenic dampness, the course of the disease is often prolonged and difficult to cure. Dampness is also usually accompanied by other pathogens. If dampness mixes with heat toxins, eczema or multiple abscesses may result.

Dryness

Dryness is a yang pathogen and the major qi of autumn with a dry and astringent nature; it can quickly transform into fire and damage yin. Young children are susceptible to damage by dryness because yin, qi, blood, and body fluid are often insufficient. The pathogens enter the body through the mouth and nose by invading the lung-wei level. Dryness impairs body fluids and there may be failure to moisten the airways, resulting in a dry cough.

Fire

There are similarities and differences between heat and fire. Fire is generated by predominant yang and is often mixed with heat. Heat means a gradual rise of warmth while fire is the extreme of heat. Heat often belongs to the external pathogens while fire is usually generated from the interior.

Young children have a pure yang body, and the six pathogenic factors can easily turn into fire; this is why children often present with a heat-type disorder when attacked by external pathogenic factors. Commonly seen fire-heat syndromes include asthma and cough due to lung-heat, diarrhea due to heat in the intestines, disorders caused by warm- and heat-type epidemic toxins, maculae and papules due to heat toxins, and high fevers with febrile convulsions.

It is obvious that the six pathogenic factors are major causes of diseases in children, and it is noticeable that the development of modern science and technology has greatly influenced people's ways of life. The six pathogens are no longer limited by natural climatic factors, but can also be influenced by many man-made factors with similar natures such as heating, air conditioning, humidifiers and other devices which change the living environment. The role of these factors should also be considered in the etiology of pediatric conditions.

b. Pestilence

Pestilential pathogens belong to a group of highly contagious pathogens that cause diseases that are highly infectious and characterized by a sudden onset and with a tendency



to develop into epidemics.

Young children are highly susceptible to attack from pestilential qi due to their relatively weak defensive qi. Pestilential diseases may arise and become epidemic under certain situations, e.g., when the weather is abnormal such as in a prolonged drought, extremely hot weather, wet foggy weather, or with contaminated air, water or food.

In modern society, with social development and improved health care, the morbidity and mortality of pediatric infectious diseases has reduced, and various preventive steps and multi-healthcare measures are now widely being used. Even though there is a worldwide downward trend in the incidence of pediatric bacterial infectious diseases, there are a number of new viral infectious diseases emerging and proliferating such as AIDS, SARS, hand foot and mouth disease, avian flu, influenza A (H1N1) and so on.

The respiratory syncytial virus (RSV) is one of the most common infectious agents of disease that leads to the hospitalization of children in developed countries. In the United States, more than 120,000 infants and young children are admitted to the hospital each year for RSV infection, with more than 200 deaths per year^[1]. Prevention, treatment and control of viral infectious diseases have become an important pediatric research subject.

(2) Food and Milk

Because the infant and young child spleen is often insufficient, they are incapable of effectively controlling their own amount of food intake and some may be fed inappropriately by their caregivers. Inappropriate food and milk consumption can cause spleen and stomach disorders.

a. Under- or Over-Consumption of Food

Infants and children need relatively more nutritional substances to meet their requirements for rapid growth and development. If feeding is inadequate or the mothers have a shortage of milk or do not breastfeed after birth, or when there is a delay in introducing complementary solid foods, the resulting shortage of food intake impairs the generating and transforming of qi and blood within the body. If this situation is prolonged, the body's healthy qi gradually becomes weak, and the resistance to disease lowers. This can lead to diseases such as recurrent respiratory tract infections or even malnutrition.

On the other hand, if there is excessive food intake, pampering a child's inclination by overfeeding or with an unbalanced diet, this may lead to insufficient spleen qi and impaired transportation and transformation. This results in spleen and stomach disorders presenting with vomiting, diarrhea, abdominal distention, abdominal pain, food stagnation and poor appetite.

b. Food Preferences

Growing children need all kinds of nutrition to meet their body's energy requirements. *The Yellow Emperor's Inner Classic: Basic Questions* states "The five grains are the foods for nourishment, the five fruits are the foods for support, the five livestock are the foods for nutritional benefit, and the five vegetables are food supplements." (五谷为养，五果为助，五畜为益，五菜为充。) The diet should be diversified, suitable and well balanced without being too rich or too meager. Parents should discourage selective food preferences; both overeating and allowing children to be over-selective can harm their general health.

"*The Complete Works of [Zhang] Jing-yue—Resolving Children's Diseases* states, "If children are fussy or picky in eating and wantonly inclined in diet, this will inevitably lead to disease." Young children have a lack of self-control and a lessened ability to regulate food

intake; this can easily develop into picky or fussy eating. The body can be damaged from overeating, especially cold foods can damage yang, overeating hot foods can damage yin, and fatty and sweet foods can damage the spleen.

c. Unhygienic Diet

Eating tainted food is also a common cause of illness in children. Children have limited knowledge of hygiene and may easily or accidentally eat contaminated food that will cause gastrointestinal diseases such as vomiting, abdominal pain or parasitic disorders. If infected by roundworms entering the bile duct, syncope can result from bile duct ascariasis. Eating of putrid, deteriorated or poisonous foods can cause illness and in severe cases, a life-threatening condition.

The spleen and stomach are the foundation of the acquired constitution; if damaged by an improper diet, there will be a negative impact on growth and development. It is especially important to maintain good eating habits to protect the functions of spleen and stomach.

(3) Congenital Factors

Congenital or prenatal factors refer to conditions that are recognized at birth or that are believed to have been present since birth, regardless of whether they are inherited or caused by environmental factors. Genetic causes are a major contributing factor in the etiology of congenital factors.

Abnormalities in genes or chromosomes of one or both parents can produce birth defects, congenital malformations, physical functional defects or metabolic abnormalities. According to statistics, at least 6,000 types of genetic diseases have been recognized in recent years. Some previously unknown causes of pediatric disease have now been proven to be related (directly or indirectly) to congenital factors.

Environmental factors are non-genetic factors, but they may also produce genetic disorders in children. If during pregnancy the woman does not or is unable to protect the fetus or if she is eating irregularly, having unpleasant moods or unbalanced labor and rest, excessive sexual activities or external pathogenic attacks; this can also affect the fetus leading to congenital diseases.

The causes of congenital diseases need to be understood in order to promote their prevention and treatment. *Further Treatises on the Properties of Things—Mother-Child Relationship* (Gé Zhì Yú Lùn—Cí Yòu Lùn) (1347) states, “When a child is a fetus in the prenatal stage sharing the same body with his mother, if the mother becomes hot, the child also becomes hot; if the mother becomes cold, the child is also cold, if the mother has an illness, the child is also ill; if the mother is peaceful, the child is also at peace.”

In addition, premature birth, difficult labor and an inability of the newborn to cry are also important factors that may cause disability in children. For instance, abnormal fetal positioning or birth injuries may cause head hematoma, birth trauma, fractures, stiff neck, and in serious cases, even suffocation or death. To ensure an untroubled childbirth, all pregnant women should have regular prenatal care and obstetric visits.

(4) Emotional Factors

Infants and children have their own interpretation of the outside world that may be different from that of adults, thus the emotional factors that cause emotional disorders in children have certain differences to those of adults. This is explained in *Detailed Differentiation of Warm Diseases—Resolving Children’s Diseases* as, “In comparison with



adults, although infants and children do not have sexual desires, their emotional reactions to happiness, anger, sadness and fear are stronger and more sensitive.” (小儿但无色欲耳，喜怒悲恐，较之成人更专且笃。)

The infant and child heart is timid and the spirit is weak, so fear and sudden fright is the most common emotions to cause damage. The *Key to Diagnosis and Treatment of Children's Diseases—Acute Infantile Convulsion* (Xiǎo Èr Zhèng Zhí Jué—Jí Jīng) (1119 A.D) states, “A seizure can be induced by a sudden loud noise or by a terrifying shock.”

When young children suddenly glance at strange things, novel objects or hear strange voices, they are often frightened; this can easily damage the heart-spirit, manifesting as night-crying, palpitations, panic attacks, or convulsions. In addition, if desires cannot get satisfied for a long period of time, or they have been neglected, lacking in care and love, or if there is a lack of communication with others, the child will have sad thoughts. Excessive thinking and contemplation associated with loneliness can damage the heart and spleen to cause poor appetite, vomiting, and abdominal pain. However, if parents spoil or overindulge their children, the impact can be lower psychological endurance. Heavy study loads and high expectations by the parents in later childhood can also easily trigger psychiatric disturbances and mental-behavioral disorders.

(5) Accidents

Young children are naturally limited in practical knowledge, and with little ability to take care of themselves in daily life, also lacking judgment regarding the state of their surroundings. If they have not been properly looked after or well-attended, accidents and injuries can occur. Common accidents include falls, burns, trauma injuries, drowning, electrical shock, poisoning, and choking caused by accidental inhalation of foreign bodies.

(6) Other Factors

There is current worldwide concern about environmental pollution, food contamination, pesticides and excessive hormone levels as pathogenic factors. Radioactive material damages fetuses and children, and this has also attracted widespread attention. As pediatric practitioners and workers, it is also important to pay attention to the rising trend in damage from medical sources including the side effects of drugs, improper treatment or care, and internal cross-infections received in hospitals and other medical centers.

3. PATHOLOGICAL CHARACTERISTICS

(1) Easy Onset, Rapid Change

Infants and children's *zang-fu* organs are immature and delicate, their physique and qi are not developed well, yin and yang are immature, and both yin and yang qi are insufficient. Therefore, in regard to pathology, not only do they easily contract disease, but the conditions tend to change rapidly. The younger the child, the greater the immaturity of the *zang-fu* organs, the faster the disease onset and the speed of the changing conditions. Wu Ju-tong stated in the book *Detailed Differentiation of Warm Diseases—Resolving Children's Diseases* that “The *zang-fu* organs of infants and children are fragile, their body surfaces are not strong enough to defend, and their conditions change easily when afflicted. As the skin is immature and the spirit is timid, they easily become emotional, and are easily attacked by pathogens.” (其脏腑薄，藩篱疏，易于传变；肌肤嫩，神气怯，易于感触)

The main reasons for greater susceptibility to illness with rapid onset in infants and children include immature *zang-fu* organs, a lower resistance to pathogens, reduced ability

to adapt to hot and cold weather changes, or lack of self-control of food intake. If children are inappropriately nursed and cared for, it is easier for them to be attacked externally by the six pathogens or damaged internally by food intake. The main areas of disease involve the lung, spleen, and kidney; seasonal diseases are also prevalent.

Lung System Diseases

The lung is a delicate organ, linking with the skin surface, especially the pores and sweat glands. Young children's lungs are delicate and their superficial *wei* qi resistance is low, so they are easily affected by pathogenic factors. The lung governs diffusion and dispersion and is in charge of the body's superficial resistance. Lung functions are not yet well-developed and their capability of controlling the opening and closing of the striae and interstitial spaces is weak, as is the ability to consolidate the exterior to defend against pathogens.

The lung controls breathing and governs the whole body's vital qi. Infants and children's lung functions of purification and descent are not well-developed and the function of governing management and regulation of the entire body's qi is also not yet mature. Children cannot adjust well to changing hot and cold conditions and are thus easily attacked by external pathogenic factors especially if they are not cared for properly. Their lung qi is also dependent for nourishment on the spleen and stomach function of qi and blood production; because the spleen is often insufficient, the lung qi is also weak. Therefore, whether the six external pathogenic factors enter the body through the mouth and nose or from the skin surface, they can all affect the lung functions of diffusion and purification. This can lead to lung system disorders such as common cold, cough, pneumonia, asthma and others. Lung system diseases show the highest incidence in pediatric practice.

Spleen System Diseases

The physical characteristics of the spleen often being immature and insufficient in infants and children often manifest with impaired spleen-stomach functions of transportation and transformation. Spleen and stomach qi have been constructed but do not yet have enough strength, so if a child is inappropriately fed or is eating without regulation, it will be easy for them to develop digestive problems including problems with the processes of nutritional transportation and transformation.

The spleen is the foundation of the acquired constitution, also being the source of qi and blood production. It needs to provide the basic material for the child to grow rapidly and as such, the functional state of the spleen and stomach is usually not suitable enough for the child's body requirements for rapid growth and development.

Family Secrets in Child Care—Diagnosis and Treatment of Five Organ Diseases (Yù Yīng Mì Jué—Wǔ Zàng Zhèng Zhì Zǒng Lùn) states, "The stomach governs food acceptance, the spleen governs food digestion, too much hunger damages the stomach, and too much fullness damages the spleen. When infants and children become ill, it is usually due to excessive fullness." (胃主纳谷，脾主消谷，饥则伤胃，饱则伤脾。小儿之病，多过于饱也。)

Children living in variable socio-economic conditions can be affected by their families' lifestyle of overeating or food shortages; both situations can easily lead to spleen and stomach problems. When the spleen and stomach are impaired, the governance of ascending and descending is affected which disturbs the process of food acceptance and transformation. Resulting spleen and stomach disorders include vomiting, diarrhea, poor



appetite, stagnation (*ji*), and malnutrition (*gan*). In severe cases, these major factors can seriously affect growth and development. The incidence of spleen system diseases in pediatrics ranks second only to lung system diseases.

Kidney System Diseases

The kidney stores essence, governs the bones and generates the marrow. The kidney is the foundation of the congenital constitution and is thus closely related to growth and development. This kind of kidney function is even more important for children in the process of continued growth and development whose multiple physical functions are still immature.

Children's growth and development is dependent on promotion by the kidney. Kidney yang is used for growth, and the kidney yin is for development. The kidney is directly associated with the growth and functions of the bone, brain, hair, ears and teeth, and is also directly connected to growth, development, and sexual maturity. The infant and child kidney is often insufficient; therefore, kidney disorders associated with insufficient kidney essence, bone changes, and abnormal metabolism of body fluids are often seen in clinical practice.

If congenital kidney qi is deficient and the acquired spleen qi is in disharmony, children's growth and development are affected. This presents with congenital disorders including the five retardations, the five kinds of flaccidities, and an un-united skull. If the kidney yang is deficient and the lower original qi is cold and deficient, the bladder neglects its duty to store urine and is unable to control urination, leading to enuresis. If kidney qi is unable to regulate water circulation and maintain fluid balance, edema then occurs.

Seasonal Diseases

The Yellow Emperor's Inner Classic—Basic Questions states: "Yang qi in the human body is just like the sun in the sky. If yang qi is not in its place and cannot play its role, people will have a short life. The function of yang qi is strong and moves upward, providing the function of protecting the body from attack by external pathogens." (阳气者，若天与日，失其所则折寿而不彰。……阳因而上，卫外者也。)

Yang qi is the healthy qi in the human body, acting as the dynamic power of the whole body in physiological circumstances, and is thus a major force for resisting disease. Since children have immature yin and yang and their resistance against pathogens and the power to fight disease is weak, it is much easier for them to contract seasonal diseases. Pathogens enter the body through the nose, and invade the lung-*wei* level; this can cause measles, mumps, chickenpox and other infectious diseases. Pathogens that enter the body through the mouth and invade the spleen and stomach can cause dysentery, cholera and hepatitis. Such infectious diseases can spread easily among young children and even become epidemic.

Heart and Liver Diseases

Other childhood physiological characteristics are "the heart is usually superabundant" and "the liver is often in superabundance". This refers to the frequent occurrences of heart-fright patterns and liver wind easily arising, often seen in the pediatric clinic.

Pathogenic qi easily runs rampant because the *zang-fu* organs and channels are delicate and immature and the internal organs' essential qi is insufficient. This translates yang into heat from warmth which then transforms into fire. This so-called warmth is a moderate

degree of heat, and fire is an excessive amount of heat.

If pathogenic heat stays inside the body, it can cause high fever and irritability. When it stirs liver-wind, it can cause convulsions or spasms of the hands and feet. If liver wind and the heart fire stir up together and fire and heat are flaming, they can become trapped in the *jueyin* channel causing the true (*zhen*) yin to become consumed internally. As a result, the tendons and channels suffer a loss of nourishment and the body is unable to relieve rigidity. This can also lead to high fever, convulsions or coma. These situations often occur with seasonal diseases such as epidemic encephalitis type B, epidemic-toxin dysentery, and febrile seizures.

Disease conditions also change quickly in afflicted children. The major manifestations of these changes are among the patterns of cold, heat, deficiency and excess. Each of these patterns can easily inter-transform or may all appear at the same time. *Key to Diagnosis and Treatment of Children's Diseases* states, "Easy to become deficient, easy to become excess (both patterns can easily turn into each other); easy to become cold, easy to become heat (both patterns turn into each other easily)." (易虚易实，易寒易热。)

Easily Deficient and Easily in Excess

Primarily, the terms deficiency and excess refer to whether the healthy qi in the child body is weak or strong, and secondly how strong the pathogenic qi is in relation to it. *The Basic Questions—General Treatise on Deficiency and Excess* states, "Exuberance of pathogens causes an excess syndrome, while lack of essential qi causes a deficiency syndrome".

"Easy to become deficient and easy to become excess" refers to the pathogenic qi easily rising to excess and the healthy qi falling easily into deficiency. An excess pattern can rapidly turn into a deficiency pattern, and a deficiency pattern can also turn into excess; excess and deficiency patterns can also appear at the same time.

For example, when young children are ill with a common cold due to an attack by external pathogenic factors and treatment is delayed or improper, external pathogens often transform into heat and fire. This can injure lung fluids, turning the liquid into phlegm that obstructs and blocks the lung channel; this can rapidly develop into pneumonia with wheezing and coughing. Excess symptoms of fever, shortness of breath and nasal flaring will also appear. Due to obstructed and distressed lung qi, heart-blood circulation becomes unsmooth; this presents as cyanosis of the lips and extremities.

If healthy qi is unable to resist the pathogenic qi, then the heart is deprived of nourishment and heart qi becomes deficient. This can give rise to healthy qi deficiency with pathogenic qi sinking and becoming trapped within. A deterioration of heart yang can develop and bring about failure and collapse of the whole body's yang qi, resulting in signs and symptoms such as cough with phlegm obstruction, pale complexion, four limbs reversal cold, profuse sweating, and faint, thready and rapid pulses.

Easy to Become Cold and Easy to Become Heat

Cold and heat refer to the two main characteristics associated with the signs, symptoms and pathophysiology of disease patterns. Easily developing into cold or heat means that there are two directions in the course of disease. First, due to a child's immature yin, yin deficiency and yang hyperactivity with heat are easily caused; this is called "yang exuberance causing heat" as stated in the *Basic Questions*. Secondly, due to children also having immature yang, yang qi is easy to become deficient presenting as a cold pattern. This is called "yin exuberance causing cold".



Easily becoming cold or heat patterns often cross-presents or presents alternatively with frequent transformation into deficiency or excess patterns. This shows in the mechanics of the disease transformation as a rapid change between cold and heat patterns or in combination with deficiency or excess symptoms. For example, with an excess cold syndrome due to external wind-cold attack, if the pathogens are not scattered or expelled in time, the condition can easily transform into the mixed type of external cold with internal heat. It is even possible for wind-cold pathogens to quickly turn into heat and transmit to the interior to become an internal excess-heat pattern. If there is a lack of treatment or an incorrect treatment, a deficiency cold pattern can develop easily due to yang qi deficiency and decline; or due to yin damage and internal heat, a pattern of deficiency heat can develop.

(2) Pure and Clear Zang Qi to Enable a Quick Recovery

In comparison with adults, children have a pure yang body, life activity is vigorous, they have pure and clear zang qi and are full of vitality. They usually respond well to all kinds of treatment. Children also have less chronic conditions and the causes are relatively simple, and they are less affected by emotional factors when afflicted by disease.

Children have the unfavorable factors of easily becoming sick and experiencing rapidly changing disease conditions. However, in general, if the pattern differentiation is clear and the diagnosis is correct and treatment is provided in time, children will recover faster with a higher curative rate than adults.

For example, most children with common cold, cough, and diarrhea will show a fast onset and rapid recovery. Children with asthma, epilepsy and yin edema will have a relatively better prognosis than adults, although the diseases may linger. Zhang Jing-yue describes this in the book *The Complete Works of [Zhang] Jing-yue—Pediatrics* stating that “Adult injuries and diseases are often chronic and difficult to cure, but sick children (due to their zang qi being pure and clear) respond well to treatment. As long as the root of the disease is found, it can be cured by a single course of medication. This is incomparable with adult injury and diseases that are often chronic and difficult to cure.” (小儿之病，……其脏气清灵，随拨随应，但能确得其本而撮取之，则一药可愈，非若男妇损伤、积痼痼者之比。)

For common pediatric diseases, there should be no trouble providing treatment. Even with severe illness, chronic conditions and critical cases, one should keep a positive attitude when treating them. By integrating Western and Chinese medicine and applying various treatment methods to mobilize the child's own disease resistance, a practitioner can utilize the full advantages of comprehensive treatments to gain the best therapeutic effects and outcome.

[QUESTIONS]

1. A 6-year-old child presents with bedwetting 2-3 times per night, his urine is clear with a reasonable amount, he has a pale and lusterless complexion, his limbs are cold and he has a fear of cold. His tongue is pale with a white and slippery coating; the pulse is deep and weak.

Which physiopathological characteristic does this case best represent?

- A. The lung is often insufficient.
- B. The spleen is often insufficient.
- C. The kidney is often insufficient.
- D. Easily becoming deficient or excess.
- E. Easily becoming cold or heat.

2. A 4-year-old child has been sick with a common cold for 2 days. Yesterday he ate 1 piece of steak, after which he had difficulty in sleep at night. He was restless at bedtime with abdominal distention, poor appetite, foul breath and sour and fetid stools. His tongue coating was thick and greasy; and the pulse was slippery.

Which of the following is the most possible cause of the poor sleep at night and abdominal distention?

- A. Unclean diet.
- B. Overeating.
- C. Depression.
- D. Repeated dampness attack.
- E. Cross-infection.

3. A nine-month-old infant is sick with pneumonia with wheezing and cough. Suddenly the child presents with pale complexion, cyanotic lips, difficult breathing, four cold limbs and a gradually enlarging and readily palpable lump is under the right hypochondriac region. The tongue is slightly purple with a thin and white coating; the pulse is thin, weak and rapid.

Which of the following physiological and pathological characteristics triggers these conditions?

- A. The heart is usually superabundant.
- B. The liver is often in superabundance.
- C. Qi and blood are insufficient.
- D. Easy to become cold, easy to become heat.
- E. Easy to become deficient and easy to become excess.

4. A 2-year-old child presents with onset of fever for 4 hours with a temperature of 39.8°C and a runny nose. He has a sudden convulsion for about 1 minute. His tongue coating is thin and yellow; and the pulse is floating and rapid.

Which of the following physiological and pathological characteristics triggers this condition?

- A. The spleen is often deficient.
- B. The pure yang body.
- C. The heart is often superabundant.
- D. The liver is often in superabundance.
- E. The kidney is often deficient.

5. A 2-year-old child presents with repeated attacks of external pathogenic factors manifesting as repeated occurrences of cough and asthma. After becoming sick, the symptoms are usually hard to clear. Ordinarily his facial complexion is slightly pale, and he sweats a lot. His tongue is slightly red; the pulse is weak and rapid and his venules are light in color.

Which of the following physiological and pathological characteristics triggers this case?

- A. The lung is often insufficient.
- B. The spleen is often insufficient.
- C. The kidney is often deficient.
- D. Easy to become deficient and easy to become excess.
- E. Easy to become cold and easy to become heat.

[REFERENCES]

- [1] Shay DK, Holman RC, Roosevelt GE, et al. Bronchiolitis-Associated Mortality and Estimates of Respiratory Syncytial Virus Associated Deaths in U.S. Children, 1979-1997. *J Infect Dis* 2001;183: 16-22.
- [2] Guangzhou College of Chinese Medicine. *TCM Pediatrics*. Shanghai: Shanghai Science and Technology Press 1964:2-7.



Chapter 5

Health Care for Children

1. PRENATAL CARE

Prenatal medical and nursing care begins with the health status of the mother prior to conception and proceeds throughout intrauterine development during the pregnancy. The fetus is formed when endowed with the parents' original qi, essence and blood. Factors that might affect the successful outcome of the healthy fetus and reduce the chances of fetal weakness include the parents' state of health, age of marriage and time of conception, as well as the proper harmonizing of yin and yang.

Prenatal care consists of three parts: fertilization, nourishing the fetus, and antenatal training/maternal education.

(1) Marriage and Fertilization

1) Appropriate Age for Marriage and Procreation

In order to lay a solid foundation for fetal health, men and women should have children at the appropriate age. If a couple is too young or too old, there can be many negative effects, and especially increased risk to the woman and her fetus.

The Yellow Emperor's Inner Classic: Basic Question—Treatise of Heavenly Truth from Remote Antiquity states: "When a male is 16 years of age, his kidney qi grows prosperously producing *tian gui* (reproduction-stimulating essence) and the essence-qi overflows and rushes down. He will have the ability to create a child if yin essence and yang qi are harmonious. When he reaches 24, kidney yin and kidney yang are in balance, sinew and bones are strong, wisdom teeth have erupted, and he reaches his peak of maturity." "When a girl is 14 years of age, *tian gui* is produced, her *ren mai* is smooth, the *tai chong mai* is prosperous; her menstrual period becomes regular and she is capable of reproduction. When she reaches age 21, kidney yin and kidney yang are in balance, wisdom teeth have erupted, and she has reached her peak of maturity."

Although reproduction is possible at 16 for males and 14 years old for females, their bodies are not at peak maturity until they reach 24 years old in males and 21 years old in females. *Chu Shi Bequeathed Book (Chǔ Shì Yí Shū)* states: "Though males are capable of ejaculation at 16 years of age, the appropriate age for marriage is 30. Females' *tian gui* is produced at age 14, but the appropriate age for marriage is 20. The fetus formed at this age is likely to grow strong, as both the male and female yin qi and yang qi are sufficient."

Even though human sexual maturity begins at a young age, it does not represent the appropriate age for marriage. Only when men and women are fully developed with prosperous yin qi and yang qi and marry at the appropriate age can couples have healthy children with longevity. Some consider the optimal ages of marriage and fertilization for women to be around 23-28 years old, and 25-30 years of age for men. During this time, the human body has become developed with optimal strength and energy to benefit the formation and development of the embryo. The optimal ages for marriage and fertilization are basically agreed upon in order to best benefit the child.

2) Prohibit Consanguineous Marriages

The risk of genetic disease is high for children of consanguineous marriage (marriage

between blood relatives). During the Early Spring and Autumn Periods, *The Book of Rites* pointed out: “If men and women of the same surname marry, their children will not prosper.” Marriage between lineal blood relatives and collateral blood relatives within three generations is in fact prohibited by Chinese marriage law.

3) Premarital and Prior to Conception Assessments

The Complete Compendium of Fine Formulas for Women (Fù Rén Dà Quán Liáng Fāng) points out: “If a couple plan to have a baby, first check whether either husband or wife has strains, internal injuries or chronic disease. If any, they should have corresponding care and treatment, balancing both interior and exterior. When the couple is healthy and happy, the woman will be able to give birth to a healthy infant.” Optimally, before marriage and pregnancy each male and female should check for diseases that may impede fertility or damage the health of their future children. Hasty marriage and childbearing should be avoided.

4) Appropriate Time of Conception

The couple should be temperate in sexual activity and maintain emotional stability during sexual activity. *Extensive Essential Summary for Child-bearing (Guǎng Sì Jì Yào)* states: “If couples are expecting to have healthy children, to conserve essential qì the male must purify his heart and reduce the number of his desires, and to conserve yin-blood women must maintain emotional calm and stability. They are also advised not to indulge immoderately in sexual activity”.

The Complete Works of [Zhang] Jing-yue states: “When it is clear and sunny, the wind is soft and the moon is bright, the inner state of the mind is tranquil. Conception under such circumstances will give birth to healthy, intelligent and virtuous children.” Conversely, if couples have sexual activity and conceive while they are ill or have just recovered from illness, or if they are affected by mental stress, fear, depression, sadness, anger, excessive drinking, or fatigue, then the mother and her fetus may become affected.

(2) Nourishing the Fetus during Pregnancy

Fetal nourishment involves a series of nurturing measures to ensure that the intrauterine fetus has good congenital qualities and healthy development. The content of TCM fetal nourishment mainly encompasses the following aspects:

1) Mental Well-Being and Regulation of Emotional Activity

During pregnancy the inter-relationship between maternal and fetal well-being is closely linked through qì and blood, and good mental health benefits both mother and child, whereas excess emotional activity can harm them both. Pregnant women should avoid sadness, pensiveness, panic, and shouting in order to maintain a stable emotional state, especially not over anger, grief and even avoided excessive happiness.

The Yellow Emperor's Inner Classic: Basic Questions—Treatise on Strange Diseases (Huáng Dì Nèi Jīng Sù Wèn—Qí Bìng Lùn) states: “There are people born with epilepsy. What is this disease and what is the cause? Qi Bo answers: it is a congenital disease. When a mother experiences great shock during pregnancy, qì goes upward instead of downward and condenses instead of dispersing, so her fetus is affected and born with epilepsy.” Babies may be at risk of neurological disorders if pregnant women do not pay attention to cultivating the mind.

2) Regulating the Diet and Ensuring Good Habits

The growth and development of the fetus relies completely upon nourishment from the



mother's qi and blood. Sufficiency or deficiency of qi and blood in the mother are directly related to nutrition as well as the state of her spleen and stomach. Therefore, great emphasis needs to be applied to dietary supplements during pregnancy. There must be an adequate supply of essential nutrition for development including proteins, minerals (iron, zinc, calcium) and vitamins (e.g. Vitamin D). To avoid excess cold, heat, fat or other conditions that may cause disease in the fetus, pregnant women should not overindulge in raw, cold, spicy, fatty or greasy foods.

Dietary planning for each period of pregnancy should be modified according to the needs of the developing fetus. Xu Zhi-cai of the Northern Qi Dynasty claimed that in the first two month of pregnancy, "Food must be fine and soft. Pregnant women may take some sour and delicious foods. Barley is recommended while fishy or pungent food is unfavorable." In the fifth month of pregnancy, "Eat rice and wheat with beef and lamb soup, blending the five flavors to eat delicious food." That is to say, in the first trimester (within 12 weeks), nutrition must be comprehensive. Diet is arranged according to the taste preferences of pregnant women, avoiding pregnancy reaction-triggering foods. In the second trimester (13-27 weeks), as the fetus grows rapidly, pregnant women must eat various foods rich in nutrients. The third trimester (after 28 weeks) is the peak of fetal growth and the critical period of brain development, so food must be supplied with rich nutrients. Pregnant women should not overeat, as this may cause excess fetal fat and thus increase the incidence of childhood obesity.

Dietary recuperation depends on pattern differentiation, and pregnant women of different physiques need different dietary arrangements. Women with yin deficiency and fire exuberance require light or bland foods, women with yang and qi deficiency require warming and supplementing foods, and women with a weak spleen and stomach should regulate the spleen and stomach in order to support the source of generation and transformation.

Pregnant women must cease any unhealthy habits especially alcohol drinking and smoking. Alcohol may lead to developmental disorders of the fertilized ovum resulting in miscarriage, congenital malformations or mental retardation. Excessive smoking can also cause miscarriage, premature delivery, fetal timidity, mental retardation, and congenital heart disease.

3) Adapting to the Environment and Preventing External Pathogenic Attack

After a woman becomes pregnant her blood nourishes the fetus, so her qi and blood are relatively insufficient. Women with qi and blood deficiency are susceptible to external pathogenic attacks that can result in a number of seasonal diseases.

In the Sui Dynasty, diseases during pregnancy caused by external pathogenic attacks were 50% of the 14 diseases listed in the *Treatise on the Origins and Manifestations of Various Diseases*. It said that seasonal epidemics were "a risk or even fatal to the fetus in some severe cases"; and warm disease caused "heat pathogens to enter the womb, affecting a risk to the fetus"; and also that heat diseases could often "lead to miscarriage." In short, external pathogenic attacks during pregnancy can harm the fetus leading to miscarriage, premature delivery, and so on.

In 1941, Australian ophthalmologist Gregg reported that rubella infections during pregnancy may lead to congenital cataracts in newborns. Since then, people began to realize the danger of viral infections during early pregnancy.



Modern research shows that infectious diseases, especially viral infections including rubella virus, influenza virus, cytomegalovirus, varicella-zoster virus, herpes simplex virus, hepatitis virus, etc., may lead to congenital malformations, miscarriage, or premature delivery. The fetus is most susceptible to infection during early pregnancy and within the first trimester as the embryo forms and differentiates its organs; pregnant women should be even more careful to avoid infection during this period.

To undergo a successful full-term pregnancy a woman should reduce the risks of sudden climate change by taking good care of herself in accordance with the various seasons. At the same time, it is necessary to create a favorable living environment with a dwelling that has adequate ventilation and fresh air. Pregnant women should not be exposed to filthy and dirty environments.

Clothing for pregnant women should also be adaptable to climate changes. Maternity clothing should be made of cotton that is warm, soft, breathable, moisture-absorbing. Clothes should also be loose-fitting, comfortable, and able to stretch and change along with her changing body shape. During the third trimester of pregnancy, tight binding waistbands or shoes and socks may exacerbate edema in the lower limbs, and cause varicose veins of the lower limbs and hemorrhoids. Tight brassieres will limit breast growth and affect the production of post-partum milk. In any event, pregnant women should not wear tight clothes that could impede the smooth flow of qi and blood.

4) Alternate Work with Rest and Appropriate Physical Activities

Pregnant women are advised to alternate and balance work with rest and recreation. Moderate physical activities can stretch the body to ensure that qi and blood move smoothly to promote normal development of the fetus and ensure a smooth delivery.

Ancient physicians claimed that too much rest could harm the mother and the baby. *Children's Diseases: Sources and Remedies* states: "Pregnant women who prefer to sit or lie down after eating without performing appropriate amounts of work and physical activity may cause the fetus to become more fragile gradually."

Wan's Gynecology (Wàn Shì Fù Rén Kē) states: "Pregnant women should go for walks so that qi and blood move smoothly and the vessels are harmonious; this will ensure a smooth delivery. If a pregnant woman stays in bed too much and seldom performs physical activity, her qi and blood will stagnate and she will undergo a difficult labor."

In brief, excessive rest and comfort may hinder qi and blood circulation and lead to insufficient nourishment of the fetus. So, as the mother's physique declines, the fetus becomes timid, and this often leads to a difficult labor.

However, pregnant women should also avoid overwork, heavy physical labor and strenuous exercise. In order to secure the fetus, pregnant women should rest during the first trimester and also guard against internal injury caused by overstrain. To meet the needs of the fetus's rapid growth in the second trimester, physical activities should be increased to promote blood and qi circulation. In the third trimester, minor labor is enough; full-term pregnant women should spend some time walking each day and remain peaceful while waiting for the delivery. If possible, she should not work at all during the two weeks before delivery. There are special preparatory exercises that can also be used to maintain a good physical condition.

5) Avoid Trauma and Restrain Sexual Activity

A pregnant woman must protect herself and her fetus by preventing both tangible and

intangible traumas. *A Collection of Labor (Chǎn Jí)* formulated 12 disciplines: do not climb high, do not use too much strength, do not walk too fast, do not sit on one side, do not overbend the back, do not fetch objects from an elevation, etc. Pregnant women need to beware of falls and injuries due to climbing, carrying, jumping and bumping; they should always protect the abdomen from pressure and collision.

In current times, the possibility of intangible injury is also increasing. Environmental pollutants such as ozone, carbon monoxide, dust, mercury, lead, cadmium, and organic phosphorus pesticides can all enter a pregnant woman's body through the respiratory and digestive tracts or skin and be carried by the blood to the placenta, thus causing damage to the fetus's organs and nervous system. Loud noise may damage the hearing of the fetus, and radiation can induce genetic mutations and chromosomal abnormalities resulting in miscarriage or fetal malformations.

The maintenance of fetal intrauterine growth and development depends on the mother's kidney qi. If the kidney qi is sufficient, then the *chong* and *ren mai* are solid enough for pregnancy. If not, the *chong* and *ren mai* are weak or injured. Therefore, sexual activities should be well-controlled during pregnancy. In the first trimester, excessive sexual activities could stir up the ministerial fire, exhaust the kidney yin and injure the *chong* and *ren mai*, leading to miscarriage.

In the third trimester, excessive sexual activities may disturb fetal qi leading to premature delivery, or it can create fetal toxins that increase the risk of intrauterine infection. Sexual intercourse should be avoided, especially in the first 3 months and last 1.5 months of pregnancy.

6) Cautious Treatment and Toxic Drug Avoidance

Many drugs may enter the fetus through the mother's body. As the fetus is underdeveloped and fragile, drug toxins may impede their normal growth and development. Ancient doctors were very careful with medicines, advocating no medication when there is no disease present; if pregnant women were in need of treatment, doctors would select medications carefully and withdraw them immediately after the problem had been resolved.

The Complete Compendium of Fine Formulas for Women states: "Medications for maternal illnesses are necessary; doctors must analyze the disease, consider the nature of the medicinals, and give those which are mild. Large dosages are unnecessary. When the disease has declined with suitable medication, consider stopping the medication at the right time."

Important Formulas Worth a Thousand Gold Pieces for Emergency (Bèi Jí Qiān Jīn Yào Fāng) states: "If a pregnant woman falls ill, toxic medicinals must be avoided." That is to say, the prescription of toxic medicinals may harm the fetus. This is especially true in the first trimester when the embryo is in the organogenesis phase and most vulnerable to being affected by drugs and toxins that can lead to malformation, miscarriage or even embryonic death.

Medicinals that are contraindicated for pregnancy are mainly divided into three categories, as follows:

(a) Toxic medicinals: *wū tóu* (Aconitum carmichaeli), *fù zǐ* (Radix Aconiti Lateralis Praeparata), *tiān nán xīng* (Rhizoma Arisaematis), *yě gě* (toxicodendron), *shuǐ yín* (Hydrargyrum), *qīng fēn* (mercurous chloride), *qiān fēn* (Lead powder), *pī shí* (arsenic

trioxide), *liú huáng* (Sulphur), *xióng huáng* (Realgar), *bān máo* (Mylabris), *wú gōng* (Scolopendra) and so on.

(b) Blood-breaking medicinals: *shuǐ zhì* (Hirudo), *méng chóng* (Tabanus), *gān qī* (Resina Toxicodendri), *shè xiāng* (Moschus), *qú mài* (Herba Dianthi) and so on.

(c) Expelling and purging medicinals: *bā dòu* (Fructus Crotonis), *qiān niú zǐ* (Semen Pharbitidis), *dà jǐ* (Radix Knoxiae), *yuán huā* (Flos Genkwa), *zào jiá* (Fructus Gleditsiae), *lí lú* (Radix et Rhizoma Veratri Nigri), *dōng kuí zǐ* (Fructus Malvae).

Such drastic medicinals may cause toxicosis and impair the fetus; the damage caused may even lead to miscarriage or premature delivery.

Pregnant women should also avoid using the following chemosynthetic drugs:

Antibiotics such as streptomycin, kanamycin, and tetracyclines.

Hormones such as progesterone, methyl testosterone, diethylstilbestrol, and cortisone.

Hormone antagonists such as propylthiouracil, and methimazole.

Antineoplastic agents such as methotrexate, cyclophosphamide, and chlorambucil.

Anti-seizure drugs such as chlorpromazine hydrochloride, phenytoin, and imipramine.

Pregnant women with heart and kidney disease, diabetes, hyperthyroidism, tuberculosis or other chronic diseases must be treated under the direction of a physician. Regular prenatal examinations are necessary for high-risk individuals. If necessary, the pregnancy should be terminated.

(3) Antenatal Training and Maternal Education

Antenatal training and maternal education refers to the education given to the fetus while inside the uterus. *The Book of Rites* recorded the prenatal education of Emperor Wen. It is said that lady *Tai Ren*, mother of Zhou Dynasty Emperor Wen observed several disciplines during pregnancy; for example, she “did not look at evil things, did not listen to irritating sounds, and uttered no arrogant words”. Her daily life was well-disciplined and mainly involved sitting, standing, sleeping and eating. When she attended ceremonies or listened to music she always maintained a sound mind and good mood so that her son would be intelligent, virtuous, healthy and long-lived. Emperor Wen achieved a tremendous contribution by establishing the prosperous Zhou Dynasty when overthrowing the Shang Dynasty; he lived to the age of 97.

The Song Dynasty text, *The Complete Compendium of Fine Formulas for Women* states: “The fetus experiences what the mother has been through,” which indicates that the fetus’s hearing and perceptive abilities are formed in the third trimester. To build the innate qualities of the fetus, pregnant women should listen to soft music, and behave well with a sound mind and positive mood.

Modern research indicates that the fetus can respond to music with capacities of hearing, perception and response. In fact, prenatal training and maternal education means to give optimal stimulus to the fetus by prompting the normal brain development. Child educators in current times have begun to research early education of the fetus with music. It has been ascertained that strongly rhythmical, loud music should be avoided; soft music is better for both pregnant women and their fetuses. As such research progresses, more and more evidences show that prenatal training and maternal education has a significant scientific basis. Fetal education in Chinese medicine has a long history and broad applications that have recently attracted more attention.

2. THE NEWBORN AND INFANT HEALTH CARE

In newborns, their five *zang* and six *fu* organs are immature. When newborns leave their maternal uterus, their surroundings are radically changed; careful nursing is required because infants lack adaptability, adjustability and resistance. The general goals of neonatal care are to first detect significant medical problems early enough so that they can be treated appropriately.

Second, there is a need to protect the newborns from harmful processes that they are particularly susceptible to after birth such as hypothermia or serious infections.

The third goal is to promote good health by facilitating normal adaptability to extra-uterine life. Improper care will cause newborns greater susceptibility to sickness, or even result in fatalities or life-long sequelae. During the neonatal period, especially within the first week of life, the most serious problems are apparent; the morbidity and mortality rates are also very high. A survey shows that neonatal morbidity rates have dropped greatly in China within the past 60 years, but still remain around 15%. Nearly 2/3 of infant deaths are newborns, and about 70% of the total neonatal deaths are newborns within one week old.

After the neonatal period, their organ functions and disease resistance have improved and growth and development become extremely rapid, thus requiring more nutrients. The spleen and stomach are often deficient and prone to nutritional and digestive disorders. At the same time, as the immune antibodies acquired from their mothers gradually decrease, the infants are more susceptible to infectious diseases. Proper feeding, nursing, vaccinations and other healthcare measure are very important at this stage.

(1) Neonatal Health Care

Because newborn infants have a relative deficiency of qi and blood and delicate *zang-fu* organs, the stomach qi is just beginning to grow. The infant relies completely on the care of their parents and caregivers, and any negligence can lead to sickness or even death. *The Orthodox Tradition of Medicine—Pediatrics* (Yī Xué Zhèng Zhuàn—Xiǎo Ér Kē) points out the physiological features of newborns: “When a child is born, qi and blood are deficient, yin and yang are not in harmony, *zang-fu* organs are immature, and the bones are not yet fully developed.”

Guideline of Pediatrics (Yòu Kē Zhǐ Guī) states: “After an infant is born, wrap the infant immediately and let the child fall asleep. He will cry when he wakes up, and then fall asleep again. Leave these matters to themselves without intervening because when he is crying, the clear qi inside the body ascends, and when sleeping, the turbid qi descends; then the qi and blood can circulate throughout the *zang-fu* organs, left and right, and up and down.” This passage points out that crying and sleeping are the newborn’s major physiological activities.

Because children have delicate and immature *zang-fu* organs and insufficient body physique and qi, they can easily become ill, and are prone to patterns of deficiency, excess, cold and heat. These features are especially notable in newborns and those infants within one week old.

There are several special physiological phenomena in newborns that should not be labeled as morbid states. For example, yellowish-white fragmented-rice-sized eruptions scattered on the median line of the palate and gums are known as “horse teeth” (gingival cysts of the mucous glands in newborns, or Epstein’s pearls); these usually disappear within

several weeks or months. In female infants, the breasts may enlarge to the size of broad beans or pigeon eggs and then subside within 2-3 weeks, or there may be a small amount of vaginal bleeding at 5-7 days after birth that lasts for 1-3 days. This “pseudo-menstruation” does not require intervention. There are also fatty swellings on both sides of the cheeks, called “mantis eggs”, which help newborns to suckle milk. Physiological jaundice and other harmless physiological states unique to infants may also appear.

1) Clean the Mouth and Eyes

After newborns have been delivered and before their initial breath, to prevent inhalation and suffocation, the fluids, mucous, blood and amniotic debris should be cleared away from the oral cavity with a suction or sterile gauze. At the same time, debris should be removed from their eyes and ears. After this, the skin of the infants requires care; there is a layer of uneven vernix adhering to and protecting the skin. Do not wipe the vernix off at once, but do clean the skin folds, genital and anal areas with sterile gauze and use vegetable oils to remove the debris.

2) Omphalotomy (the Cutting of the Umbilical Cord) and Cord Care

The umbilical cord connects the fetus to the mother's placenta, which supplies nutrition and exchanges materials from the mother to her fetus. The umbilical cord is cut after birth, and the infant begins to live independently. The cutting of the umbilical cord is the dividing line of the pre-natal and post-natal periods.

Care of the umbilicus is necessary to prevent dangerous pathogenic attack. In ancient China there were several ways of cutting the umbilical cord, one being cauterization. The ancient Chinese knew how to prevent the umbilical area from contamination by water or urine after dividing the navel cord, and also that improper manipulation might cause umbilical wind (neonatal tetanus).

The rules of aseptic manipulation and disinfection for omphalotomy must be strictly observed. The wound of the navel cord should be manipulated with dry asepsis, swabbed daily with alcohol to dry out the cord, and then covered with a sterile dressing; never cover with a moist or airtight dressing. Under special circumstances this rule maybe ignored, in which case the wound should be re-disinfected and manipulated within 24 hours to prevent infection.

After omphalotomy, it is necessary to care for the umbilical area. Keep this part clean, dry and warm to prevent external wind-cold attack. The umbilical cord stump sheds after 4-10 days. During this period, also protect the umbilical area from urine, feces and other grime. It may be necessary to protect the umbilical area from water while taking a bath to avoid umbilical infections, umbilical wind, umbilical dampness, umbilical sores, and other umbilical diseases.

3) Bathing and Clothing

Remove the feces and blood from the infant's skin with a sterile gauze shortly after birth, and bathe the baby soon after. The bathing water temperature should range from 36-37°C. Bile from a pig gallbladder may be added into the bath in order to clean and moisten the skin. The person who bathes a baby uses one arm to hold the baby while the other hand holds the gauze which is dipped into water to clean the baby. This method helps to avoid getting the umbilical area wet. The vernix can protect and stimulate the skin, so do not wipe the vernix off all at once. After the bath, use a lotion or cod liver oil to moisten the infant's skin.

Giving a bath on the third day after birth is called “bathing on the third day”. Dry the whole body after the bath and apply talcum powder to the skin folds. The baby then must be handled gently and with care, to prevent wind-cold from attacking. The buttocks, perineum and genitals should be washed frequently to maintain clean and dry skin and prevent red buttocks.

Newborns are likely to lose a great deal of body heat after birth, because their thermostatic function is incomplete, and they tend to lose heat easily. If measures are not taken to prevent heat loss, their body temperature commonly falls to 34°C or lower. Therefore, heat preservation for the newborn is important, especially in cold weather. Drying the infant with an absorbent towel immediately after birth and keeping them wrapped in a warm dry towel or blanket between examinations in the delivery room will prevent much of the heat loss. A heater, hot water bag, warming bed or incubator may be used. In summer, the ambient temperature must also be well-controlled. Infants wrapped up in excess clothing may lead to heat stroke. It is best to control the room temperature at 22-24°C, with a humidity of 55%-65%.

It is preferable for infants to wear clothes made from light-colored soft cotton with absorbent properties. Infant clothing must be simple, easy to put on and take off, loose and with few seams; also without buttons or elastic bands. When clothing is prepared for newborns, it should be hung out in the sun and fresh air before being worn. Mothballs may induce neonatal hemolytic disease in those with congenital glucose-6-phosphate dehydrogenase deficiency, and therefore it is better not to put mothballs in the wardrobe.

During cold weather, clothes should not be too tight, but loose enough to allow free movement and flexing of both legs; this allows for their developing hip joints. Infants should wear overalls or rompers which are good for thoracic development. In summer, they can wear a bellyband to keep them cool and protect the belly. Diapers must be soft and very absorbent to keep the child's perineum area dry and clean.

4) Remove Fetal Toxins

Usually fetal toxin is heat toxin received in uterus. With severe fetal toxin, the newborn usually presents with a red face, red eyes, increased eye secretions, restlessness, profuse crying and constipation. They are prone to the disorders of erysipelas, abscess, furuncles, eczema, fetal jaundice, fetal heat, or aphtha.

In practice (from ancient times to present China), there are several traditional methods for removing fetal toxins with small amounts of heat-clearing toxin-removing medicinals. It has been proved by practice that removing fetal toxins can help to improve the child's naturally hot physique and reduce the occurrence of certain diseases. There are different methods for dispelling fetal toxins, which may be used according to the infant's physique.

Medicinals and Recipes

a. Honeysuckle flower and licorice root decoction: 6 g *jīn yīn huā* (Flos Lonicerae Japonicae), 2 g *gān cǎo* (Radix et Rhizoma Glycyrrhizae). Decoct the ingredients and rub into the oral cavity; then feed to the infant in small amounts.

b. Prepared soybean decoction: 10 g *dàn dòu chǐ* (Semen Sojae Praeparatum). Decocted and concentrate, remove the residue and feed small amounts to the infant frequently; applicable for weak newborns.

c. Coptis extract: 2 g *huáng lián* (Rhizoma Coptidis). Soak the medicinal in water to make an extract which is dripped into infant's mouth. *Huáng lián* (Rhizoma Coptidis) is

cold in nature; applicable for serious fetal toxins only, contraindicated for weak newborns.

d. Rhubarb root and rhizome decoction: 3 g *dà huáng* (Radix et Rhizoma Rhei). Soak in boiled water or boil for a short time. The decoction or extract is then dripped into the newborn's mouth. Cease using the liquid when the constipation is relieved. Contraindicated in newborns with spleen and qi deficiencies.

5) Observations and Nursing Care

Children's Diseases: Sources and Remedies states: "Within the first week after birth, an infant's skin, hair, muscles, bones, marrow, brain, five *zang* organs, six *fu* organs, nutrient qi and defensive qi, and qi and blood are all relatively weak. Infants are like the fragile sprouts of plants that have not yet experienced frost and fierce heat. For this reason infants are called 'sprouts'." Special attention is needed to prevent neonatal disease.

During the initial several hours after birth, the infant undergoes frequent observations. The Apgar score is a method for rapidly assessing the general state of a baby immediately after birth. (A maximum of 2 points is given for each of the following signs, usually measured at one minute and five minutes after delivery: type of breathing, heart rate, color, muscle tone, and response to stimuli. Thus, an infant scoring 10 points at five minutes after delivery would be in the optimum condition. When the score is low, the test is repeated at intervals as a guide to progress.) The body temperature, breathing, heart rate, body weight and length, crying, suckling milk, sleep, urine, stools and the skin condition all must be monitored closely in order to discover any early stage neonatal disease.

Open the windows regularly in a newborn's room and maintain good ventilation. They should have their own exclusive utensils and appliances, and their tableware should be disinfected after use. Mothers should wash their hands before breast-feeding and nursing. Family members or persons with respiratory and digestive system infections such as common cold, enteritis, skin disease and other infectious diseases should not contact the newborn. When relatives and friends visit, allowing them to kiss the infant can cause cross-infection. Avoid neonatal asphyxia caused by heavy clothes wrapping the head, by incorrect breastfeeding, or from the breast obstructing the newborn's mouth and nose.

(2) Feeding Methods

In 1989, UNICEF sponsored a meeting on breastfeeding and pointed out that there are three ways of infant feeding: exclusive breastfeeding (including exclusive and almost exclusive breastfeeding), mixed feeding, and artificial feeding. WHO advocates breastfeeding as the best way of feeding. In 2005, a Chinese survey showed that more than 90% of the infants were breast-fed in China. In 2001, a survey conducted in U. S. indicated that 61.5% of the infants had been breast-fed. In China the breastfeeding rate is 63.7% in infants up to 6 months old, higher than in U.S. (35.1%), Brazil (54.7%), Italy (46.8%) and some other countries.

1) Breastfeeding

Breastfeeding is a natural feeding way formed in the process of human evolution. *Elaboration on Pediatrics* (Yòu Kē Fā Huī) states: "Human milk is transformed from blood, and blood is generated by essence and qi from water and grains." Mother's breast milk is the best natural food for a baby, and is as such indispensable and irreplaceable for an infant's optimum growth and development.

a. First Born and Establishment of Breastfeeding

After delivery, the newborn baby should be placed beside the mother to increase early

mother-infant contact in the first hours and days of life. The mother should be instructed in the feeding process for the first breastfeeding as soon as possible, while the suckling stimulation to the nipples also promotes lactation. The infant should be fed within 15 minutes to 2 hours after birth.

In the first 2-3 days, although the amount of milk flow is scanty, it can still meet the infant's needs. Encourage mothers to breastfeed on the infant's demand; the infant may suckle forcefully to promote breast milk secretion. Early breastfeeding can help to relieve physiological jaundice and also reduce the occurrence of physiological weight loss and glucopenia.

b. Breastfeeding Advantages

Breastfeeding has many advantages; the interactions and functions occurring during breastfeeding are as follows:

(a) Breast milk provides the best nutrition for infants in their initial 4 to 6 months of life; it contains β -casein and albumin which are easy to digest and absorb. In addition, breast milk contains many additional unsaturated fatty acids which benefit brain development.

(b) Special protection is provided by maternal macrophages and immunoglobulin to enhance the infant's immunity. The immunologic system of the mothers helps to protect the baby from bacterial and viral invasion, thus reducing infant mortality and morbidity rates. Breast milk is rich in antibodies, immune competent cells, and other immune substances that could increase the anti-infection capacity of infants. The first secretion of colostrum from the breast contains serum, white blood cells and protective antibodies, is rich in SIgA (which is indigestible in the stomach), and plays a role of immunity and defense in the intestines. In addition, human milk is rich in lactoferrin, which inhibits bacterial growth.

(c) Breastfeeding is a convenient and easy feeding method. A breastfeeding mother is directly able to feed her infant with fresh and uncontaminated milk, and the temperature and the speed of lactation are also appropriate. Breastfeeding is also more economical than using expensive infant formulas and feeding equipment.

(d) It promotes a special bond between mother and infant; in fact the time of feeding is viewed as a complex interaction between the infant-mother pair. Each feeding is a social and organic interchange for both mother and child. When the breast-fed infant has regular body contact with its mother and receives the mother's caress, this promotes the development of the infant's psychological and social adaptability, and may later affect attachment behavior. When breastfeeding, the mother can observe these changes and sense the infant's other needs.

(e) Breastfeeding can produce prolactin; suckling by the infant decreases maternal uterine bleeding and promotes uterine contractions and recovery. Breastfeeding is also significantly involved with human reproduction by delaying menstruation re-flows, inhibiting ovulation, and avoiding pregnancy. Moreover, breastfeeding can reduce the risk of breast cancer and ovarian tumors.

c. Techniques for Successful Breastfeeding

Before delivery, pregnant women should adapt themselves to the physical and psychological aspects of the impending delivery and preparation for breastfeeding. They should be provided with the necessary education of the advantages of breastfeeding to increase their confidence. Breastfeeding should be initiated soon after birth, and it is better if the mother and newborn stay in the same room where the mother is permitted and

available to feed the newborn as frequently as the baby needs. The factors that influence breast milk secretions include the mothers' nutritional and mental states, and the effectual stimulation and emptying of the breast.

Those with scanty breast milk secretions may have some lactation-promoting foods such as pig's foot soup, carp fish soup, chicken soup, milk and soybean milk. Adding some spring onions to the soup is more effective. They also can take Chinese medicinals that can boost qi, nourish blood and promote lactation such as *huáng qí* (Radix Astragali), *dǎng shēn* (Radix Codonopsis), *fú líng* (Poria), *dāng guī* (Radix Angelicae Sinensis), *chuān xiōng* (Rhizoma Chuanxiong), *guā lóu zǐ* (Semen Trichosanthis), *lòu lú* (Radix Rhapontici), *wáng bù liú xíng* (Semen Vaccariae), *chuān shān jiǎ* (Squama Manitis), *tōng cǎo* (Medulla Tetrapanacis). At the same time, foods that may lead to milk withdrawal, e.g. malt, should be avoided.

d. Patterns of Breastfeeding

It is the traditional feeding philosophy in China and a fundamental principle of feeding advocated by WHO that mothers observe and feed their babies depending on their baby's need, so-called "on-demand feeding". On-demand feeding is individualized and based on each baby's physical needs and their digestive and absorbing abilities, and does not emphasize a strict feeding schedule or amount taken per feeding.

The following feeding patterns are for reference only. For the first 1-2 months, use on-demand breastfeeding. After that period, feed every 2-3 hours according to the infant's sleeping habits, and then gradually extend the interval to 3-4 hours, reducing to 1 feeding per night. Generally speaking, in the first two months the infant is fed every 3 hours, 6-7 times daily in the third and fourth month. Each feeding lasts around 15-20 minutes. Feeding times may be longer or shorter depending on the individual infant.

e. Precautions

Before breastfeeding, nursing mothers should wash their hands and clean their breasts and nipples with hot wet towels. The mother makes sure she is in a comfortable sitting position and completely at ease, embracing the infant with one arm. The infant's head and shoulder rest on the bend of her elbow on the feeding side, in a lateral oblique position. The suckling baby should be allowed to empty one breast first and then change to the other side. After he/she has finished feeding, sit the infant up with its head propped against the mother's shoulder and gently pat its back to help it burp up air from its stomach in order to reduce milk regurgitation.

As milk is formed by qi and blood transformation, mothers who breastfeed their infants should have a generous nutritional intake, get enough sleep, maintain a good mood, live a balanced life, and seek their doctor's advice before taking any medication.

Mothers should stop breastfeeding if they suffer from any acute and chronic infectious diseases, active tuberculosis, chronic nephritis, diabetes, malignant tumors, mental illness, epilepsy, or cardiac functional insufficiency. They can also suspend breast feeding if they have cracked nipples or acute infections, but must regularly express breast milk to prevent milk withdrawal while they are not feeding.

f. Weaning Time

Because infants are growing day by day, eventually breast milk alone is not able to fully meet their needs. As their digestive function progressively matures, their primary teeth start to erupt and their chewing function is strengthened, so they can gradually adapt to a non-liquid diet. Food supplements may be added gradually from 4-6 months after birth.

When the infants are 8-12 months old, breast feeding maybe totally stopped.

There is a transition period between adding supplemental foods and becoming fully weaned. During this period, reduce the breastfeeding and gradually add foods. Breastfeeding is gradually replaced by bottle, cup or spoon feeding. Avoid sudden weaning which may cause problems for the digestive system, causing a loss of appetite, vomiting, or diarrhea. Weaning time is flexible. For example, if babies become ill or suffer from a scorching summer or a bitter cold winter, weaning may be postponed until they have recovered from their illness; or the mother can wait for more comfortable weather such as a cool autumn or a warm spring.

2) Artificial Feeding

This refers to using formula milk, cow or goat's milk and others to feed infants less than 4 months of age who cannot receive breastfeeding for many reasons.

a. Formula Milk Powder

Formula milk powder is a dairy product transformed from bovine milk. The nutrient content of most formula milk powders on the market is similar to breast milk, and is well-tolerated by the infant's digestive and kidney systems. Formula milk powder is produced by reducing casein protein and inorganic salt from bovine milk while adding some fundamental nutrients such as whey protein, unsaturated fatty acids, lactose, and enhancing micronutrients such as nucleotides, vitamins A, D, β -carotene, and microelements including iron, zinc and so on. Formula milk powder should be chosen according to the age of the child.

Correct preparation of formula milk ensures that the infant has a sufficient nutritional intake. Formula milk preparations have a standard spoon attached to their containers. Using this spoon, 4.4 g formula milk powder is dissolved and diluted with 30 ml of warm water. The ratio between the weight of the milk powder and volume of milk is 1:7.

b. Bovine Milk

The nutritional ingredients of bovine milk are different from breast milk:

- (a) The lactose content is lower. Thus, per 100 ml milk add 5-8 grams of sugar.
 - (b) In bovine milk, even though it has more protein than breast milk, it is mostly casein, which forms bigger clots in the stomach and is difficult for digestion. There are two purposes for boiled milk; one is for sterilization, and another is to change the properties of the protein, which is then easier to be digested.
 - (c) The minerals in bovine milk are 3-3.5 times greater than those in breast milk, therefore the infant's renal solute load is increased.
- By diluting bovine milk with water, the concentrations of minerals and proteins maybe diluted and therefore relieve the digestive tract and kidney load. Diluted milk is only used for newborns. For newborns under 2 weeks old, the milk-to-water ratio is 2:1, and the ratio gradually changes to 3:1 or 4:1. When infants are 1 month old, they may be given undiluted bovine milk.
- (d) Adding rice soup to bovine milk (below 1/6) may also reduce the formation of milk clots in the stomach. Rice soup nourishes the stomach and spleen, and is helpful when adding supplemental foods later.

(e) Bovine milk lacks immune factors, so bovine-milk fed babies have a higher chance of infectious disease.

Yogurt is produced by cooling boiled milk to 60°C and adding *Lactobacillus bulgaricus*

followed by fermentation. A yogurt clot is smaller and easier to digest, so this reduces gastric acid consumption. It also has some antibacterial function, therefore benefiting children with indigestion.

c. Goat's Milk

The nutritive value of goat's milk is almost similar to bovine milk. The goat's milk clot is smaller and softer than bovine milk. The sizes of the fat particles are the same as that of human breast milk, but there is less folic acid. Therefore, feeding with goat's milk for a long time will cause megaloblastic anemia.

The methods for feeding goat's milk are the same as bovine milk.

d. Milk Powder Substitutes

The nutritional value of a soybean substitute is better than that of cereal substitutes. Soybean substitutes should not be fed to babies under 3 months old because of their poor digestion ability.

Soy milk: 3,000 ml soybean milk can be made from 500 g soybeans, 1 g salt, 2 g calcium lactate, 20 g starch and 60 g sugar for every 1,000 ml of soybean milk. Boil the mixture for 20 minutes then dilute the soymilk with an equal amount of water, serve warm. This amount of water may be reduced gradually if the infant's digestion is normal. Soybean milk substitutes are suitable for babies with lactose intolerance, galactosemia, and milk protein allergies.

Rice and flour products (infant foods other than milk such as *Ru Er Gao* (infant cake), *Gao Gan Fen* (dried powder cake) and so on) may be cooked into a paste and fed to the infant. Rice and flour products are rich in carbohydrates and contain small amounts of protein, fats and amino acids, and thus are only suitable as supplementary foods. Soybean powder, egg powder, fish protein powder, or milk powder and vegetable oil should be added to improve nutrition.

e. Estimated Intake (Birth to 6 Months)

Estimated formula milk intake: 100 g formula milk usually provides 500 kcal (2,029 KJ). Infants need around 100 kcal/kg/day (418.4 KJ/kg/day), so 20 g/kg/day of a formula powder may meet their needs.

Bovine milk intake estimation: 100 ml bovine milk provides 67 kcal (280.33 KJ) and 100 ml 8% sugar milk provides 100 kcal (418.4 KJ). Infants need 100 kcal/(kg/day) [418.4 KJ/(kg/day)], so 100 ml of 8% sugar milk is enough. As the concentrations of protein and minerals in bovine milk are high, encourage the infant to drink water in between feedings to ensure that the total volume of water and milk is 150 ml/(kg/day).

3) Mixed Feeding

This is also called partial breastfeeding, which refers to adding formula milk, bovine milk, goat's milk or other substitutes when the mother's milk is insufficient. Mixed feeding is divided into breastfeeding with bottle-feeding and breastfeeding plus supplemental foods.

a. Breastfeeding and Bottle-Feeding

If a breast-fed baby fails to gain weight satisfactorily, this may indicate that the mother's milk supply is inadequate. In this case, give them formula, bovine, or goat's milk to supplement the breast milk if they are less than 4 months old. The number of daily breastfeeding sessions remains the same. At each feed, encourage the infant to completely empty both breasts first, and then add the supplement until the baby is satisfied. The breast and

bottle-feeding method maintains breast milk secretion due to the frequent stimulation of suckling, so this method is better than supplemental feeding alone.

b. Breastfeeding with Supplemental Feeding

The infant is fed one or more times per day with formula milk or milk substitutes. To achieve lactation success, the mother must persist with breastfeeding. Supplemental feeding is not beneficial for promoting the secretion of breast milk, so this method is applied in two circumstances: mothers who are not able to breast feed or when weaning breast-fed infants at 4-6 months of age. For the former, breastfeeding frequency should be no less than 3 times daily, also maintained at night; otherwise breast milk secretion will quickly reduce.

4) Adding Complementary Foods

Regardless of whether infants are breast-fed or have mixed feeding, they will eventually need to be introduced to solid foods to meet their growth and development requirements; solids foods will also strengthen spleen and stomach function. Prior to 4 or 5 months, infants are mainly breast fed, whereas after 6 months, various complementary solid foods are added to the diet according to age.

The principles for introducing complementary foods: offer them gradually at a time when the infant is healthy with normal digestive function. Add complementary foods in gradually increasing amounts with viscosity from thin to thick, texture from refined to coarse, and food types from single to multiple. The order of complementary food adding is illustrated in the following Table 5-1.

Table 5-1 Order of Introducing Complementary Foods

Age	Added Complementary Foods
1-3 months	Fresh fruit juice, vegetable soup, cod liver oil preparations
4-6 months	Rice paste, suckling cakes, watery porridge, egg yolks, fish paste, tofu, animal blood, vegetable puree, mashed fruit
7-9 months	Mashed noodles, baked bread pieces, crackers, chopped vegetables, fish, eggs, liver paste, minced meat
10-12 months	Thick porridge, soft rice, noodles, steamed bread, bread, chopped vegetables, minced meat, oil, soy products

(3) Infant Nursing Care

During infancy, the internal organs, qi and blood are insufficient, but they grow and develop rapidly. To ensure normal growth and development, apart from proper feeding, a daily regimen must be arranged according to the child's physiological characteristics.

Important Formulas Worth a Thousand Gold Pieces for Emergency (Bèi Jí Qiān Jīn Yào Fāng) states: "Babies should be brought outside when the weather is pleasant; otherwise, babies are weak and fragile. When it is sunny, warm and not windy, mothers should bring their babies outside to breath fresh air and bathe in the sunshine. Then the babies will be strong and able to defend against wind, cold and disease." Taking infants outdoor to enjoy the sunshine and fresh air helps to strengthen the physical constitution.

Sleep duration in children is longer than in adults, but gradually becomes shorter and shorter as they grow up. When organizing a regime for feeding and other activities, this

physiological feature should be noted in order to cultivate good sleeping habits at night with appropriate activities during the daytime.

The infant's personal hygiene should be maintained adequately; for example, changing the bedding and clothing regularly, washing their face, hands and feet, having routine baths, and properly cleaning their buttocks after defecation. Clothing should be loose-fitting because tight clothes can impede qi and blood circulation and hinder bone development. To reduce the possibility of infection, infants should not have contact with patients afflicted with infectious disease.

Early education: Infancy is an important period of sensory and perception development with rapidly increasing visual acuity and hearing. Infants should be educated and stimulated to recognize their surroundings in order to cultivate their observation ability and promote their senses and perception.

It is not necessary to give medicine to healthy infants, especially tonic medicines which might impair spleen and stomach function or cause possible drug resistance or toxic effects.

Cultivation of the infant's mind includes maintaining a calm and peaceful environment to preventing any sudden panic, which may disturb heart qi and lead to disease. Care needs to be taken to prevent accidents such as the inhalation of foreign objects or suffocation, poisoning, falls, and so on.

(4) Prevention and Immunization

Infants' defensive qi is relatively insecure, and the immunity acquired from their mother gradually disappears after 6 months; because postnatal immunity is not yet fully established, there is greater susceptibility to lung and spleen conditions as well as infectious diseases. They should have regular health check-ups with their growth and development monitored, so as to discover and treat diseases in the early stages. Common disorders include iron deficiency anemia, Vitamin D deficiency rickets, malnutrition, obesity, and developmental abnormalities.

Infants have a higher susceptibility to various infectious diseases, so prophylactic vaccinations are often given to develop a fundamental immunity. According to the Expanded Program on Immunization (EPI) promulgated by WHO and UNICEF, there are 53 vaccines included in EPI among 192 countries.

In February, 2008, the Chinese Ministry of Health announced the *Implementation Plan of the Expanded Program on Immunization* (see Table 5-2), listing the basic immunizations for children.

Table 5-2 Vaccination Program of Implementation Plan of the Expanded Program on Immunization in China

Vaccine	Vaccination Time
Hepatitis B Vaccine	3 vaccinations: within 24 hours after birth, 1 month old, 6 months old
BCG	1 vaccination at birth
Polio Vaccine	4 vaccinations: 2 months old, 3 months old, 4 months old & 4 years old
DPT	4 vaccinations: 3 months old, 4 months old, 5 months old & 18-24 months old. Same procedure for Acellular DPT vaccine & DPT vaccine. If acellular DPT is in shortage, replace it with DPT from the fourth injection to the first injection

Continued

Vaccine	Vaccination Time
Diphtheria Vaccine	1 vaccination at 6 years old
Measles Vaccine	2 vaccinations: 8 months old, 1.5-2 years old
MMR Vaccine	If MMR supply is in shortage, use measles-containing vaccine transitional immunization program. Rubella vaccine at 8 months old. Use measles vaccine if rubella vaccine is in shortage. MMR at 18-24 months old. Use measles-mumps vaccine if MMR is in shortage. If the measles-mumps vaccine is in shortage, use the measles vaccine
Meningitis Vaccine	4 vaccinations: 2 injections of group A meningitis vaccine at 6-18 months old; 1 injection of group A + C meningitis vaccine at 3 years old; 1 injection of group A + C meningitis vaccine at 6 years old
Japanese Encephalitis Vaccine	2 vaccinations of attenuated live vaccine: 8 months old & 2 years old; two vaccinations of inactivated live vaccine: 2 years old & 6 years old
HAV Vaccine	1 vaccination of attenuated hepatitis A vaccine at 18 months old; & 2 injections of inactivated hepatitis A vaccine: 18 months old & 24-30 months old

Note: the vaccines mentioned above target preventable diseases.

Hepatitis B vaccine: hepatitis B.

BCG: tuberculosis.

Polio attenuated live vaccine: polio.

DPT vaccines: whooping cough, diphtheria, and tetanus.

Diphtheria and tetanus vaccine: diphtheria, tetanus.

Measles vaccine: measles.

MMR combined vaccine: measles, rubella, and mumps.

Group A meningitis vaccine, group A + C meningitis vaccine: meningococcal cerebrospinal meningitis.

JEV attenuated vaccines: Japanese encephalitis.

Attenuated hepatitis A vaccine: Hepatitis A.

3. TODDLERHOOD HEALTH AND NURSING CARE

Physical growth during this period is slower than before, but toddlers have more chance to explore their environment. Their language, movement and cognitive abilities are developing more quickly; the cerebral cortex is functioning at a higher level, and intellectual development is prominent. With the development of perceptual function and self-conscious awareness, toddlers are more curious about their surrounding environments and also interested in imitation. Therefore, social and physiological development in this period is most rapid as well as being a critical stage of intellectual development.

At this time, 20 deciduous teeth have all erupted successively. After weaning, toddlers have a totally different diet, but their spleen and stomach functions are still relatively weak; thus they become more susceptible to spleen and stomach disorders. As young children grow, they have more chance to explore outdoor environments and contact more people and can easily become in contact with infectious diseases. Health care during toddlerhood focuses on proper feeding after weaning, cultivating good living habits, early education, disease prevention and accident avoidance.

(1) Diet Management

The growth rate after 12 months becomes steadier. Their appetite slightly declines and becomes stable, with the diet transforming from milk to a regular diet. At this time, all the deciduous teeth are erupting successively, but their chewing ability is yet incomplete and spleen and stomach functions are still insufficient. Food for toddlers should be fine, soft, smashed, or minced. A dietary regimen can be achieved by eating well at each meal, eating less snacks between meals, avoiding dietary biases with partiality for a particular kind of food, and by preventing the child from being distracted while eating; anorexia can also be treated as required.

In order to enhance the child's appetite, food and cooking should be diversified. The major food group is grain, with 1-2 cups of milk or soybean; fish, meat, soy products, vegetables, fruits and other foods are also needed. The diet should consist of meat and vegetables with proportional nutritional ingredients.

The Yellow Emperor's Inner Classic: Basic Questions—Methods of Treating Visceral Qi in Accordance with the Seasons (Huáng Dì Nèi Jīng Sù Wèn—Zàng Qì Fǎ Shí Lùn) states: "Five grains nourish the human body, five fruits act as accessories, the five livestock are beneficial, and the five vegetables are supplements. When all of these food types are ingested, the human body's essence and qi are nourished." Toddlers can be trained to use food utensils and cutlery so as to eat independently and cultivate good eating and behavioral habits such as eating at a fixed time and with sufficient quantity with less snacks and particular food preferences.

In order to meet the child's physical needs during toddlerhood, ensure that the diet has adequate nutrition. The nutrients should include around 40 g of protein daily; high-quality protein (animal protein and soy protein) should account for 1/3-1/2. The ratio of protein, fat, and carbohydrate rations in the diet is around 10%-15%: 25%-30%: 50%-60%. A dietary regime should consist of 3 meals given at fixed times and fixed quantities, plus 1-2 snacks. Bad eating habits such as prolonged feeding, frequent eating, night eating and cold drinks will affect the child's appetite and also damage the spleen and stomach.

(2) Daily Life Activity

Toddlers are able to walk independently between 1-1.5 years old, and can run, jump and climb after 2 years old. Fine movement and hand skills also develop gradually as they develop more skills in playing with toys and in playing games. When the child learns to walk, adults should give the toddler some support to avoid falls, but also give them some freedom of activity to develop their motor skills. Attention must be paid to language communication through dialogue, games, storytelling and singing, all of which promote language development and motor skills. Children are curious and thirsty for knowledge; they have a desire to express themselves, ask questions, look over picture-story books, and watch cartoons. Parents should satisfy these desires because it is through these that their elementary education is initiated.

Develop good living habits according to the specific age of the child. Toddlers may sleep 14 hours, which can gradually be reduced to 12 hours. They mainly sleep at night, and will have a 1.5-2.5 hours rest at noon. When they are over 1 year old they can be trained to use the toilet, by being woken up at night in time to urinate. This will cultivate their ability for early self-control of urination by conditional reflex. At 2 years old, train toddlers to brush their teeth before sleep and after getting up from bed in the morning to protect them from

tooth decay. Step by step, teach the child to wash their face, hands and feet, and how to dress themselves. Parents must take note that is not necessary to dress them in too many clothes or feed them too much food; this may become a significant cause of illness. Many of the ancient summaries of effective child-raising experiences are still widely used today.

(3) Disease Prevention

As the scope of life activities expand, children have more chances to contact infectious disease. After weaning the diet changes, but the spleen and stomach are still insufficient, and this can easily lead to disorders of vomiting, diarrhea and malnutrition. To prevent them from external pathogenic attacks and reduce the chance of illness, extra caution is needed with toddlers in their daily life, diet and hygiene, and the immunization schedule should be followed. Young children are curious and restless and lack the ability to identify dangers, so caution and supervision is necessary to prevent them from inhalation of foreign bodies, burns, electric shock, trauma, poisoning, drowning and other accidents.

(4) Early Education

Infants and young children have great potential intelligence and learning capacity when they are very young. Early education for children under 3 years old does not focus on how much they can learn, rather the target is to implement systematic training of perception (vision and hearing) while guiding and exploring their potentials and enhancing their capacities to accept the outside world. The goal is to lay a good foundation for future intellectual development.

Early education must consider the features of children's physical and psychological development. Individual education is appropriate for children under 2 years old.

By 2 or 3 years old, children should participate in games, imitation, painting, plays and so on. Children need to be taught to investigate when they meet something new and to develop a strong interest in their surroundings and nature. Meanwhile, encourage language and number training and promote their emotional exchanges between playmates and adults so that there is a balanced development of cognition, language, imagination, practical ability and other aspects.

4. PRESCHOOL CHILDREN'S HEALTH CARE

Preschool children's physiques grow steadily along with developing cerebral cortex function and relatively fast intellectual development. Psychological changes are more prominent, and understanding capacity gradually increases with a strong curiosity and thirst for knowledge. They are absolutely educable, and this is a crucial period for the formation of personality and the use of more complex language with which to express thoughts and feelings. They are curious, inquiring and keen to watch and imitate each other's behavior.

In this period, pay attention to inspiring their potential intelligence by conducting appropriate preschool education, broadening the child's horizons of knowledge, and by cultivating good study habits and moral qualities. Even as the scope of independent activities expands, they still lack life experience and self-control. They are also prone to accidents, so it is necessary to intensify safety education while continuing to provide prevention and health protection.

(1) Physical Exercises

Physical exercise should be intensified to strengthen physical fitness in children during

this time. Make sure children are active outdoors every day with exposure to sun and fresh air. Physical exercise schedules are arranged according to age using indoor and outdoor equipment, e.g. dancing, skipping, small-scaled competitions and so on. During games and physical exercises, children learn to observe rules and communicate with others, thus developing a sense of honor and fairness.

(2) Preschool Education

Preschool children are studious, inquiring and imitative. Parents and caregivers should teach with skill and patience, arranging the appropriate educational methods and contents according to the intellectual characteristics of children in different age groups.

In kindergarten they are taught activities such as singing, painting, paper cutting and pasting, building-blocks, making models, and playing games. At home they have storytelling, radio and television, preschool programs, contacting people and sightseeing. All of these activities can help broaden their horizon of knowledge.

Children should be encouraged to develop independence, the ability to distinguish right from wrong, and good study habits. It is noteworthy that preschool children should be educated step by step. In order to avoid excessive enthusiasm caused by an impatient desire for success, parents should not insist on over-training a child of remarkable aptitude; this can in fact have a negative effect.

(3) Disease Prevention

During preschool as a child's physical fitness is strengthened, the illness incidence rate drops, but immunological diseases such as nephritis, rheumatism, allergic purpura and so on increase. During this period, the child's diet should be regulated to ensure sufficient nutrition and maintain food hygiene. Careful supervision is required to avoid accidents such as drowning, trauma, oral intake of drugs and food poisoning. In order to effectively cure asthma, recurrent respiratory tract infections and other diseases, great attention is needed to consolidate the root and to boost healthy qi. Health checks and physical measurements should be conducted once or twice annually to monitor a child's growth and development, while screening and treating common childhood diseases including shortsightedness, dental caries, iron deficiency anemia, parasites and other diseases.

5. SCHOOL CHILDREN'S HEALTH CARE

Children continue to steadily grow at school age, replacing their deciduous teeth with permanent teeth. Except for their reproductive system, other organs will approach adult levels of development at the end of this period. As they enter school it is important to protect their mental and physical health.

(1) Character Education

School-age children are at an important stage of growth and development. Education through schooling and family cooperation is an indispensable requirement for healthy development. Parents and teachers should teach children by precept and personal example as well as by verbal instruction; yet they should not be pampered or spoiled, nor allowed to act out with violence. Children should be given an appropriate academic environment to cultivate effective study habits. As a result, there can be comprehensive development in moral, intellectual, physical, and artistic qualities while instilling a healthy work ethic.

Children must continue to engage in outdoor activities and physical exercise, have a diet with sufficient nutrients, and maintain adequate sleep hours. To develop a sense of

responsibility and initiative, study habits should be active but without an excessive study load.

(2) Disease Prevention

Morbidity rate of school age children further decreases. However, attention is needed to prevent and treat the frequently encountered diseases of this period such as asthma, rheumatic fever, Henoch-Schonlein purpura, nephritis, nephrotic syndrome and other immunological diseases. Dental caries, shortsightedness, trachoma, parasites, anemia and malnutrition must also be addressed.

Behavior and emotional activity should be well monitored to avoid mental overstrain and to reduce the incidence of behavioral and psychological disorders. Children are asked to maintain proper postures for sitting, standing, and walking, and develop good habits of oral hygiene after meals, before sleep and after getting up in the morning. It is important to prevent and treat diseases early, and to help them avoid polluted environments and allergens. Children also have to learn how to observe traffic rules and prevent accidents.

6. ADOLESCENT HEALTH CARE

When children reach puberty, physical growth accelerates again as the reproductive system develops significantly and matures. Their tissues and organs undergo functional changes to reach maturity, so gender characteristics now become obvious. This period of great physiological and psychological changes is the final accelerative phase of growth and development in humans, and is the transitional period between childhood and adulthood as well as a turning point in psychological development. Health care in this period is of significant importance because it helps teenagers to enter adolescence smoothly and later enter society with a healthy physical and mental state.

However, adolescence has certain discrepancies in the time that it arrives because it is influenced by factors of community, region, climate, and race, etc. In recent decades, the worldwide average age of puberty has become younger.

(1) Physiological Health Care

During adolescence, “kidney qi is exuberant, and *tian gui* (reproduction-stimulating essence) is produced”; reproductive system becomes mature, and secondary sexual characteristics appear. Girls’ breasts develop and menarche is achieved. Boys’ laryngeal prominence (Adam’s apple) and facial hair emerge, and spermatorrhea occurs. Adolescent health knowledge education should begin during this period so that teenagers can correctly understand and calmly deal with these physiological changes. During this time it is important to prevent and treat frequently encountered diseases such as benign thyroid enlargement (goiter), irregular menstruation, and dysmenorrhea.

During adolescence, with the rapid somatic growth, extra mental activity, and increased physical exercise, it is necessary to increase various nutrients to meet the growing demand. Teenagers should be directed on how to choose adequate foods and to maintain good eating habits while avoiding excessive indulgence in fast foods, or addictions to any kind of food. Teenage girls should also be taught not to diet excessively. Adolescents need adequate sleep and physical exercise in order to attain the goal of integrated development; work and rest should also be appropriately balanced.

(2) Psychological Health Care

Good health consists of both physical and mental health, and both are very important

aspects of adolescent health care. As the neuron-endocrine regulation function is not stable during adolescence, there may be some level of instability in psychological, behavioral, and mental activities. Meanwhile, continuous physiological changes may easily give rise to uneasiness or impulsiveness. In addition, surrounding environmental changes and modern lifestyles may also cause teenagers some psychological adaptive problems, such as difficulties in fitting in society. They may also become easily excited or impulsive, over-adventurous, or have self-esteem issues, extreme behaviors and even commit suicide. Therefore, education and guidance are required to correctly deal with the physical and psychological changes that appear during puberty. This goal is to enable them to become healthy, optimistic, and positive while developing their available talents. A healthy psychological state has the capacity for discriminatory analysis, and the ability to correctly handle relationships with others to integrate successfully with society.

[QUESTIONS]

1. A newborn infant, 1 day old. Manifestations include a red face, red eyes, frequent crying with a loud voice and no initial defecation.

What is the most possible reason for this condition?

- A. Fetal toxin
- B. Fetal timidity
- C. Fetal fright
- D. Fetal heat
- E. Fetal cold

2. A 7-month-old infant. Manifestations include restlessness, crying, profuse sweating, and sparse hair on the occipital area.

Which nursing measure is the most important?

- A. Put on more clothes
- B. Feed more warm water
- C. Feed more vegetables
- D. Exposure to more sunshine
- E. Prevent fright or shock

3. A 2-month-old infant. The child grows at a slower rate than average due to the mother's recent lack of lactation. After taking medicine to stimulate lactation, the mother's milk secretions still do not meet the child's needs.

What feeding methods need to be applied?

- A. Bottle/artificial feeding
- B. Mixed feeding (supplemental feeding)
- C. Mixed feeding (breast-bottle feeding)
- D. Breast feeding
- E. Breast feeding plus complementary feeding

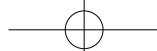
4. A 2 years old child has a poor appetite for a long period and becomes emaciated.

In regards to the etiology, which of the following must be considered first?

- A. Improper feeding
- B. Repeated external pathogenic attacks
- C. Bad moods
- D. Drug impediment
- E. Too many clothes

5. A 9-year-old child had dental caries in early childhood. In the past two years, the child has developed more dental caries again where the milk teeth have been replaced by permanent teeth.

In terms of health care, which following point should be attended to?



- A. Food hygiene
- B. Avoid external pathogenic attack
- C. Drink more water
- D. Frequent use of antibiotics
- E. Washing the mouth after meals, brushing teeth before sleep and breakfast

[REFERENCES]

- [1] WHO, UNICEF. Global Strategies for Infants and Young Child Feeding. WHO Library Cataloguing-in-Publication Data, 2003:8.
- [2] Maternal and Child Health Care & Community Health Department, Ministry of Health, The People's Republic of China, Coordinating Study Group of Nine Cities on the Physical Growth and Development of Children, Capital Institute of Pediatrics. A National Survey on the Physical Growth and Development of Children under 7 Years of Age in Nine Cities of China, 2005 [M]. Beijing: People's Medical Publishing House, 2008:72.

Chapter 6

Essentials of Pediatric Diagnostics

Diagnostic methods for pediatric diseases are essentially the same as those used in other TCM clinical branches, in that nature of the illness is mainly differentiated according to the four examinations of inspection, listening and smelling, inquiry and palpation.

However, children have their own specific physiological and pathological characteristics regarding growth and development, and their reaction to disease is also different from adults. Because infants and young children cannot communicate well, and older children may not be able to describe their illnesses precisely, in ancient times, pediatrics was known as the “silent department”. In addition, they are often frightened, anxious or uncomfortable, may cry loudly and may react to the pediatrician as a threatening stranger. This can affect both breathing and pulses and thus lead to diagnostic difficulties.

Qian Yi, the father of TCM pediatrics, stated that in treating children “it is difficult to take pulses through the peaceful respiratory rhythms, and syndromes cannot be judged by direct communication.” (*Children’s Formulas for Rashes and Emergency* (*Xiǎo Ér Bān Zhěn Bèi Jí Fāng Lùn*): “脉难以消息求，证不可言语取。”)

So throughout history, pediatric practitioners not only adhered to the comprehensive analysis of the four examinations, but they also paid special attention to the diagnostic methods of observation and inspection. This approach is described in the classic pediatrics text, *The Iron Mirror of Pediatrics*: “The four diagnostic methods of inspection, listening and smelling, inquiring and pulse taking are indispensable for all physicians, while for pediatrics, inspection is the most important.” (望、闻、问、切，固医家之不可少一者也，在大方脉则然，而小儿科，则惟以望为主)

[INSPECTION]

Inspection is a diagnostic method by which practitioners use sight to observe a child’s spirit, color, body shape, appearance, form, tongue manifestations, secretions, excretions, and other abnormal changes. In previous dynasties, pediatricians all regarded inspection as most important and thus classified it as the foremost of the four diagnostic methods; “children’s diseases occur inside and inevitably manifest at the outside.” (小儿病有诸于内，必形诸于外。)

The skin and muscles in a child are tender and soft and their reactions are sensitive. The manifestation of all of the six external pathogens, internal food damage, *zang-fu* functional disorders, or the waxing and waning of qi, blood, yin and yang are easily visible on the outer areas of the body and the orifices such as the face, lips and tongue; compared with adults, these outer manifestations are more accurate. Through inspection, TCM practitioners can observe systemic and local conditions through the body surface, thus gaining essential information for pattern differentiation. So, observation and inspection is particularly important in the pediatric diagnostic procedure; generally one should enable as many observations as possible before touching or even coming close to the child.

It is important to note that the inspection of color refers to observation of the color of



skin, membranes, secretions and excretions. The color of the skin and membranes are often influenced by race; although the complexion may vary, the general principles are based on a normal moist and bright complexion. In this book, we refer to the Asian race as the primary example.

Inspection consists both of the systemic inspection (observing the spirit, facial complexion, body shape and state) and a local inspection (the orifices, urine, stools, finger venules and rashes).

1. SPIRIT AND COLOR OBSERVATION

Spirit generally refers to the child's mental state, while color refers to the facial complexion. Inspection of the spirit and complexion actually refers to a comprehensive observation of the eyes, posture, facial expression and general reactions in order to understand the state of the *zang-fu* organs, the waxing and waning of qi and essence, the degree of severity and the prognosis.

In most cases, where there is full vitality there are bright eyes, a lively facial expression, rosy cheeks, smooth even breathing, and good responses; the manifestations of qi and blood are in harmony and spirit and qi are abundant, all of which indicates a healthy or only a mild condition. To the contrary, a lack of vitality with a dull-looking appearance and a dark and gloomy complexion with sluggish expression, uneven breathing and slow responses are termed as poor or as being without spirit; these are manifestations of a weak physique or a serious disease condition.

Observation of the facial complexion is an important and integral part of spirit inspection. *The Yellow Emperor's Inner Classic: The Spiritual Pivot* states that "there are 12 channels and 365 collaterals, their qi and blood all go upward to the head and face, and then go through to the five sense organs." (十二经脉, 三百六十五络, 其血气皆上于面而走空窍。)

By inspecting the facial complexion it is possible to discern the state of the *zang-fu* qi and blood, and the primary location of pathogens. The five-color method for assessing diseases can also be used to evaluate the spirit.

Diagnostic Significance of the Five Colors

Using this method, it is possible to make a diagnosis and evaluate disease conditions according to color tinges in the facial complexion containing red, green, yellow, white and black. The theory and principles of five-color diagnosis were developed on the basis of five phase theory and have been greatly influenced by clinical observation and accumulated experiences of ancient pediatric practitioners.

A white complexion is caused by qi and blood insufficiency and emptiness in the channels which belong to patterns of deficiency and cold. In the early stages of external pathogenic attack, the face is white and without sweating; these are manifestations of wind-cold fettering the exterior. Periodical white face and non-stop crying are manifestations of abdominal pain caused by cold invasion. Lusterless face and white lips indicate blood deficiency.

White face with edema is caused by water flooding due to yang deficiency, often presenting as yin edema. An extremely pale face with coldness of the four limbs is usually a sign of sudden yang qi collapse due to incessant diarrhea and vomiting.

If young children stay inside the house for a long time, the lack of sunlight (obviously



with fair, white skinned individuals) can result in a whitish appearance, but this is in fact normal.

A red facial complexion is caused by a heat pattern that results in increased blood flow in the channels, vessels and skin. Red face and ears, sore throat and a floating pulse are manifestations of a wind-heat pathogenic attack.

Red face, dry lips, scorched skin, restlessness and a red tongue with a yellow coating and rapid surging pulses are manifestations of exuberant heat in the qi level.

Red cheeks, tidal fever in the afternoon and red lips are manifestations of yin deficiency with internal heat and deficiency fire flaring upward. If a fresh red color appears in only the cheeks but the other parts of the face are pale along with cold limbs and profuse cold sweating, this indicates deficient yang going upward due to yang qi on the verge of collapse, which is a critical condition.

It is normal for a newborn infant's face to be tender-appearing and red, or for young children to have fair and rosy skin. Normal states in children that cause a red face may be wearing too much clothing, excessive activities, overexposure to sunlight, lengthy warming by a fire, or crying.

A dry yellow facial complexion is usually caused by spleen deficiency unable to transform dampness and failing to transport and transform water and grain, most often belonging to deficiency or dampness patterns.

A sallow yellow complexion with emaciation is a manifestation of malnutrition due to a spleen and stomach disorder.

A lusterless yellow face, with twinges of pain in the umbilical area and teeth grinding during sleep may indicate a parasitic disease.

A bright yellow face and eyes indicates yang jaundice due to damp-heat accumulation. If the face and eyes appear yellow, dull and dark, then it is yin jaundice due to cold-damp obstruction. Appearing not long after birth, neonatal jaundice is divided into the categories of physiological and pathogenic jaundice.

When there is over eating of particular foods such as carrots, pumpkin, tomatoes or using the drug Atabrine, there may be a yellow complexion which should not be labeled as jaundice.

A bluish complexion is caused by inhibited qi and blood movement and obstruction of the channels and vessels. This belongs to patterns of cold or pain, stasis, or fright epilepsy. A bluish-white face with frowning and an anxious expression indicates abdominal pain caused by internal cold.

A dull and dark blue face with fainting and twitching is commonly seen at the onset of convulsions or epilepsy. A blue face with purple-blue lips and shortness of breath indicates lung qi blockage and stagnation of qi and blood.

Generally speaking, if a blue complexion appears in young children, the presenting condition is usually becoming serious or exacerbated and would thus require more observation.

A black or dark complexion is usually caused by yang qi deficiency and decline, failure to transform dampness, or qi and blood stagnation. It may belong to patterns of cold, pain, stasis, or water and fluid retention.

A blue-black facial complexion along with counterflow cold of the hands and feet is a yin-cold interior pattern. A dull black complexion accompanied by abdominal pain and



vomiting may indicate drug or food poisoning. A blue-black and gloomy face indicates that kidney qi is failing and collapsing; this is a critical condition regardless of the disease, or whether there is an acute onset or during the chronic course of illness.

Children with a moist blackish-red face and strong body without any signs of illness can actually be presenting the signs of a strong body and abundant congenital kidney qi. Children who are often outdoors and exposed to sunshine and natural wind can present with blackish-red skin which does not belong to a state of illness.

2. BODY SHAPE AND DYNAMIC APPEARANCE

In Chinese, *xín* refers to the body shape, while *tài* refers to the dynamic state of the personal appearance. Inspecting the body shape and the dynamic appearance includes observing the body shape and strength, the quality of stillness, and also dynamic postures. The inspection includes the head and fontanel, the trunk, musculoskeletal areas of the four limbs, and the skin and hair.

(1) Body Shape

In normally developing children there are strong bones and tendons, full-grown muscles, moist skin, lustrous hair and a lively body posture; all of which indicate that their general well-being is healthy with congenital sufficiency and adequate nourishment. If there is retarded growth, then the bones and tendons are fragile, the muscles are lean and the body is thin and weak with dry skin, lusterless hair, failure of the fontanelle to close at the right age, and dull sluggish gestures. These manifestations all indicate congenital insufficiency and malnutrition.

Evaluating the rate of growth and configuration of the head is especially important during the first 2 years, when the rate of brain growth is maximal. Head circumference should be moderate and the size should fit their ages.

Small heads with a pointed vertex or premature cranial suture closure indicates a slight head deformity. Square-shaped heads with thin hair and wide fontanelles that fail to close at the right time may be considered as the five retardations. Big heads with jaw shrinkage, broad anterior fontanelles, un-united skull bones and drooping eyes may be termed as an un-united skull (hydrocephalus). Infants and young children with diarrhea leading to yin damage and body fluid desertion can present with a hollow anterior fontanelle and eye sockets as well as dry skin.

Thick, lustrous and evenly distributed black hair represents the ordinary state of kidney qi exuberance, in the Asian races. Thin lusterless dry hair mostly indicates a depletion of kidney qi or yin-blood.

Sparse and thin yellow hair (in Asians) with small knots commonly indicates qi and blood depletion, food accumulation, stagnation, and blood stasis.

If hair falls out in the area of the head where the pillow touches, this is due to qi deficiency with profuse sweating.

If the hair falls out from one particular area with clear boundaries, this is alopecia areata caused by blood deficiency and blood stasis.

An even, full shaped face with moist skin and regular features with a natural facial expression are the normal, and this indicates a healthy congenital endowment, harmonious *zang* qi, and sufficient qi and blood.

If the face looks emaciated, thin and lusterless, this indicates an insufficiency of qi and

blood. General edema of the face or facial swelling like silkworm cases is an indication of overflowing water-dampness; swelling under the ears and on the cheeks indicates mumps due to attack of seasonal toxins. Sub-maxillary swelling with heat and pain are mostly due to submandibular lymph node enlargement caused by an accumulation of heat toxins.

Disfigured facial features, eyes too close together, a flattened nose bridge or an open mouth with the tongue sticking out indicate dementia due to congenital abnormalities. Facial paralysis caused by acquired wind pathogens residing in the channels manifests with an asymmetrical facial appearance with an askew corner of the mouth with dribbling or slobbering on one side, and with an inability to close the eyelid. A wry, bitter smile indicates tetanus caused by wind toxins invading the interior from an external injury site. Facial spasms are due to convulsions or epilepsy caused by wind pathogens moving through the channels.

In recent years, various mental and behavioral disorders in children have been seen to manifest with abnormal facial expressions such as blinking, making faces, and often grinning or swallowing. The pathogenesis generally involves qi and yin insufficiency.

If the thoracic cage is pointing forward and towering like a chicken's chest, then there is a likelihood of rickets' rachitic chest or asthma.

Infantile malnutrition with accumulation can present with an enlarged abdomen and a slim weak body shape with thin hair and visible blue veins on the forehead.

Dry yellow hair, sparse erect hair, or hair that falls out easily are all manifestations of qi and blood depletion.

Apart from such observations that give an impression of the child's physique and general well-being, there are several modern examination indexes such as the correct height and weight, subcutaneous fat thickness, and hair diameter and color. These examinations can add quantitative measures to the inspectional diagnosis.

(2) Dynamic State

We can inspect a child's dynamic state to reveal various diseases by analyzing their various body postures.

For example, restlessness indicates an internal exuberance of liver yang and heart fire.

Preferring to lie down rather than sitting up with a lack of strength and no desire to move about indicates yin cold and yang qi deficiency.

Lying on the back and stretching the legs, taking off clothing and kicking off blankets are often caused by exuberant heat.

Difficulty in moving about and paralysis conditions are manifestations of an atrophy pattern.

Swollen joints, difficult flexion and extension indicate *bi* syndrome.

A preference for lying on the stomach indicates milk and food stagnation. If the child is lying down and curled up, they are most likely to have abdominal pain.

Convulsions manifest as opisthotonos with a stiff neck, opening and closing of the fingers, and stiffness and spasms of the four limbs.

Restlessness and rolling over, crying, and covering the abdomen with both hands are generally caused by intestinal colic.

Sitting upright with shortness of breath, wheezing and dyspnea usually indicates asthma.

Cough with counterflow qi ascent, flaring of the nostrils, and shortness of breath with



retracted intercostals are common indications of pneumonia.

Children in different age groups have different physiological and dynamic capabilities such as their ability to hold up their heads, crawling, standing, walking or climbing stairs. These types of movements are gained with the corresponding months of age. Therefore, to analyze whether the majority of the movements in an average stage are normal or not, we have to compare them with others in their same age group.

3. ORIFICES

Orifices refer to the mouth, tongue, eyes, nose, ears, genital organs, and anus; these orifices are closely linked to corresponding *zang-fu* organs. Thus, internal *zang-fu* conditions can be predicted and detected by external inspection of the orifices.

The tongue is the body opening of the heart. The liver has its opening in the eyes. The lung has its opening in the nose. The spleen has its opening in the mouth and the kidney has its opening in the ears, genital organs and anus.

Disorders of the *zang-fu* organs will be reflected in the orifices. The ancient TCM physician Xia Yu-zhu stated in his text *Iron Mirror of Pediatrics* that “the five *zang* organs are not visible, but they can be inspected through the orifices [eyes, tongue, mouth, nose, ears, genital organs, anus]”, and “children with internal disease will always display external manifestations. These external changes reflect the states of illness inside, so by inspecting the body’s general appearance and the orifices, practitioners can detect and get to know the patient’s illness.”

(1) Tongue

The tongue is the sprout of the heart, and the heart opens to the tongue.

The Spiritual Pivot—Pulse Diagnosis stated that “the heart qi is connected with the tongue; if the heart is normal, the tongue is able to distinguish the five flavors.” (心气通于舌，心和则舌能知五味矣。)

Also, the heart governs blood. By inspecting the tongue, it is possible to recognize disorders of *ying-wei*, qi-blood, the spleen and stomach, and also disease conditions of exterior and interior involving cold, heat, deficiency, and excess.

When inspecting the tongue it is important to note the tongue coating’s presence or absence, the thickness or thinness, the color, and the moisture level. In order to avoid misdiagnosis, it is also important to be aware of any false images caused by a stained tongue coating.

Normal healthy children have a soft, flexible pink and moist tongue with a moderately moist and thin coating on the top. A child’s tongue body is more tender and red than that of an adult.

Newborn infants have a red tongue without coating, and breast fed babies have a milk-white tongue coating that is considered as normal. We need to be aware that the tongue coating may be affected after eating a meal, candy, or after taking medication.

If there is increased heart fire, the tongue is red or maybe ulcerated. If heart blood is stagnated and obstructed, the tongue body is purple and dull or with purple spots and stasis maculae. If heart yang is insufficient, the tongue body is pale white, enlarged and tender. If heart yin is insufficient, the tongue body is red crimson, thin and shrunken.

In clinical practice it is important to inspect the tongue changes in three ways. These include inspection of the tongue body, the tongue shape, and the tongue coating. These

three areas should be looked at separately but also interpreted together with other diagnostic methods.

Tongue Shape: If the tongue shape is tender and enlarged with significant teeth marks on the sides, this is due to spleen and kidney yang deficiency, water and fluid retention, or phlegm-dampness retention.

If the tongue shape is swollen, large and blue-purple, this can be due to qi and blood stasis and stagnation.

If the tongue shape is stiff and hard, this is usually due to exuberant heat damaging the body fluids.

If there is a shortened, dry and crimson tongue appearing during an acute febrile disease, this is due to excess heat damaging fluids that fail to nourish the channels.

Tongue Body: The normal color of the tongue body is light red. If the tongue body is pale white, this is due to a qi and blood deficiency.

If the tongue body is crimson red, or there are red prickly papillae on the tongue, this is due to warm-heat pathogens entering the *ying* and blood levels.

If the tongue body is red with little coating, or even without coating and dry, this is due to yin deficiency and effulgent fire.

If the tongue body is dark purple or purple-red, this is due to qi and blood stagnation and stasis.

Red prickly papillae that look like strawberries on a large and thick tongue are usually seen in scarlet fever and mucocutaneous lymph node syndrome.

Tongue Coating:

If the tongue coating is white, this is a cold condition, while a yellow coating indicates a heat condition.

If the tongue coating is white and greasy, this is caused by cold-dampness internal stagnation or cold phlegm and food accumulation.

If the tongue coating is yellow and greasy, this is due to the internal accumulation of damp-heat or milk and food retention.

The tongue coating that appears as if peeled after a febrile disease is common in patterns of yin impairment and fluid consumption.

Special Tongue Appearances in Children

When children are ill, the tongue manifestation changes are almost the same as those of adults; however, children can present with some special tongue appearances such as a rotten curd-like coating, a partly peeled coating, a wood-like tongue, and the double tongue.

a. Rotten Curd-like Coating

This tongue coating is thick and greasy and irremovable and the tongue face is muddy and dirty. This is a manifestation of food retention and stagnation; if accompanied by constipation, abdominal pain, distention, foul breath and a slippery and excess pulse, this is an excess pattern of accumulation and stagnation in the *fu* organs.

b. Partly Peeled Coating

This tongue body has a partly peeled off coating in one spot or in a few areas; the edge of the eroded area is clear and is surrounded by coated areas. This is also called a “geographic tongue”, and generally appears sixth months after birth. This tongue manifestation does not disappear easily.



There is no discomfort when these children are healthy, but after they have been sick with a febrile disease, the peeled area expands and the tongue body changes to red. This can cause a glossitis and become painful, especially when eating hot, salty and sour foods with the increased pain often causing a refusal to eat.

The formation of the peeled tongue is due to falling of the filiform papilla on the surface of the tongue; however, the epithelial tissue on the tongue surface is unaffected. TCM believes that “the tongue is the exterior manifestation of the spleen and stomach”, so the partly peeled coating is usually caused by stomach qi and yin insufficiency.

c. Wood-like Tongue

This type of tongue has an enlarged, swollen, stiff and hardened body which is difficult to turn and roll, sometimes swelling enough to fill the entire mouth. This manifestation is due to blazing heat of the heart and spleen following the channels upwards to cause the tongue body to become swollen, stiff and hardened. This often causes difficulty in opening and closing the mouth, a hoarse crying voice, and difficult suckling. One kind of wood-like tongue belongs to a condition of sublingual cavernous lymphangioma.

d. Double Tongue

If the root of tongue is red, swollen, protruded, and shaped like another little tongue, this is known as a double tongue. Double tongue is also caused by blazing heart-spleen fire that follows the channels upward to swell the blood vessels of the tongue. There is no painful sensation with a mild condition, but it can affect the ability to suckle. This can be painful in severe cases, possibly causing ulcerations. The sublingual cyst is an example of one type of double tongue.

e. Tongue-tie

Tongue-tie is a disorder of young children in which the tongue is anchored in the floor of the mouth more firmly than usual. This is a congenital anomaly in which the frenulum linguae under the tongue is too short, causing an impaired ability to rotate and turn the tongue body. When the child grows older, this can cause unclear speech and poor pronunciation if the condition is extreme and associated with forking of the tongue.

f. Protruding Tongue and Wagging Tongue

A protruding tongue protrudes outside the lips and withdraws slowly, often caused by heat in the heart channel. If it is protruded and cannot be withdrawn, heart qi is becoming exhausted.

If the tongue is protruded and wags like snake, this is called wagging tongue; this is usually seen following severe disease when there is heart qi insufficiency or prior to the onset of convulsion. If the tongue often sticks outside of the lips and is accompanied by a widened eye span and dull expression, this shows a manifestation of mental retardation.

Children who lick their lips with the tongue from time to time causing the surrounding areas to become red, scaly or itchy usually have latent heat in the spleen channel.

Protruding and wagging tongues are often seen among children with lower intelligence with conditions such as Down's Syndrome and brain hypoplasia.

g. Stained Coating

When certain foods or medication are consumed there can be a stained color. Red candy may stain with a red coating, where olives, red bayberry, and tea leaves can stain the tongue coating black. B vitamins, orange juice, and egg yolks can stain with a yellow coating. Foods with an indigo color such as blueberries or candy can also cause a blue coating.

Take care to identify the stained coating during examination. The stained color is brighter, shallower, more superficial and different from a tongue coating that has changed due to illness. When there is some doubt about the coating color, make a detailed inquiry; it should not be too difficult to discover the cause.

Observation of the tongue appearance should also be noted along with dynamic changes of the tongue. If a light red tongue is changing to red or crimson, this indicates a heat syndrome moving from a shallow level into the interior. If the tongue coating turns from white to yellow or to gray, this is a heat pattern turning from a mild condition to a severe one.

If the tongue coating starts to reappear after being absent, this is a sign that stomach qi is gradually recovering. A tongue coating that turns from thin to thick indicates aggravation of a food accumulation and damp-stagnation pattern. Tongue coatings that turn from thick to thin indicate that food accumulation and damp-stagnation are gradually disappearing.

(2) Eyes

The eyes are orifices of the liver and the essence of the five *zang* organs all convene in the eyes. Eye inspection includes the eyelids, eyeballs, pupils, iris and so on. *The Spiritual Pivot—Pulse Diagnosis* states: “The liver qi is connected with the eyes; if the liver is harmonized, then the eyes can distinguish the five colors.”

Each part of the eye also refers to their respective organs: the eyelids are connected with the spleen, the inner and outer canthi belong to the heart; the sclera belongs to the lung, the cornea and iris belong to the liver, and the pupil belongs to the kidney. Pathological conditions of the *zang-fu* organs can be detected by inspecting the various corresponding parts of the eye.

When the pupils and irises of the eyes are equally round and the eyes are bright, and the eyeballs are flexible with smooth opening and closing, this reflects sufficient qi and blood of the liver and kidney. If the eyelids are swollen, this is usually from edema.

If the eyelids are too weak to open and close, this indicates that the original qi is deficient or exhausted. If the eyelids are open and cannot totally close during sleep (known as sleeping with open eyes), this is usually caused by spleen deficiency and qi weakness. If the eyelid cannot close normally, this is usually due to an invalid eyelid (blepharoptosis) due to qi and blood deficiency.

If the eyes look dull and the eyeballs move slowly, this is due to kidney essence insufficiency or can be a precursor to a convulsion. If both eyes look straight ahead and stare with little movement, this is due to liver wind stirring internally.

If the white part (sclera) of the eyes is yellow, this is jaundice.

Painful red, swollen eyes are caused by wind-fire attacking upwards.

If there are sunken eye orbit sockets and the child is crying without tears, this is a sign of yin and body fluid exhaustion.

If the pupils are contracted (miosis), vary in size (anisocoria), and are dilated (platycoria), or if the pupils have no reaction to light, this indicates a critical condition.

(3) Nose

The nose is the orifice of the lung and the tract of breathing. The lung opens to the nose and controls breathing.

The Spiritual Pivot states: “The lung qi reaches the nose through the channels and vessels. If the lung is harmonized, then the nose is able to distinguish both fragrant and



foul odors.” Nose inspection mainly involves observing the nasal secretions and discharges as well as any changes in the nasal shape.

If there is nasal congestion with a clear discharge, this is a wind-cold type common cold. If the nasal discharge is yellow and thick, this is wind-heat attacking the lung. If the nasal discharge is thick with a putrid smell like rotten fish over a long period of time, this is lung channel heat constraint. If the nostrils are dry, this is lung channel dryness-heat damaging yin. If there is a bloody nose with bright red blood, this is lung heat forcing the reckless flow of blood.

Flaring nostrils accompanied by shortness of breath and wheezing indicates lung qi stagnation and blockage. With nostrils that are dry and black like coal, this usually shows that the heat toxin is deep within, where it has caused serious damage to yin fluids.

In children with measles, if a measles rash appears on the tip of the nose, this is a favorable sign which means that the measles toxin has been expelled through the eruptions.

The root of the nose between the eyes is called *shān gēn* (mountain root, 山根); this area often presents with indistinct blue veins. The line, shape and color of these veins may have certain reference value in diagnosis.

Generally speaking, the blue vein color is often seen in convulsions, abdominal pain and epilepsy, all of which belong to liver pattern conditions. A red color is often seen in lung disorders such as the common cold, pneumonia, and asthma.

Yellow is often seen in spleen and stomach disorders such as food accumulation and stagnation, vomiting, and malnutrition.

The shape of the veins is said to have practical value, but further investigation is required. A horizontal shape is usually seen in spleen and stomach diseases, while a vertical shape is often seen in lung disease. An oblique shape is of no clinical significance.

(4) Mouth

The spleen opens to the mouth. Apart from the tongue body, it is also necessary to inspect the lips, teeth, gums, throat, cheeks and palate, which are linked to the lung, kidney and stomach.

The Spiritual Pivot—Pulse Diagnosis states: “Spleen qi goes to the mouth through the channels and vessels. If the spleen is harmonized, then the mouth is able to sense the five flavors.” (脾气通于口，脾和则口能知五味矣。)

The mouth is the orifice of the spleen, thus one can determine conditions of the spleen through inspection of the mouth and its ability to taste.

Mouth inspection is mainly by observing the colors, degree of moisture, and any changes in appearance of the lips, oral cavity, gums and throat.

Pale lips indicate qi and blood insufficiency. Light blue lips indicate wind-cold fettering the exterior. Red lips are caused by heat. Reddish-purple lips indicate an intermingling of heat and stagnation. Cherry-like lips reflect fulminate diarrhea damaging yin. White and swollen lips indicate lip wind. When there are flushed cheeks but the area around the mouth is pale, this is a manifestation of scarlet fever.

Oral cavity ulceration and erosion result from accumulated heat in the heart and spleen. White scaly patches inside the mouth may occur as a result of thrush. Small red spots with white pinpoint centers on the inside of the cheeks are the manifestations of a measles mucous patch (Koplik's spots).

When there are red and swollen parotid duct orifices between the upper and lower

molars that look like millet grain, this can indicate mumps, providing there is no pus discharge coming out from the orifices through pressing or massaging of the swollen cheeks. If pus is present, this indicates suppurative parotitis.

Teeth are the surplus of the bones and gums and are associated with the stomach collateral.

Pale white gums are common in blood deficiency patterns. Red swollen gums with bleeding and pain are especially common in patterns of stomach fire flaming upwards. Pale red bleeding gums that are not swollen are common in patterns of spleen deficiency with failure to govern blood and deficiency fire damaging the collaterals. Bleeding teeth with painful gums is due to stomach fire flaming upwards. Delayed teeth development is associated with kidney qi insufficiency.

Newborn infants often have small white patches on the gums which are known as “horse teeth”, and this is normal.

The throat and laryngopharynx are doorways to the lung and stomach, and also the gateways of breathing and food intake.

A red pharynx with fever and aversion to cold are the signs of an external contraction pattern. A red pharynx and tonsillitis with swelling and pain are due to externally contracted wind-heat or lung and stomach fire flaming upwards. Red and swollen tonsils with pus show heat accumulation with fragments of dead tissue. Enlarged tonsils without redness are common when there is an incomplete clearance of stasis heat or deficient qi fails to astringe fluids. A slightly red, sore throat with a soft gray membrane formed across the throat that is not easy to wipe away is a manifestation of diphtheria.

(5) Ears

The Spiritual Pivot said: “Kidney qi goes through to the ears. If kidney is harmonized, then the ears can distinguish the five sounds.” (肾气通于耳，肾和则耳能闻五音矣。) Also, “the ears are the orifices of the kidney, connecting to the brain, its locations belonging to the *shaoyang* channels, and assembling all the vessels from the same origin”.

Our predecessors divided each part of the ears to represent the five *zang* organs, i.e. the ear apex belong to the heart, the ear lobe belongs to the kidney, the auricle belong to the spleen, the areas outside of the ears belong to the liver, and the insides belong to the lung.

Children’s earflaps are normally thick and rosy in color, showing signs of plentiful congenital kidney qi. Thin and soft earflaps with unclear ear scaphae are signs of congenital kidney qi insufficiency. Pain inside the ears accompanied with oozing pus is the symptom of exuberant fire in the liver and gallbladder. Mumps manifests as painful cheeks with general swelling centering on the ear lobes.

(6) Genital Organs and Anus

The genital organs and anus belong to the kidney, and are the orifices of the kidney. It is possible to evaluate kidney conditions and whether they belong to cold or heat or excess or deficiency by observing the changes in the genital organs and anus.

If the scrotum is tight and dark colored, this reflects adequate congenital kidney qi, while a pale and loose scrotum indicates a congenital deficiency of kidney qi. In regards to disease, a tight scrotum is especially common in cold conditions, while a loose scrotum reflects heat.

A swollen scrotum which looks relatively translucent when examined with light is an indication of a hydrocele.



Various sized shapes moving around inside the scrotum are the signs of an inguinal hernia which may contain parts of the bowel.

If the testicles move into the abdominal cavity when crying or when in pain, this is cold in the *jueyin*.

Edema of the scrotum and penis is common in yang deficiency and yin water patterns.

If the vulva is flushed, hot and itchy, this is usually due to damp-heat pouring downward, although enterobiasis (pinworm infestation) can also manifest this sign.

If the anus is red, painful and moist, this is a common sign of diaper dermatitis, also known as “diaper rash”, caused by delayed changing of dirty diapers saturated with urine and stools.

If after bowel movements there is a visible dropping in the rectum from its normal position, this is a rectal prolapse.

If the prolapsed rectum is bright red with blood, this is associated with lung heat pouring downward.

If the prolapsed rectum is pale with no blood, this often belongs to patterns of qi deficiency and sinking of qi.

Anal cracks and bleeding are mostly caused by constipation.

4. MACULAE AND RASHES

Maculae and rashes are skin conditions; our predecessors considered maculae as belonging to *yangming* heat toxin patterns, and rashes as belonging to *taiyin* wind heat patterns. Generally, a macula is a relatively large spot that forms a distinct and continuous extended area without protruding from the skin; it does not respond to touch, nor does it fade when pressed.

A rash is an abundance of relatively small spots which protrude from the skin and respond to touch, also fading when pressed. Maculae and rashes are especially common in seasonal exterior attacks such as measles, roseola infantum, rubella, scarlet fever, and chicken pox as well as in miscellaneous diseases such as purpura.

Maculae are classified as yang maculae and yin maculae. The yang macula is caused by warm-heat toxin, especially common in warm diseases when heat enters the *ying* and blood levels. Maculae are in various sizes and colors from bright red to purplish-red, often accompanied by fever.

Yin maculae are associated with internal injury or external contraction. Light red yin maculae are common when qi fails to control blood, light purple maculae are common in yin deficiency and internal heat patterns, reddish-purple maculae are common in patterns of blood heat complicated by stasis, and bluish-purple maculae are common in patterns of blood stasis retention and stagnation.

Rashes are classified into papules and vesicles, distinguished by whether or not there is fluid inside the rash. If a rash appears on the inside of the cheeks 3-4 days after a fever with small red spots about the size of sesame seeds and white centers appearing (measles mucous patches), this is measles.

If a rash appears after a slight fever with a sparse distribution of minute pink-colored spots that disappear within seven days, this is likely to be rubella (German measles).

If fever subsides after 3-4 days and a small and densely spread rose-colored rash appears, this is usually exanthema subitum (roseola infantum).

If there is a high fever and a densely widespread scarlet rash accompanied by a crimson strawberry-like tongue, this is usually scarlet fever or Mucocutaneous lymph node syndrome (MCLS).

If the rash shows slightly elevated round red wheals ranging in different sizes with unbearable itching for hours or days, this is usually urticaria.

If there are papules and herpes scabs existing together with clear fluid inside the blisters, this is common in chickenpox.

If the pustules are relatively large with turbid fluids and thin-walled blisters that are easily broken with oozing pus, this is usually impetigo.

5. EXCRETION

Excreta refers to any waste material discharge and secretion from the body orifices including stools from the anus/posterior yin, urine from the anterior yin, phlegm, sputum, vomit and so on.

(1) Saliva

Saliva is a discharge of the oral cavity. Generally, saliva dripping outside of the mouth is not normal except in infants.

Saliva is the fluid of the spleen. Salivation causing stains under the chin is known as infantile slobbering, mostly caused by prenatal and postnatal heart and spleen insufficiency with failure to control saliva. With recent increases in salivation accompanied by poor appetite and crying, further examination of the oral cavity is necessary; this can be caused by thrush as associated with stagnated heat in the heart and spleen flaming upwards.

(2) Phlegm

Phlegm is different from saliva, as phlegm originates in the airways and lung. Phlegm transformations are closely linked with two organs, the lung and the spleen. It is said that "the spleen is the source of phlegm production and the lung is the container that holds the phlegm."

Clear thin phlegm belongs to a cold condition; clear and thin mixed with foam is wind-phlegm. Clear thin and easy to expectorate phlegm is from wind-cold. Profuse white sticky phlegm belongs to phlegm-dampness. Thin phlegm occurs for a long period of time when there is spleen deficiency.

Yellow phlegm belongs to heat patterns. Phlegm turning from white to yellow reflects cold transforming into heat. Thick, sticky yellow phlegm is produced by lung heat damaging and scorching fluids. Yellow phlegm in small amounts which is difficult to spit out reflects lung heat damaging yin. Yellow sticky phlegm mixed with a tiny bit of blood and frequent coughing with chest pain are the manifestations of liver fire scorching the lung. Phlegm mixed with blood is caused by the heat damaging the lung collaterals. Small amounts of yellow and red difficult to expectorate phlegm indicates dry fire damaging the lung.

Purulent and turbid phlegm mixed with blood and with a stinky fishy odor is a manifestation of lung heat and tissue sloughing from a lung abscess. Chronic cough with phlegm and blood can result from tuberculosis with yin damage and lung heat.

(3) Vomitus

To vomit is to eject the stomach contents through the mouth. Usually the patient first feels nausea, after which they vomit the contents of their stomach.



If the vomit is stinking and turbid with a rotten odor, this is due to stomach heat.

If the vomit is clear and thin without foul odor, this is due to stomach cold.

If the vomit has a rotten stinking odor, this is due to undigested food retention and stagnation.

If the vomit contains yellowish-green bitter fluid, this is gallbladder heat invading the stomach.

If the vomit is a dark-red and bloody, this is due to stomach collateral damage.

If the vomit contains roundworms, this is reliable evidence of intestinal parasites or syncope due to roundworms or the worm masses.

Frequent incessant vomiting associated with abdominal pain and constipation could be due to intestinal *fu*-organ blockage and bowel obstruction (intestinal obstruction), or it could be due to congenital malformation in a newborn's digestive tract.

(4) Stools

The first stool of a newborn infant is odorless, dark green or fresh brown and sticky, and the stools of breastfeeding infants are shapeless, egg-yolk yellow and thick, often with a sour odor. The stools of goat or cow's milk fed children are pale yellow, slightly hard and smelly. Generally speaking, except for the stools of newborns and infants, which are paste-like and passed about 1-3 times daily, the normal stools of healthy children should be yellow with a balance of dryness and dampness, and passed once or twice per day.

Dry hard stools are due to excess internal heat or yin deficiency with internal heat.

Stools that are thin, loose and mixed with white curds are common when there is internal food and milk damage.

Stools that are thin, loose and yellow with sour and foul odor are commonly due to intestinal damp-heat.

Diarrhea with undigested food is due to spleen and kidney yang deficiency.

Stools mixed with a sticky reddish-white jelly are common in dysentery due to damp-heat stagnation. Young children and infants passing red jelly-like stools with intermittent crying may often indicate intussusceptions.

Gray stools without yellow are commonly a result of biliary tract blockage.

(5) Urine

The normal urine color in children is light yellow. Scanty dark yellow urine accompanied by stabbing pain is common in heat strangury patterns due to damp-heat pouring downward.

If yellowish-brown like dark tea and occurring simultaneously with yellowing of body and eyes, this is due to damp-heat jaundice.

If light brownish-red, or microscopic examination shows increased red blood cells, this is a hematuria.

If crimson and fresh-red, this is blood heat moving recklessly.

If light-red, this is qi failing to control blood.

If brownish-red, this is stagnated heat accumulating internally.

If dark-red, this is yin deficiency with internal heat.

6. FINGER VENULES

Venule observation is a supplementary diagnostic method that can replace pulse diagnosis for children under 3 years old. Inspection of the finger venules involves observing

the superficial veins of the index fingers near the palm and next to the thumb side. This is also known as “observing the three passes”, one of the diagnostic methods used by ancient pediatricians.

There are many factors affecting venule manifestations such as congenital vascular distribution differences and relationships to age, physique, subcutaneous fat, skin color, the outside temperature, and others. By comparing the venules of healthy children with those of sick children, it is possible to make a comprehensive analysis for a variety of clinical conditions.

(1) Observation Position and Methods

When observing the finger venules, carry the child to a well-lit area. The practitioner uses the index finger and thumb to grip the child's index fingertip; to reveal the venules for observation, the other thumb pushes and gently presses from the finger life pass (tip) to the wind pass (root).

(2) Normal Finger Venules

The finger venules are classified into three “passes” which are called the wind pass, the qi pass and the life pass. From the *hǔ kǒu* (tiger's mouth) at the root of the index finger to its tip, the first section from the root is the wind pass, the second section is the qi pass, and the third section (to tip) is the life gate (see Fig. 6-1).

Finger venules are relatively clear and visible in young children and infants, and more difficult to see in older children. Ancient doctors used the finger venules as a supplementary diagnostic method to identify the cause and nature of infantile diseases and to estimate the prognosis. Generally, a normal child's finger venules are light purple and faintly visible inside the wind pass.

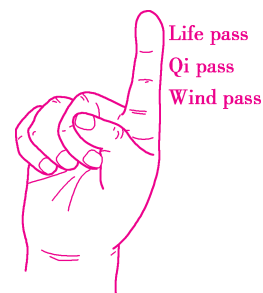


Fig. 6-1 The three passages of the finger venules

(3) Pathological Finger Venules

If there are diseases, especially in critical conditions, then the finger venules can show the disease changes reflected in the colors at both superficial and deep levels at the different regions.

We can summarize pattern differentiation of the finger venules as follows: “superficial or deep one corresponds with exterior or interior patterns, red or purple colors indicate heat or cold, light or dark-stagnant venules reflect deficiency or excess patterns, and the three passes can infer as to whether disease conditions are mild or severe.”

Superficial or Deep, Indicating Exterior or Interior Patterns

Superficial means the finger venules are visible at the surface, appearing on the outside; this indicates that the pathogens are at the exterior.

Deep means the finger venules are hiding inside and are not displayed at the surface; this indicates that the pathogens are interior.

Red or Purple Colors, Indicating Cold or Heat Patterns

If the venules are bright red and clearly displayed, this is mostly due to external contraction of wind-cold.

If purplish-red, this usually means that there is toxic heat constraint and stagnation.

If light red, this is usually due to internal deficiency cold.

If bluish-purple, this indicates interior accumulation of stasis heat.



If dark purple, this indicates stasis, stagnation, and blocked collaterals, a deep and serious condition.

Light or Dark-stagnated Venules, Denoting Deficiency or Excess

Light-colored finger venules which move easily and smoothly when pushed indicate qi and blood depletion.

Purple stagnated venules that respond slowly when pushed and slowly return to fullness indicates excess-type internal stagnations such as static heat, phlegm dampness, and accumulation.

The Three Passes, Indicating the Severity

Finger venules appearing in the wind pass indicate that the pathogens have just arrived at the exterior and the disease is a mild.

When finger venules reach the qi pass, this indicates that pathogens have entered the interior and the disease is more serious.

When finger venules reach the life pass, this indicates pathogens have gone deeply inside and the disease has become exacerbated.

When finger venules reach the index finger tip with visible veins extending through all the passes towards the nail, the disease is critical.

To reach an overall diagnosis when observing the finger venules, it is important to consider the finger venule status along with the child's general health before the illness as well as while they are ill. When the finger venule manifestations are not in agreement with the pattern, then the presenting symptoms should take precedence.

Changes in the finger venules are not generally notable when the disease is mild; in these cases it is also possible to disregard the state of the finger venules and follow the symptoms or pulse images.

[LISTENING AND SMELLING]

Listening and smelling in pediatric diagnosis involves noting the strength or weakness of the child's voice along with higher or lower pitches during crying, breathing, coughing and speaking.

Smelling includes the odors of the child's mouth, stools, urine, phlegm, sweat, and vomit.

1. LISTENING TO THE VOICE

(1) Crying

Crying is the language of an infant; healthy normal crying is relatively loud and long with tears. Crying can be due to a physiological phenomenon or reflect certain discomforts, but may also accompany a variety of disease conditions.

The newborn infant cries loudly right after being born; if a newborn does not cry after birth, this is an abnormal sign which requires urgent diagnosis and urgent treatment.

Infants and young children will cry to show any kind of discomfort. For example, when they have been dressed too warmly or the temperature is too high or low, when they are thirsty, hungry or too full, when they want to sleep or cuddle, when their clothing is too tight or their diaper is wet, when they are frightened, or from an insect bite.

Illness or discomfort can cause crying and screaming without stopping. If one can



ascertain the reason and then address that, then the crying will stop naturally. If the infant is crying for a long time with their head turned and a suckling mouth, this crying will stop when they start feeding. If the cry is urgent with open arms, they may want to hug and cuddle. Suddenly and continuous crying may be caused by urine or stools, insect bites, or a sharp prick by a needle or pin. Check the infant carefully to ascertain the cause.

Pathological crying associated with clinical problems can be differentiated by the following:

If the crying is loud and in a full strength voice, this is mostly an excess pattern, while weak faint crying commonly indicates deficiency patterns.

Sharp crying with fear is mostly caused by suddenly being frightened or in urgent and serious conditions such as a severe headache or abdominal pain.

Low and weak crying without tears commonly indicates a critical condition of qi and yin collapse.

Sharp intermittent crying with bending of the back is common with abdominal pain.

Hoarse crying with rough breathing can reveal an acute throat wind attack (acute laryngemphraxis).

Night crying and restlessness is a night crying disorder or due to food stagnation.

Crying with a long voice and sobbing is associated with malnutrition and emaciation.

Extremely low crying voice or a sudden loss of voice can be due to yin exhaustion and yang collapse.

In general, children crying in loud voices represent excess patterns while crying in low and weak voices represent deficiency.

A crying voice that is loud, smooth and harmonious is a normal sign; neither sharp tones nor weak and faint cries are favorable.

(2) Breathing Sounds

A child's normal breathing is even and smooth. If an infant's breathing is slightly increased from the mouth, this is usually due to nasal congestion.

If breathing is coarse and strong, this reflects excess-type external contraction or phlegm-heat in the lung.

If breathing is short with wheezing sounds in the throat, this is due to a pathogen blocking the airways as is common in asthma.

Shortness of breath or even flaring of the nostrils with frequent coughing is due to a lung qi blockage and constraint.

Distressed breathing with a choking cough and a blue face is common when a foreign body is blocking the airways.

Breathing faintly and aspirating like weeping indicates that lung qi is about to expire.

(3) Coughing

Cough is one of the major symptoms of lung diseases. Coughing with noise but without phlegm is known as *ké* (咳) and when there is phlegm but no noise it is known as *sòu* (嗽); coughing with noise and phlegm is known as *ké sòu* (咳嗽). Coughing can be associated with exterior or interior or cold or heat conditions according to the sounds of the cough and the presence of phlegm or wheezing.

If there is a dry cough without phlegm or with scant thick sticky phlegm, this is mostly due to dryness invading the lung or lung yin damage.

Cough sounds that are clear and high pitched with the noises of a blocked nose are



mostly due to external contraction attacks.

Dry loud noisy coughing without phlegm is commonly associated with pharyngitis.

Frequent coughs with thick and difficult to expectorate phlegm and gurgling with sputum are commonly due to phlegm-heat in the lung or a lung qi blockage.

A hoarse cough like a dog barking is commonly seen in cases of diphtheritis and acute laryngitis.

Constant coughing mostly at night time, and coughing and vomiting accompanied by an echoing sound is typical of whooping cough.

(4) Speech Sounds

For children who are able to talk, listening includes speech sounds; a normal speech should sound strong and clear with a melodious intonation.

Moaning continuously usually indicates bodily discomfort.

Nonsensical incoherent speaking in a gravel-like voice is known as delirious speech; this belongs to extremely damaged heart qi.

If speech is too loud, very talkative and restless, this generally belongs to an excess yang heat pattern.

If speech is low and weak and they are talkative and weak, this often belongs to qi deficiency and heart timidity patterns.

If the voice is turbid sounding and accompanied by a blocked nose, this is mostly due to wind-cold fettering the lung.

A hoarse voice with rough breathing is commonly caused by a toxin blocking the throat.

Children that scream and yell in shock are usually experiencing severe pain or convulsions.

Muttering is mostly due to heart deficiency and phlegm blockage.

Sluggish speech with an obscure sound is common in heat diseases with high fever and damaged fluids, or phlegm-dampness blocking the pericardium.

(5) Vomiting Sounds

Vomiting, hiccups and belching all belong to stomach qi ascending.

If there is sudden and acute vomiting with a loud strong sound, this belongs to an excess heat pattern. If the vomiting is with a weak and low sound occurring slowly, then it belongs to deficiency cold.

Frequent hiccups with a short and loud noise are common in excess heat patterns.

Hiccups in a low deep and long weak voice are common in deficiency cold patterns.

Belching is caused by air moving upwards to the throat from the stomach. There are a variety of associated patterns including indigestion, cold qi invading the stomach, liver and stomach disharmony and others; for complete pattern differentiation, it is often necessary to consider the other symptoms as well.

2. SMELLING ODORS

Smelling odors includes odors from the mouth, urine, stool, and vomit. Attention needs to be paid to exclude odors associated with certain foods.

Bad breath is usually due to stomach heat.

Belching with sour rotten odor is commonly due to food damage.

Fishy and foul breath is seen in blood patterns such as gum bleeding.

If the mouth odor is like rotten apples, this indicates acidosis.



If the mouth odor is like a foul livery-fish smell, this is the late-stage of liver cirrhosis.

Foul stinking stools are due to damp-heat accumulation and stagnation.

Loose, foul and sour smelling stools are commonly due to food damage.

Diarrhea with undigested food and no foul odor is spleen and kidney deficiency.

Short dark urination with a foul smell is due to damp-heat pouring downward.

Urination that is clear and long without an odor is due to spleen and kidney deficiency and internal cold.

Vomit that is sour and foul is commonly due to food stagnation transforming into heat.

If the vomit smells like stools, this is mostly due to qi blockage leading to stool ascending counter-flow.

[INQUIRY]

Inquiry is a way of understanding the patient's condition. The history should be viewed via communication between the practitioner, parents and the child-patient; this is an important process whereby data is accumulated to ascertain the condition. The contents of the inquiry includes the "ten questions" as suggested by *The Complete Works of [Zhang] Jing-yue*, which are also suitable for clinical pediatrics.

Infants are unable to speak well and young children may have difficulty using clear words and concepts to communicate with others. Elder children can express their conditions precisely, so apart from the child-patient's statement, pediatric history-taking for young children and infants mainly lies with the parents or caregivers.

The areas of pediatric inquiry (apart from being similar with adults) include age and personal history combined with the progressive characteristics of the pediatric disease. During the pediatric interview, it is necessary to be patient, sensitive, flexible and friendly. Most families respond positively and will cooperate fully with a practitioner who is warm, patient, supported and concerned about their child and their anxieties.

1. INQUIRY ON AGE

It is very important to know the exact age of the child because certain pediatric diseases are closely related to age; the medicinal dosages are also related to and often determined by the age of the child.

For newborn infants ask the number of days since birth; for children under the age of two, ask the number of months. For children over two, it is important to ask both the year and number of months.

Newborn infants younger than one week easily suffer from umbilical wind, neonatal jaundice, wet navel, and navel sores, etc. Newborns and milk fed infants are also usually susceptible to thrush, umbilical protrusion, and night crying.

Infants and young children are often susceptible to diarrhea and recurrent respiratory tract infections. Infants and children over 6 months of age are commonly susceptible to measles, and children around one year old are commonly susceptible to infectious diseases such as exanthema subitum (roseola infantum).

Pre-school children (under 5 years old) have increased rates of chickenpox, whooping cough, and other infectious diseases. School age children (5-12 years old) are commonly susceptible to nephritic syndrome, allergic purpura, rheumatic fever and other diseases.



Adolescent girls frequently suffer irregular menstruation, dysmenorrhea, and benign goiter.

2. INQUIRY ON DISEASE

Disease inquiry includes the symptoms and the duration, changing conditions during the disease process, and any possible causes.

The following aspects should be emphasized:

(1) Cold and Heat (Fever)

This is mainly to inquire about the range of cold signs and fever, its onset and advancing development and regression, the onset time and duration, and the body temperature (using thermometers). In order to identify the nature of cold and fever, detailed questions need to be associated with both observation and palpation. In addition to inquiring about cold and heat, it is also necessary to ask about the initial time of onset, duration, any regular patterns of temperature fluctuation, and any reactions to medication.

Children with aversion to cold, fever and absence of sweating are usually suffering an external contraction of wind-cold.

Fever with sweating is usually due to an external contraction of wind-heat.

Alternating chills and fever is commonly due to pathogens accumulating in the *shaoyang* channel.

Fever without chills is interior heat; chills without fever is an interior cold pattern.

High fever, profuse sweating and thirst are due to heat exuberance in the *yangming*.

Continuous fever, high fever, un-surfaced fever, heat exuberance in the afternoon, a yellow complexion and greasy tongue coating all belong to interior damp-heat accumulation.

Summerheat usually manifests with a continuous high fever during the summer season along with thirst, excessive urination, and an absence of sweating.

Tidal fever in the afternoon or evening with night sweats is due to yin deficiency.

Fever at night, heat in the abdomen, palms and soles, chest fullness, and poor appetite is usually due to food and milk damage.

(2) Sweating

It is normal for slight sweating to appear on the foreheads of healthy infants during sleep. Spontaneous sweating is when sweating appears without activity or with only minimal activity during the daytime; this is caused by qi deficiency. Sweating during sleep that stops upon waking is known as a night sweating; this is due to yin deficiency or qi and yin deficiency.

If there is sweating from heat disease but the fever does not subside, this is due to exterior pathogens entering the interior.

If there are the symptoms of thirst, restlessness, a surging pulse and profuse sweating; this is an interior heat and excess pattern.

If there is sweating with excessive dripping, shortness of breath and rapid breathing, cold limbs and a hidden pulse; this belongs to a critical situation of yang qi exhaustion and the original qi on the verge of collapse.

(3) Head and Body

Pediatric headaches usually manifest with abnormal crying and screaming, hitting the head with their hands, or shaking the head. Older children can complain verbally about headache, dizziness and pain, and other bodily discomforts.



Headache combined with fever and an aversion to cold are due to an external contraction of wind-cold.

Headache with vomiting, high fever and spasms is due to pathogenic heat entering the *ying* level as associated with acute convulsions.

Dizziness associated with fever is commonly due to external contraction.

Dizziness combined with a pale complexion and fatigue is usually due to qi and blood deficiency.

A stabbing headache with fixed location is usually due to stasis obstructing the brain collaterals.

Joint pain with difficulty in bending and stretching is often seen in *bi* (impediment) syndromes. Palsy and restricted use of the limbs (which are stiff and cannot bend or stretch) is known as a hard (stiff) paralysis; this is commonly due to wind-phlegm entering the collaterals as well as blood stasis and qi stagnation. Soft limb paralysis, in which the patient also cannot bend or stretch freely, is commonly due to liver and kidney depletion with failure to nourish the tendons and bones.

Children with occasional joint pain in the lower limbs, which lasts for a short period of time without changes in the joints and muscles or other symptoms, have what is known colloquially as “growing pains”. This is often due to a temporary disharmony of the collaterals, and is not a disease state.

(4) Chest and Abdomen

Older children may be able to complain verbally about chest discomfort by themselves, whereas infants and toddlers are unable to do so.

Chest stuffiness with wheezing and raised shoulders is commonly due to phlegm blocking the airways and the lung failing to disperse and purify.

A sense of suppression in the chest, chest pain, shortness of breath and dyspnea are generally due to sluggish chest yang and phlegm obstruction with qi counterflow.

Palpitation with a feeling of suffocation in the chest with a blue face and shortness of breath is usually due to heart yang deficiency and decline combined with blood vessel stasis and stagnation.

Chest pain and coughing with spitting of pus and blood is commonly due to exuberant lung heat accumulation with decayed tissue and collateral damage.

Abdominal pain in infants is often manifested as paroxysmal crying and screaming, bending at the waist, crying out loudly, holding the abdomen with both hands, and tossing and turning. Abdominal pain complaints by older children should be checked by abdominal palpation to identify its location and nature, and should be considered along with other presenting symptoms.

If the pain is located around the navel area and lasts for a short period of time without any other symptoms and no abnormal findings upon palpating the abdomen, and also recurrent with similar symptoms that can be relieved spontaneously; this usually belongs to spleen yang insufficiency with qi stagnation in the middle *jiao*.

Abdominal fullness and pain and belching with a sour putrid odor are due to food damage accumulation and stagnation.

When both rib-sides have distending pain along with vomiting and fever, this is due to heat accumulated in the *shaoyang*.

If the right and upper parts of the abdomen have a serious drilling-type pain which is



sometimes urgent and sometimes moderate (or with vomiting of roundworms), this is due to roundworms entering and harassing the diaphragm.

Dull epigastric pain or indistinct aching with poor appetite and continuous outbreaks of belching and spitting acidic or sour fluids are due to middle *jiao* deficiency and qi stagnation.

Upper abdominal pain with a desire to defecate, abdominal urgency, rectal heaviness (tenesmus), and stools containing pus and blood are caused by damp-heat dysentery.

When there are pains in the right lower abdomen with bending of the legs, an aversion to stretching, aggravated pain when pressed, vomiting, and fever, this is due to an intestinal furuncle and static heat.

Colicky pain on both sides of the abdomen with no palpable lumps and bloody urine are the manifestations of an outbreak of stony urolithic strangury.

Sudden abdominal pain accompanied by a pale complexion, cold limbs, a preference for warmth and pressure, and clear and long urination are all due to cold damaging the middle yang. If the pain has a fixed location, is recurrent, and with palpable lumps fixed in one spot, this is due to qi stagnation and blood stasis.

(5) Urine and Stools

Details of the patient's urine and stools such as quantity, shape, properties, color, odor and the urge to defecate may be gathered upon inspection and smelling, but these facts can be generally found out by inquiry. Cold, heat, excess, deficiency, dampness, and stagnation along with an irregular diet can all affect elimination to cause constipation, dry stools, dysentery with pus and blood, diarrhea with thin stools, profuse clear urine, turbid urine, or dark yellow urine.

If the stools smell sour or foul like rotten eggs and contain undigested food, or if there is a single bout of diarrhea with abdominal pain which is relieved after the bowel movement, this is usually due to internal damage by food and milk.

If the stools are thin and loose with undigested food, or initially dry and then turning from dry to loose with frequent bowel movements, or if there is an urge to relieve the bowels right after eating, this is usually spleen deficiency with failure to transport and transform.

Chronic diarrhea over a long period of time accompanied by a thin body and a prolapsed anus are manifestations of middle qi sinking. If the stools are watery and cold with excessive diarrhea, this is generally due to spleen and kidney yang deficiency.

Bowel movements that are frequent and scanty, diarrhea with sticky jelly-like stools or mixed with pus and blood and accompanied by abdominal urgency with rectal heaviness (tenesmus) are often caused by dysentery.

Loose, thin and gray stools are common in jaundice.

Crying and uneasiness during bowel movements is usually due to abdominal pain.

Difficult bowel movements that have not been relieved for several days and are accompanied by abdominal fullness and flatulence are often due to intestinal dryness constipation.

Constipation with abdominal hardness and fullness without flatulence along with tidal fever and thirst is due to heat accumulated in the *yangming*.

The amount of urine is related to the total fluid intake, the amount of sweating, the dryness or looseness of the stools, and other factors.



Generally speaking, if the urination is frequent, short and dark, this is usually due to lower *jiao* damp-heat or heart heat moving into the small intestine.

Clear, long and copious or even incontinent urination is often due to kidney qi insufficiency and lower body original qi deficiency and cold.

Dripping and urgent urination and painful difficult urination are usually due to damp-heat pouring downward to the bladder and heat strangury.

Painful difficult urination, urination that comes to an abrupt halt, urine with crimson blood, or the passing of gravel are all manifestations of urolithic strangury due to damp-heat.

Copious urination accompanied by polydipsia and increased eating are manifestations of diabetes.

Scanty urine associated with a swollen body is a manifestation of edema.

(6) Diet

Food damage occupies a very important place in pediatric etiology. Questions regarding the child's diet are an indispensable aspect of pediatric diagnosis.

The diet includes both eating food and drinking fluids. The manifestations of a healthy spleen and stomach enable children to eat proper amounts of food at a regular time without vomiting or diarrhea.

If the appetite is poor and there is abdominal fullness and belching with acidity, this indicates milk and food damage.

If the body is emaciated but the child is eating and defecating a lot, this is usually a malnutrition pattern with a strong stomach and weak spleen.

When newborn infants spit out milk easily after suckling, it is usually reflux due to a weak spleen and stomach with the stomach failing to harmonize and descend.

Thirst with a preference for cold drinks often indicates a heat pattern, while thirst with a preference for hot drinks or no thirst indicates a cold pattern.

Thirst with a desire to drink water along with a dry mouth and tongue are due to stomach heat impairing fluids.

Thirst without a desire to drink or drinking only small amounts is commonly due to internal damp-heat accumulation.

Drinking and eating a lot with a thin body and profuse urination indicates yin deficiency and dry-heat type diabetes.

Drinking a lot but eating only a little with a dry tongue and constipation indicates anorexia due to stomach yin deficiency.

(7) Sleep

Ask about the daily total of sleep hours, whether the sleep is peaceful or restless, and whether there are any fright, screaming, or crying during sleeping. Normal sleep for children should be calm and peaceful. The younger the age, the longer the sleep time required.

When children are normal during the day but have difficulty sleeping at night with crying sometimes at a regular time each night, this is known as night crying.

Poor sleep and restlessness are commonly due to interior pathogenic heat accumulation and heart channel constrained heat.

Disturbed sleep with profuse sweating and panic is often seen in rickets with a pattern of spleen deficiency and liver effulgence.



Teeth grinding while sleeping indicates either a parasitic disease or stomach heat with wind.

Restless sleeping with anal itching commonly indicates pinworms.

Sleeping with eyes open is common in spleen deficiency patterns caused by chronic disease.

Fear or a troubled mind at nightfall with difficulty sleeping is common in patterns of heart spirit failing to nourish, or panic impairing the spirit.

Apparent drowsiness or lethargy is common when pathogens enter the pericardium during heat diseases, or due to phlegm clouding the brain and orifices.

3. PERSONAL HISTORY

Personal history includes the prenatal history, birth times, feeding, growth and development, and immunization and vaccination.

(1) Prenatal and Birth History

Prenatal and birth histories have a close relationship with the diagnosis of newborns, infants and young children's diseases. Care should be taken to take down the details of the number of pregnancies, number of living children, whether it is a full-term child or not, natural delivery, difficult labor, history of abortion, delivery method, birth place, the circumstances of birth (weight, length, pulse rates, etc.) and the mother's nutritional and health condition during her pregnancy.

Some disorders, such as the five retardations and five kinds of flaccidity may be related to birth trauma; this include newborns not crying at birth (neonatal suffocation) and neonatal umbilical wind (neonatal tetanus) due to an unhygienic cutting of the cord during delivery. Twins and multiple births are more likely to display fetal feebleness.

(2) Feeding History

The feeding history of a child, especially in infants and young children is closely related to their growth and development and the onset of disease, especially spleen and stomach disease.

Inquiries regarding feeding include feeding methods, food supplements, breastfeeding, and the situation before and after weaning. For older children, this should include their eating habits, appetite, and current types of foods taken.

(3) Growth and Development History

Physical growth and intellectual development includes the first time that the child begins to sit, stand, walk, speak, grow teeth and fontanelle closure time along with increases in body weight and height. In school age children, intelligence development can be assessed according to academic outcomes.

(4) Immunization and Vaccination History

It is important to ask about the schedule of active immunization programs for normal infants and children, when and what kind of vaccinations have been received, how many times and the effect of these vaccinations which can include the BCG vaccine, live attenuated measles vaccine, live attenuated polio vaccine, diphtheria toxoid, pertussis vaccine, tetanus toxoid mixed preparations, Japanese encephalitis vaccine, epidemic cerebrospinal meningitis vaccine, live attenuated hepatitis A vaccine, hepatitis B vaccine, typhoid-paratyphoid A and paratyphoid B triple vaccine and other vaccines. Record the dates and reactions to these vaccinations.



4. OTHER ASPECTS

Inquiry should also include the past history of any diseases that the child may have had in the past, and the treatment curative effect. Any relevant family history must also be noted.

Past history refers to the history of any illnesses, especially if the past illness is related to the current disease; this should be recorded in great detail. Note whether the same or a similar disease that is currently existing has occurred in the past, e.g. for febrile convulsions, ask whether the patient has previously had a high fever or convulsions.

For allergies, it is important to ask whether they have had a similar allergic reaction in the past, and for patients with pus and bloody stools, it is important to ask whether they have a history of dysentery that has not been completely cured.

It is important to inquire about the same types of diseases that are related to the current disease, e.g. to inquire if the child with a lung system disease has had recurrent respiratory infections and so on.

Ask if the patient with spleen system diseases has a history of chronic or recurrent spleen and stomach disease; if the child has signs of heart yang deficiency and blood vessel stagnation, also inquire about congenital heart diseases or other organic heart disease histories.

When considering if the current illness might be an infectious disease, ask the guardians about the kind of infectious diseases that they had in the past. If there is a history of measles, chickenpox and mumps, then generally they will not relapse.

When considering if the current symptoms might be the sequelae of certain infectious diseases such as Japanese encephalitis, polio and so on, it is imperative to ask clearly about the circumstances of that illness.

The parents or guardians of every child should be asked about the patient's drug allergy history and have it noted in red in the case record.

In addition, it is important to ask the parent's age and their own health conditions, and relevant deaths in the family; record the ages and causes of these deaths and their relationship proximity to the patient.

Also ask about the mother's pregnancy and labor history, and whether immediate family members have any familial or genetic diseases or contagious diseases such as tuberculosis, viral hepatitis, or other infectious diseases.

Ask about the parents' occupations, the economic situation, living habits, and environmental conditions. The health condition of any close personal contacts such as caregivers, relatives, friends, neighbors, or classmates are also relevant with regards to infectious disease or unhealthy living habits.

[PALPATION]

Palpation is the process of examining parts of the body surface to help distinguish between normal and abnormal conditions by carefully feeling with the hands and fingertips; this includes pulse diagnosis.



1. PULSE DIAGNOSIS

(1) Normal Pulse Manifestations in Children

The healthy child's pulse is calm, softer and slightly faster in comparison to that of an adult; the younger the age, the faster the pulse. Healthy children of different age groups will have different pulse rates.

The practitioner follows their own breathing rate to count the corresponding pulse beats. The pulse of a newborn arrives 7-8 times per each adult breath. At ages 1-3 the rate is 6-7 times per breath, 6 times at ages 4-7, and 5 times for ages 8-14. If the pulse is increasing because the child is crying or active, this cannot be considered as an abnormal pulse.

(2) Ages and Methods

There are some differences in the pulses of children as to those of adults. Because the child's wrist pulse area is short with no enough room for three adult fingers, the method of "one finger pressing the three *guan* (*cun*, *guan*, and *chi*)" is used for children under the age of 7. The practitioner presses all three pulse positions at the same time with one finger, either the index finger or the thumb while applying different finger pressure levels at the superficial, moderate and deep levels.

For children over the age of 7 years, it is possible to use the adult pulse taking method with all three fingers; one can adjust the normal three finger palpation space according to the length of the child's radial pulse. Practitioners should regulate their breathing first, and then concentrate on the feeling of the pulse. The time of pulse-taking is usually for at least one minute.

(3) Pathological Pulse Manifestations in Children

Children's pulse manifestations are relatively simpler than adults when there is a disease present. Generally, six pulses can represent the basic pulse manifestations in children.

The floating, deep, slow, rapid, weak and strong pulses respectively indicate the disease stages of exterior, interior, cold, heat, deficiency and excess. At the same time, attention needs to be paid to the pathological pulses which are slippery, wiry, knotted (irregularly intermittent), intermittent (regularly intermittent), and irregular.

A pulse that can be felt with a gentle pressure is a floating pulse, this indicates an exterior pattern.

While a floating and powerful pulse is an exterior excess condition, a floating and weak pulse is an exterior deficiency condition.

The pulse that can be felt with a hard pressure is a deep pulse and indicates an interior pattern, a deep and powerful pulse shows an interior excess pattern, and a deep and weak pulse reflects interior deficiency.

If the pulse is moving slowly at a rate lower than the normal pulse count, this is a slow pulse that indicates a cold pattern.

A slow and powerful pulse is a cold excess pattern, while a slow and weak pulse is a cold deficiency pattern.

If the pulse is moving quickly with a higher rate than the normal pulse count, this is a rapid pulse and indicates a heat pattern. While a rapid and powerful pulse reflects excess heat, a rapid and weak pulse shows deficiency heat.

In addition, if the pulse has a fluent arrival like the beads sliding on a plate, this is a

slippery pulse which indicates phlegm or internal food obstruction.

If the pulse has a somewhat slippery feeling that feels like pressing the string of a musical instrument, it is a wiry pulse which indicates liver hyperactivity, pain, or fright.

If the pulse is slow and sometimes skipping, this is a knotted pulse (irregularly intermittent pulse) which indicates heart qi impairment.

If the pulse is slow and regularly misses beats, this is an intermittent pulse (regularly intermittent pulse) which indicates *zang* qi deficiency and impairment.

If the pulse is irregular, sometimes rapid and sometimes slow, this is an irregular pulse indicating a disharmony of heart qi and blood.

2. PALPATION

The positions of palpation are generally examined in the order of upper body to lower body, including the fontanelle, neck, armpits, chest, abdomen, limbs, and skin.

(1) Head and Fontanelle

If a child's fontanelle has delayed closure or when the skull is not hardened enough with an elastic feeling when pressed, this is due to kidney qi insufficiency and a manifestation of poor development as is often seen in rickets.

Sagging of the fontanelle is known as a sunken fontanelle; this is common when body fluids and essence are lost or exhausted (as in dehydration) due to severe vomiting and diarrhea.

A fontanelle which feels stuffed with a tense feeling is known as a bulging fontanelle; this is due to wind-fire and phlegm-heat moving upwards.

If the sutures of the skull are loose and the head is enlarged with a wide fontanelle, this is known as an un-united skull (hydrocephalus), usually due to congenital kidney qi insufficiency or postnatal marrow heat bloating.

(2) Neck and Axilla

There are groups of small green-pea size nodes (lymph nodes), which are movable without a tender feeling or pain, located in the neck and armpits, for example. These do not indicate a diseased condition.

Swollen and painful cheeks that are situated in front of the ear and on the side of the face with impaired chewing are common in mumps.

Local swelling that is slightly tender and with a scorching hot feeling is usually due to heat toxin furuncles.

Oval lumps on either of the head, face, mouth or throat that feel tender, painful, movable, and with inflammation or infection are swollen nodes (lymphadenitis) caused by phlegm-heat accumulation.

If the node enlarges with no pain when pressed, but has a hard texture and forms in a group of clusters, this is scrofula (lymph's tubercle). Particular care must be taken if there are lymph node swellings which appear on the neck and many other parts of the body, especially when accompanied by fever, blood deficiency and bleeding; a lump below the costal region might result from internal damage due to toxins (leukemia, etc.).

(3) Chest and Abdomen

The chest is inspected for structural abnormalities including pectus carinatum (pigeon chest) and kyphosis (tortoise back). The pigeon chest is a forward protrusion of the breastbone resulting in a deformity of the chest. The condition is painless when pressed,



and harmless. Excessive outward curvature of the spine causing hunching of the back that is painless when pressed is called tortoise back. Rickets can show an apparent characteristic rickety “rosary-like” bead cluster in the front of the ribcage, with the ribs turning to the outside.

Xū lǐ is an ancient name for the heart apical-impulse on the left side of the front of the chest and is a point of maximal impulse normally palpable within or just outside the left mid-clavicular line in the third or fourth intercostal spaces in infants and young children, or the fifth intercostal spaces in children over 7 years of age. *Xū lǐ* is the pectoral qi assembling place.

If the impulse is too strong and irregular, this is due to pectoral qi leakage, and the condition is serious.

If the impulse is too faint and not very obvious when palpated, this is due to internal pectoral qi deficiency.

If the impulse is too fast and associated with shortness of breath and flaring of the nostrils, this shows an insufficient flow of pectoral qi and the condition is critical.

If there is a palpable lump on the right upper abdomen under the ribs or there is pain when pressed, this shows enlargement of the liver (hepatomegaly).

If there is a palpable lump on the left upper abdomen under the ribs, this is due to spleen enlargement (splenomegaly) associated with qi stagnation and blood stasis.

The abdomen of infants and children is normally soft, warm and painless when pressed. When there is abdominal pain with reduced pain upon pressure, this shows a deficiency-type pain. Abdominal pain that is relieved by hot pack is a cold pain. Abdominal pain that distends and increases with pressure is an internal excess abdominal pain condition.

Pain under the xiphoid cartilage is common in stomach (gastric) cavity pain.

Infants that have a protruding navel and cry a lot when pressed may have an umbilical hernia.

When there is pain around the navel region with a cord-like mass that is relieved by pressure, this is usually due to roundworm disease.

Abdominal fullness with a thin body and blue veins exposed on the abdomen is common in malnutrition.

Abdominal fullness with tympanic drum tone is due to qi distention (flatulence). If the percussive note is dull and there is a liquid feeling flowing inside, this is usually abdominal dropsy.

If there is pain upon deep palpation of the right lower abdomen, also associated fever and right lower limb contracture, this is usually due to appendicitis.

(4) Four Limbs

Cold reversal of the four limbs is common and most often belongs to patterns of yang deficiency.

A hot feeling in the palms and soles usually belongs to yin deficiency and internal heat, or internal milk and food damage.

Heat on the dorsum of the hand and whole body heat are common in exterior patterns of external contraction.

During high fever, there can be cold reversal of the four limbs, which is deep heat with reversal cold.



Cold reversal of the four limbs with a pale complexion and pale lips usually belongs to deficiency cold.

Cold reversal of the four limbs with red lips and red tongue are usually the signs of true heat and false cold.

Convulsions manifest with twitching of four limbs; if one or both sides of the limbs are thin and weak after a strong fever and the patient is unable to move, this can be due to poliomyelitis.

After the fever has subsided in summer-warmth disease (Japanese encephalitis) and there is trembling of the hands and feet or constricted muscles associated with stiff limbs, this is a sequelae associated with deficiency wind stirring internally.

(5) Skin

When palpating the skin, it is important to detect cold, heat, and sweating conditions.

Cold skin and profuse sweating are due to yang qi insufficiency; skin which is hot without sweating is due to exuberant heat.

Extreme heat in the palms and soles shows yin deficiency with internal heat.

Skin that is swollen but follows the fingers upward and returns to the initial state when pressed belongs to yang edema.

Skin that is swollen but cannot return to the initial state when pressed is yin edema.

Skin that is dry and loose often indicates a fluid desertion syndrome.

[CASE STUDY]

► Case #1

Female, age 10 months

The patient had been vomiting frequently for one week, with vomitus spurting out immediately after eating or drinking. The vomitus contained fluid and milk, and had a sour odor. Her eyes and fontanelle were slightly sunken, she had a fever at night, and her bowels moved 2-3 times daily, with thin loose stools containing undigested food with a hot foul odor. She had a slight cough, and the four limbs were warm with no twitching. Her tongue was red with a thin white coating.

History showed that she had contracted a warm febrile disease before this illness had started. The warm-heat that had accumulated in the *yangming* was induced by new cold pathogens to cause the stomach qi counterflow, with inability to separate the clear and turbid. The unchecked frequent nausea and vomiting were due to the liver-fire invading the stomach. The treatment principle here is to harmonize the middle and descend adverse qi, while pacifying the liver and calming the stomach.

Formula:

姜半夏	<i>jiāng bàn xià</i>	3 g	Rhizoma Pinelliae (processed with ginger juice)
藿香梗	<i>huò xiāng gěng</i>	10 g	Herba Agastachis (stem)
川黄连	<i>chuān huáng lián</i>	1 g	Rhizoma Coptidis
广陈皮	<i>guǎng chén pí</i>	5 g	Pericarpium Citri Reticulatae
吴茱萸	<i>wú zhū yú</i>	1 g	Fructus Evodiae

炒麦芽	chǎo mài yá	10 g	Fructus Hordei Germinatus (stir-fried)
姜竹茹	jiāng zhú rú	6 g	Caulis Bambusae in Taenia (processed with ginger juice)
生姜渣	shēng jiāng zhā	0.3 g	Rhizoma Zingiberis Recens (crumbs)

In addition, Use one pill of *Bì Wēn Dān* (Scourge-Repelling Elixir), divided into two doses, taken with water.

After one dose, the vomiting was checked and she was able to eat food and drink milk; all symptoms were relieved.

Analysis: The child had contracted a warm-heat seasonal pathogen before the current illness; the warmth and heat accumulated in the *yangming*. When combined with a new cold attack, it led to a vomiting disorder with a mingled cold and heat pattern.

Vomiting is always due to stomach qi counterflow. Frequent nausea, unchecked vomiting and spitting after food intake are manifestations of liver fire invading the stomach. Sinking eyes and fontanelle are signs of vomiting damaging the yin.

The treatment principle is to harmonize the middle, descend the adverse qi, pacify the liver, and calm the stomach. As a result of this approach, the vomiting was checked after one dose.

Source: Jiang YR, Wang SC. *Clinical Application and Treatment of Liver and Spleen Diseases in Pediatrics* [J]. Hunan Journal of Traditional Chinese Medicine, 1986; 2(4): 20-21.

[QUESTIONS]

1. Infant. Age 2. His eyelids cannot close when sleeping and he sometimes dribbles saliva. Belonging to a deficiency pattern, the location of the disease is in the:

- A. liver B. heart C. spleen D. lung E. kidney

2. A child patient aged 5 years old presents with a partly peeled tongue coating over a long period of time that does not heal. The coating shape looks like a “map”. What is the pathogenesis?

- A. Spleen qi-yang deficiency. B. Lung and spleen qi and yin deficiency.
C. Milk and food stagnation and internal retention. D. Stomach qi-yin insufficiency.
E. Cold and dampness with cold internal retention.

3. A child patient aged 3 years old with a thick and greasy stained tongue coating has constipation, abdominal fullness and foul breath. The pathogenesis is:

- A. Food stagnation in the middle *jiao*. B. Cold-damp in the interior.
C. Accumulated heat in the heart and spleen. D. Damp-heat in the intestine.
E. Failure of transportation due to spleen deficiency.

4. An 8 months old baby has the symptoms of aversion to cold with a fever, sneezing, cough and red finger venules. The pattern is:

- A. Exterior heat. B. Exterior cold. C. Exterior excess.
D. Exterior deficiency. E. Interior heat.



5. A child patient aged 8 years old had eaten three pieces of steak while playing outdoors the previous day; this led to epigastric and abdominal pain, belching with acidic and sour odor, nausea, vomiting and restlessness at night, and a loss of appetite. The pattern is:

- A. Anorexia due to spleen deficiency.
- B. Abdominal pain due to qi stagnation.
- C. Vomiting due to stomach cold.
- D. Insomnia due to anxiety.
- E. Damage by food with accumulation and stagnation.

[REFERENCES]

- [1] Wang SC. Pediatrics of Chinese Medicine (2nd edition). Beijing: China Press of Traditional Chinese Medicine, 2007: 16-25.
- [2] Wang SC. Pediatrics of Chinese Medicine. Beijing: People's Medical Publishing House, 2009: 34-47.



Chapter 7

An Overview of Pediatric Therapeutics

Traditional Chinese therapeutic methods contain a number of unique features within a number of treatment modalities; there are drug and non-drug therapies which can be applied both internally and externally. However, as a guiding principle, treatment in all cases must follow the prerequisite methods of pattern differentiation. Meanwhile, selected measures are chosen according to the variables of individual constitution, seasons, regions and illnesses.

The treatment principles for pediatric diseases are almost the same as for adults, but due to the physiological, pathological, etiological differences and the various disease types, TCM pediatrics includes special applications, dosages and methods of medicinal administration.

Chinese medicinal decoctions are most often used, although Chinese patent medicines are more convenient. External treatments are also simple, convenient and widely accepted by children. External treatment can achieve a therapeutic effect when used as an adjunct or as a major treatment method, especially suitable for those children who have difficulty taking decoctions or pills. At present, new dosage forms of medicinals have become an important research subject in pediatrics. Tui na, acupuncture and moxibustion may also be employed in accordance with the child's individual condition.

[INTERNAL THERAPY]

Internal therapy is the most basic treatment method in pediatrics as it allows the most direct entrance of medicinals into the body. Regarding application, careful attention is needed to deal with certain aspects of treatment.

1. PRINCIPLES OF MEDICINAL APPLICATION

(1) Treatment should be Timely, Correct and Cautious

Children have generally immature *zang-fu* organs, insufficient body physique and qi, and a tendency to become easily ill. Childhood diseases are characterized by rapid transformations such as interchangeable signs of cold and heat and deficiency and excess. In order to prevent the disease from exacerbating, pattern differentiation should be accurate and treatment should be applied in a timely manner.

For example, in the early stages of a common cold attack, the child only presents with an exterior pattern manifesting with aversion to cold and fever. If treatment is incorrect, pathogenic qi invading internally will develop into pneumonia. Or, a case of prolonged or fulminate diarrhea can easily deteriorate into a yin and yang damage pattern.

Therefore, when pathogens remain in the exterior where they can be expelled, one should guide the pathogens along their natural course to release them through the exterior. At the same time, it is important not to use excessive cooling methods; this can block the exterior pathogen and cause them to linger within. It is also important not to exhaust yin fluids with excessive sweating methods, nor to use sudden astringing, which can lodge the

pathogens inside the body.

Detailed Differentiation of Warm Diseases—Resolving Children's Diseases said: “When medicating children, if the properties of the medication are even a bit too moist or greasy, spleen-stomach function will be impeded; if the medication is a little too harsh in elimination, healthy qi will be impaired; if pattern identification is slightly incorrect, then treatment will deviate. If treatment is only based on guesswork, this will cause further deviation from the correct treatment and lead to more serious conditions.” This passage explains that improper medication can easily impair the *zang-fu* organs of a child, thus causing the condition to deteriorate. For this reason, pediatric medication must be correct, well-timed, and applied with great caution.

(2) Utilize Every Effort to Use Simplified Formulas and Medicinals

Children have clear *zang*-qi which responds quickly, and they are more sensitive to medication than adults. Therefore, when they are treated with prescriptions or medicinals, it is important to maintain a simple approach. Flexibility is also required on the basis of the age, physique, the nature of the illness, and when there is difficulty in taking medication.

The general principle for pediatric prescriptions is to utilize “fewer medicinals and a lighter dosage, thus yielding a superior curative effect”. All therapeutic formulas should be light and flexible; medicinals that are too heavy, greasy or cloying should be avoided.

It is necessary to make sure that yang is not damaged when using cold-natured medicinals and that yin is not damaged when using hot-natured medicinals; also be sure that supplementing medicinals do not affect the clearing of pathogens and that purgation does not cause damage to healthy qi.

Ming Dynasty pediatric physician Wan Quan states in the text *Elaboration on Pediatrics*: “When administering medicinals to children, it is valuable to use mild-natured medicinals and to avoid the overuse of formulas and medicinals with cold or hot natures”.

It is especially important to avoid overuse of elimination-type medicinals and drastic purgatives; also use caution with medicinals that are extremely bitter, cold, hot, or pungent. Overuse can cause damage to healthy qi and thus affect recovery. If such medicinals are necessarily employed, they should be stopped immediately when the condition is resolved or even soon after significant improvement appears.

For example, long-term use of bitter and cold medicinals used for heat diseases may damage spleen yang and lead to spleen-stomach deficiency and internal cold. Long-term extensive use of broad-spectrum antibiotics may lead to a double infection (fungal and drug-resistant bacterial infections). Other drugs show significant side effects affecting the kidneys; these should also be avoided whenever possible.

Medicinals to use with caution in pediatric practice:

Guān mù tōng (Caulis Aristolochiae Manshuriensis), *mǎ dōu líng* (Fructus Aristolochiae), *qīng mù xiāng* (Radix Aristolochiae), *lěi gōng téng* (Radix Tripterygii Wilfordii), *bān máo* (Mylabris), *wú gōng* (Scolopendra), *yáng jīn huā* (Flos Daturae), *shāng lù* (Radix Phytolaccae), *yuán huā* (Flos Genkwa), *dà jǐ* (Radix Knoxiae), *gān suì* (Radix Kansui), *wū jiù* (Sapium sebiferum Roxb), *lú huì* (Aloe), *shān cí gū* (Pseudobulbus Cremastrae seu Pleiones), *mǎ qián zǐ* (Semen Strychni), *cǎo wū* (Radix Aconiti Kusnezoffii), *qiān niú zǐ* (Semen Pharbitidis), *guā lóu* (Fructus Trichosanthis), *bì má zǐ* (Semen Ricini), *yā dǎn zǐ* (Fructus Bruceae), *yín xìng* (Ginkgo), *zào jiá* (Fructus Gleditsiae), *shuǐ zhì* (Hirudo), *hǔ zhàng* (Rhizoma Polygoni Cuspidati), *fān xiè yè* (Folium Sennae) and *tiān huā fēn* (Radix Trichosanthis).



(3) Protecting the Spleen and Stomach

Care is needed to support the child's healthy qi development during the treatment process. There is a saying in clinical practice that in dealing with disease: "30% depends on treatment and 70% on recuperation." Whether during or after an illness, proper nursing care is always beneficial to recovery; the main part of which is to take care of the spleen-stomach as the postnatal root.

A child's growth and development as well as recovery from illness depend on the spleen-stomach functions of transportation and transformation of grain and water to provide nutrients. Congenitally insufficient children especially need postnatal regulation and nourishment. Pediatricians should place high value on maintaining healthy spleen and stomach qi.

(4) Treating both Preceding and Initial Symptoms

Because of the rapid onset of illness in children and fast transformations of deficiency, excess, cold and heat, it is important to pay attention to the initial symptoms in order to subdue the pathogenesis and treat the disease in the earliest possible stages.

This applies especially to externally contracted heat diseases, which tend to develop quickly. Time is needed for the consultation, making the diagnosis, going through the process of dispensing and administration, and the time is needed for the formula to exert its effect. During this period the patient's condition may have changed. Thus, practitioners should take this into account and take action before the occurrence of corresponding symptoms according to the progression of a disease. By taking the initial measures to treat the disease and by using remedies to treat and prevent the forthcoming illness beforehand, it is possible to subdue the serious effects of an illness and prevent it from exacerbating.

When supplementing deficiency, purging excess, warming cold and cooling heat as the fundamental treatment principles for internal disease, one must also acknowledge the possibility that supplementing deficiency may lead to stagnation, purging excess may damage the healthy qi, heat may appear after expelling cold, and that cold signs may arrive after clearing heat.

To avoid abdominal fullness, medicinals that move qi should be added when supplementing and boosting.

To avoid exhaustion of the healthy qi, medicinals that support the healthy qi should be added when using purging methods.

When using warm or hot medicinals, cold or cool medicinals should be added as adjuvant medicinals according to the patient's condition.

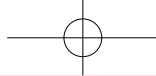
When using cold medicinals, warm or hot medicinals should be added as adjuvant medicinals to prevent generation of internal cold.

All of these are examples of treating forthcoming symptoms or patterns before they manifest.

(5) Avoid Overuse of Supplementing and Boosting Medicinals

Following the principle of "supplementing deficiency", supplementing and boosting formulas enhance organic functions and promote growth and development. However, every medicinal has its own special property, so supplementing formulas should not be used randomly.

Children are full of vitality and grow rapidly and as long as they receive proper feeding and nursing, they can achieve normal growth and development. Healthy children do not



require supplementing medicinals, in fact, long term intake of supplementing medicinals may even lead to sexual precocity. If they contract external pathogens or have undetected conditions of phlegm-dampness or food stagnation, supplementing and boosting formulas will have negative effects because the pathogens will stay inside the body instead of being expelled. Thus, supplementing and boosting formulas should always be prescribed properly and overuse should be avoided.

(6) Controlling Medicinal Dosages

The medicinal dosages for children usually vary according to the child's age, individual situation, disease conditions, the practitioner's experience, as well as the patient's sensitivity to Chinese medicinals. The duration of administration is relatively shorter, and medicinal treatment is usually stopped when the symptoms are just disappearing. In addition, some of the decoction is usually wasted when feeding, so the dosages (as calculated by body weight) are relatively larger than in adults. This is especially true for medicinals with moderate properties and those that boost qi, fortify the spleen, nourish yin, supplement blood, relieve food stagnation, and harmonize the middle.

However, Chinese medicinals which are pungent-hot, bitter-cold, or harsh and attacking should be used in strictly controlled dosages, these include *má huáng* (Herba Ephedrae), *fù zǐ* (Radix Aconiti Lateralis Praeparata), *xì xīn* (Radix et Rhizoma Asari), *wū tóu* (Aconitum carmichaela Debx), *dà huáng* (Radix et Rhizoma Rhei), *bā dòu* (Fructus Crotonis) and *máng xiāo* (Natrii Sulfas).

For convenience in calculating, the total medicinal dosage in a child's decoction can be calculated according to the following ratios: for newborns use 1/6 of an adult dosage, infants 1/3-1/2 of the adult dosage, young children use 2/3 or the same dosage as adults, and for school-age children, use the same relative dosage as for an adult. The above adult dosages refer to the general normal dosage rather than the maximum dosage. Medicinal amounts used for children should be controlled by their total dosage. According to the patient's condition and practitioner's experience, the total dosage of the formula may be controlled by diminishing the number of medicinals in a formula, or by reducing the amount of a single medicinal.

A medicinal dose of is often decocted twice. The total amount of the decoction is controlled within 15-30 ml for newborns, 50-100 ml for infants, 150-250 ml for young children and 250-400 ml for school-age children. The total amount of the decoction is divided into 2-4 parts, which are taken in one day. According to the patient's condition, a single decoction is usually administered 3-4 times for acute diseases and 2-3 times for chronic diseases.

a. Dosage varies according to the severity of the disease condition. The above ratios can be prescribed for general outpatient cases and those cases of inpatients who are not in a severe condition. Severe and critical cases are not in this category.

For example, when treating epidemic encephalitis B, medicinals that clear heat and resolve toxins can be used in up to the following dosages: *shēng shí gāo* (Gypsum Fibrosum) 120 g, *bǎn lán gēn* (Radix Isatidis) 60 g, and *zǐ cǎo* (Radix Arnebiae) 30 g; these are far beyond the regular adult dosage, but they do play a very important role in controlling the disease.

For pediatric dosages, refer to the listed dosages of commonly used Chinese medicinals in *Appendix I*.

b. The amount of each ingredient in a particular formula may vary with different



combinations. If there are just a few ingredients in a formula, the amount of each ingredient can be increased, but the amount should not exceed the general dosage for adults. When newborns suffer from qi deficiency and impending qi collapse it is possible to use up to 10 g of *rén shēn* (Radix et Rhizoma Ginseng) decocted alone (the same dosage as for adults). In formulas containing many ingredients, the amounts of the major medicinals should not be reduced, while the amount of supplemental medicinals can be appropriately reduced; however, the reduction of quantity should not be more than 1/3 of the original amount.

c. The functions of a formula can often be varied when the amounts of the medicinals in it have been changed. For example, *Zhǐ Zhú Tāng*—Immature Bitter Orange and Atractylodes Macrocephala Decoction and *Zhǐ Zhú Wán*—Immature Bitter Orange and Atractylodes Macrocephala both have the same ingredients. In the former formula, the dosage of *zhǐ shí* (Fructus Aurantii Immaturus) is double the dosage of *bái zhú* (Rhizoma Atractylodis Macrocephalae) and the main functions of this formula are to disperse accumulation and remove food stagnation.

In the latter formula, the dosage of *bái zhú* (Rhizoma Atractylodis Macrocephalae) is twice that of *zhǐ shí* (Fructus Aurantii Immaturus) and the main functions of the formula are to fortify the spleen and harmonize the middle. Under these circumstances the child's dosage should be changed by utilizing the chief medicinals as the standard guide.

Furthermore, in some formulas, the dosage of certain medicinals is unusually large, e.g. the dosage of *sháo yào* (Radix Paeoniae Alba) in *Xiǎo Jiàn Zhōng Tāng*—Minor Center-Fortifying Decoction. If this formula is used for children, the dosage of *sháo yào* should be doubled, based on the proportions mentioned above, rather than to set the dosage of *sháo yào* (Radix Paeoniae Alba) first and then to reduce the amount of the other medicinals by half.

2. ADMINISTRATION METHODS

To date there are several commonly used internal treatment administration methods.

(1) Decoction Administration Methods

Decoctions are usually taken orally, but can also be given by enema or nasal feeding. Some basic processes of preparation for a child's decoction are the same as that of adults, such as decoct first, add later, wrap to boil, melt in and infuse; but there are a few differences from adults' decoctions, such as the time of decocting, boiling frequency and the decocted amounts.

Before making a decoction, all medicinals should be soaked in appropriate amounts of clean water for half an hour. The amount of added water should be well controlled so that all medicinals are fully infiltrated, and so there is still a small amount of water left on the top. Do not add too much water to the decoction.

When decocting, begin with strong heat and turn down to a mild heat (simmer) after boiling. Formulas for treating common colds are decocted for another 10 minutes after boiling, and nourishing medicinals are decocted for another 30-40 minutes after boiling. Others medicinals generally require simmering for about 20 minutes after reaching the boiling point.

When giving a child the decoction, different strategies are needed on the basis of the child's age and the taste of the decoction. For older children, persuade them by explaining the reason for taking the medicinals and educate them, i.e. "good medicine tastes bitter".



Try as far as possible to explain to young and preschool children that if the medicinals are for nourishing and supporting the healthy qi, then the herbal taste is not bitter. If they need bitter medicinals to expel pathogens, they can be compared with other approaches, such as injections or remaining sick. Let them make a choice between an injection, being sick, or drinking the bitter medicine. Or advise the child that taking bitter decoctions is just like drinking a bitter "coffee". Try to win over the child's initiative to maintain compliancy. For infants, force feeding might be the only possible method.

A favorable time for feeding a child medicinals is usually one hour after a meal, except in special cases; this will reduce stomach and intestinal reactions and the possibility of vomiting food just after eating.

When administering to infants, let the baby sit on the parent's lap. If he or she refuses to do so, grip the legs and hold the body and head so that the head tilts slightly backwards; then pad the neck with gauze or a small towel and feed them.

When the child opens their mouth naturally, or when crying, the feeder may then place two fingers on the cheeks between the upper teeth and lower teeth to hold the child's mouth open, and then feed the child with the other hand.

Medicinal feeders may be used, or a 10-20 ml syringe. Use medicine feeder to suck the liquid in first, place the feeder head onto the back of the tongue, and then press out the medicine with the pump. When the liquid is swallowed, take the feeder out of the mouth.

A spoon may also be used; place the spoon with the medicine onto the back of the tongue and pour out the liquid. In order to prevent inhalation of the liquid into the trachea, do not hold the child's nose when feeding. In the meantime prepare a cup of sweet liquid; feed some sweet liquid after every 3-4 servings of medicinal liquid.

(2) Nasal Feeding Method

Nasal feeding can be used for children in a coma or for critical conditions with poor reactions, such as an inability to swallow. A stomach tube should be inserted first for nasal feeding. Choose the appropriate stomach tube according to their age. Moisten the end of the tube with paraffin oil and then insert the tube into the nostril. The length of insertion is equal to the distance from the nasion to the xiphoid. The other end of the tube should be immersed in a small cup of water below the water surface. Observe whether there are bubbles coming out from the tube; if so, the tube has been mistakenly inserted into the trachea. In that case, pull out the tube and re-insert. The decoction can be injected into the stomach via a syringe through the tube. Pills, powders and pastes mixed with water will have sediments that will obstruct the tube and should therefore be mixed with rice soup or a nasal feeding liquid to enable suspension. The speed of injection should be slow. Finally, when finished use warm water to wash the nasal feeding tube. A liquid diet can also be given through a nasal feeding tube. However, in order to avoid the esophagus becoming injured, if possible, do not retain the nasal feeding tube for a long time.

(3) Steaming and Aerosol Inhalation Therapy Method

Inhalation therapy is a treatment in which steam or aerosol is inhaled through a steam inhalator or aerosol inhalator. It is applied for lung conditions such as wheezing and cough due to pneumonia, asthma, colds, sinusitis, etc. Medical particles for aerosol inhalation must be micronized, otherwise the particles cannot reach the lower respiratory tract and be absorbed. Pneumoconiosis may be caused if this therapy is repeatedly applied incorrectly. Decoctions should not be used for inhalation therapy.



The most commonly used preparations include *Yán Hǔ Níng Zhù Shè Yè* (Potassium Sodium Dehydroandrographolide Succinate Injection) and *Qíng Kai Líng* Injection. Before inhalation treatment, ask the patient about their drug allergy history and avoid using any drugs that can cause allergy. Because the use of excessive steam inhalation over a prolonged period can lead to pulmonary edema, the duration of inhalation therapy should be controlled. Place the steam-inhalator pipe into the mouth or directly towards the nose or mouth, usually allow inhalation for 15-30 minutes.

(4) Rectal Medication Method

The tip of a catheter is lubricated with Vaseline and slowly inserted 5-15 cm into the anus according to the age and size of the child. To treat constipation, medicinal liquid is poured into a volumetric glass connected with the catheter, and the solution is allowed to flow into the rectum. Before treatment, ask the child to defecate. Put the medicine into the infusion bottle, connect the disposable infusion set (without needle), and use a dripping rate of 40-50 drops per minute. Then ask the child to control their defecation in order to let the body absorb the medicinal liquid for a longer period. This method is a certain way to avoid the difficulties that some children have in taking medicinals; it has a relatively effective cure rate for conditions with fever due to infection by external pathogens, intestinal and stomach illness, water toxin internal block, and so on.

(5) Injection Methods

In China, Chinese medicinal preparations can also be applied by intramuscular injection, intravenous drip or intravenous injection. Intravenous or intramuscular injections can be an ideal administration method for pediatrics because of their convenience, accurate dosing, and fast action.

Some of widely used injections in pediatrics in China include *Qíng Kai Líng* Injection, *Yán Hǔ Níng Zhù Shè Yè*—Potassium Sodium Dehydroandrographolide Succinate Injection, *Shuāng Huáng Lián Zhù Shè Yè*—Double Rhizoma Coptidis Injection, *Tán Rè Qīng Zhù Shè Yè*—Phlegm-Heat-Clearing Injection, *Xīng Nǎo Jìng Zhù Shè Yè*—Brain-Awakening Injection, *Shēng Mài Zhù Shè Yè*—Pulse-Engendering Injection and *Fù Fāng Chái Hú Zhù Shè Yè*—Compound Bupleurum Root Injection.

Close observation is needed when administering injections, especially with intravenous instillation. If there are any adverse reactions, necessary measures must be applied immediately.

3. COMMONLY USED INTERNAL TREATMENT METHODS

After identifying the etiology, analyzing the pathogenesis, and differentiating the disease patterns, specific treatments should be employed by assessing the risks and benefits. Among the treatment methods, the most basic are sweating, emetic vomiting, purgation, harmonizing, warming, clearing, supplementing and dispersion.

In *Medical Revelations—Eight Methods of Medicine* (*Yī Xué Xīn Wù—Yī Mén Bā Fǎ*) Chen Zhong-ling stated, “The causes of disease may be summarized in two categories: internal damage and external contraction. Patterns of diseases are generalized into eight principles including cold, heat, deficiency and excess, exterior, interior, yin and yang. Treatment methods are classified as sweating, harmonizing, purgation, dispersion, vomiting, clearing, warming and supplementing.”

Common internal treatment methods applied according to the principles of the eight

treatment methods include the following:

(1) Scattering Wind and Releasing the Exterior

This method is mainly used for exterior patterns caused by external pathogens invading the fleshy exterior with manifestations such as the common cold, cough and sore throat. As external pathogens constrain the exterior, the pores fail to open and close properly, causing fever, aversion to wind, and sweating in some cases. In this situation, medicinals that induce sweating are used to scatter and dissipate external wind and to release pathogenic toxins from the body surface.

As the flesh, striae and interstices in children are thin, their defense function is undeveloped and they are easily invaded by external pathogens. Exterior patterns are divided into wind-cold external contraction and wind-heat external contraction. Acrid-warm medicinals that release the exterior are used for wind-cold, while acrid-cold exterior releasing medicinals are used for wind-heat.

In children the spleen is often insufficient and the liver is often superabundant, so external contraction is often combined with patterns of stagnation or fright. Therefore, wind dispersing and exterior releasing formulas are often combined with medicinals that resolve food stagnation, extinguish wind, and calm fright.

Commonly used acrid-cold formulas for releasing the exterior are *Yín Qiào Sǎn*—Lonicera and Forsythia Powder, *Sāng Jú Yǐn*—Mulberry Leaf and Chrysanthemum Beverage, etc. Commonly used acrid-warm formulas for releasing the exterior are *Jīng Fáng BÀI Dú Sǎn*—Schizonepeta and Saposhnikovia Toxin-Resolving Powder, *Cōng Chǐ Tāng*—Scallion and Fermented Soybean Decoction, etc.

Commonly used patent medicines include *Gǎn Mào Tuì Rè Kē Lì*—Common Cold Heat-Dropping Granules, *Yín Qiào Jiě Dú Piàn*—Lonicera and Forsythia Toxins-Resolving Tablets, *Xiǎo Ér Chǐ Qiào Qīng Rè Kē Lì*—Children's Prepared Soybean and Forsythia Fruit Heat-Clearing Granules, *Wǔ Shí Chá*—Noon Tea Granules, etc.

In addition, the method of releasing the exterior is also applicable to exterior patterns of summerheat and dampness, and the early stage of infectious diseases such as measles. *Xīn Jiā Xiāng Rú Yǐn*—Newly Supplemented Mosla Beverage is often used for the exterior summerheat and dampness, and *Xuān Dú Fā Biǎo Tāng*—Toxin-Diffusing Exterior-Releasing Decoction is used for the early stage of measles.

(2) Relieving Cough and Panting

This method is mainly applicable to cough and wheezing disorders caused by pathogens stagnating in the lung channel and phlegm obstructing the lung collaterals manifesting with coughing, wheezing or pneumonia. The pathogenesis can be divided into two types: internal latent cold-phlegm and internal accumulation of phlegm-heat.

Latent internal cold-phlegm is due to wind-cold fettering the lung channels and fluid condensing to form phlegm, which then blocks the lung collaterals. Internal phlegm-heat accumulation is usually due to wind heat invading the lung or cold-phlegm accumulation transforming into heat.

When treating cold-phlegm obstructing the lung, use medicinals that warm the lung, disperse cold, resolve phlegm, and relieve panting. When treating phlegm-heat internal accumulation use medicinals that clear heat, resolve phlegm, diffuse the lung and relieve panting.

Commonly used formulas for cold-phlegm type are: *Xiǎo Qīng Lóng Tāng*—Minor Green



Dragon Decoction, *Shè Gān Má Huáng Tāng*—Belamcanda and Ephedra Decoction, *Má Xīng Ēr Chén Tāng*—Ephedra, Apricot Kernel and Two Matured Substances Decoction, etc.

The most common formulas used for phlegm-heat type are: *Dīng Chuǎn Tāng*—Wheezing-Arresting Decoction, *Má Xīng Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction, etc.

Often used patent medicines include: *Sān Ào Piàn*—Rough and Ready Three Pills, *Xiào Chuǎn Kē Lì*—Asthma-Relieving Granules, *Hán Chuǎn Wán*—Cold Asthma Pills, etc.

In cases of chronic cough, the disease tends to develop from lung to kidney and thus display the pattern of kidney deficiency. When kidney deficiency appears, add medicinals that warm the kidney and improve qi reception, such as *Shēn Gé Sǎn*—Ginseng and Gecko Powder into the formula to relieve cough and panting.

(3) Clearing Heat and Resolving Toxins

This method is mainly applicable for excess heat patterns with exuberant heat toxins such as in warm febrile disease, damp-heat disease, maculae and papules, blood patterns, erysipelas, sores and carbuncles, mumps, jaundice, and dysentery. Internal heat can be cleared with sweet-cold, bitter-cold, bitter-purgative, or salty-cold medicinals. Heat clearing and toxin resolving medicinals are usually bitter and cold in nature. Formulas and medicinals need to be selected according to the locations of the pathogenic heat, and according to whether the heat is exterior or interior, belongs to qi or blood levels, and whether it has entered into *zang* or *fu* organs.

If pathogens are entering into the interior from the exterior but the external pathogens have not been fully resolved, use *Zhī Zǐ Chǐ Tāng*—Cape Jasmine Fruit and Prepared Soybean Decoction and *Gé Gēn Huáng Qín Huáng Lián Tāng*—Pueraria, Scutellaria, and Coptis Decoction to clear heat, resolve toxins and vent pathogens.

If due to *yangming* interior heat, use *Bái Hǔ Tāng*—White Tiger Decoction to clear heat and engender fluids.

If damp-heat transforms into fire or lingers internally, the following formulas can be used to clear heat and resolve dampness: *Bái Tóu Wēng Tāng*—Pulsatilla Decoction, *Yīn Chén Hāo Tāng*—Virgate Wormwood Decoction, *Gān Lù Xiāo Dú Dān*—Sweet Dew Toxin-Removing Elixir.

If a warm-heat pathogen enters the *ying*-blood level manifesting with unconsciousness, maculae and papules, or blood patterns, select *Qīng Yíng Tāng*—Ying Level Clearing Decoction, *Xī Jiǎo Dì Huáng Tāng*—Rhinoceros Horn and Rehmannia Decoction, *Shén Xī Dān*—Spirit-Like Rhinoceros Horn Elixir to clear heat, resolve toxins, and cool blood.

For exuberant fire-toxin appearing with erysipelas, sores, carbuncles, boils and furuncles, select *Huáng Lián Jiě Dú Tāng*—Coptis Toxin-Resolving Decoction, *Wǔ Wèi Xiāo Dú Yīn*—Five Ingredients Toxin-Removing Beverage to clear fire and resolve toxins.

If liver and gallbladder fire are exuberant, use *Lóng Dǎn Xiè Gān Tāng*—Gentian Liver-Draining Decoction to clear the liver and purge fire.

(4) Promoting Digestion and Resolving Food Stagnation

This method is mainly applicable for infants and children with food stagnation from improper feeding such as food accumulation, vomiting and diarrhea due to food damage, malnutrition, and anorexia. Children have a weak spleen and stomach, and are thus more susceptible to damage by food. If children have an improper diet or overeat, the spleen and stomach cannot transport and transform properly leading to vomiting, diarrhea, anorexia,

and abdominal pain in mild cases, and in severe cases, malnutrition that affects growth and development.

Among the medicinals that promote digestion and resolve stagnation, *mài yá* (Fructus Hordei Germinatus) promotes milk digestion, *shān zhā* (Fructus Crataegi) promotes digestion of meat and greasy foods, *shén qū* (Massa Medicata Fermentata) promotes digestion of grain and resolves grain stagnation, *lái fú zǐ* (Semen Raphani) resolves wheat-type food accumulation and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) resolves all types of food stagnation while stimulating the appetite.

Formulas that are commonly used for promoting digestion and resolving stagnation include *Bǎo Hé Wán*—Harmony-Preserving Pill and *Xiǎo Rǔ Wán*—Milk Digestion Pill.

Formulas commonly used for promoting digestion and guiding out food stagnation include *Zhǐ Shí Dǎo Zhì Wán*—Immature Bitter Orange Stagnation-Moving Pill and *Mù Xiāng Bīng Láng Wán*—Costus Root and Areca Pill.

Formulas commonly used for resolving stagnation and supplementing the spleen and stomach include *Jiàn Pí Wán*—Spleen-Fortifying Pill and *Zhǐ Zhú Wán*—Immature Bitter Orange and Atractylodes Macrocephala Pill.

(5) Promoting Urination to Disperse Edema

This method is mainly applicable for edema in children with scanty urination due to water dampness accumulation and retention presenting with edema, urination disturbances, diarrhea and phlegm-rheum. Yang edema involves dampness accumulation with the lung failing to free and regulate the waterways and the spleen failing to transport with water-dampness diffusing into the skin.

Yin edema involves spleen-kidney yang deficiency with an inability to transform qi and promote urination with water and dampness accumulation.

The main medicinals include *fú líng* (Poria), *zhū líng* (Polyporus), *chē qián zǐ* (Semen Plantaginis), *zé xiè* (Rhizoma Alismatis), *yì yǐ rén* (Semen Coicis), *huá shí* (Talcum), *chuān mù tōng* (Caulis Clematidis Armandii), *chì xiǎo dòu* (Semen Phaseoli), and *jīn qián cǎo* (Herba Lysimachiae) to drain dampness and promote urination.

In accordance with the patient's individual condition, medicinals can be added to activate yang and transform qi with *guì zhī* (Ramulus Cinnamomi), supplement qi with *huáng qí* (Radix Astragali), fortify the spleen with *bái zhú* (Rhizoma Atractylodis Macrocephalae), or warm yang with *fù zǐ* (Radix Aconiti Lateralis Praeparata).

Formulas commonly used for yang edema are *Má Huáng Lián Qiào Chì Xiǎo Dòu Tāng*—Ephedra Herb, Weeping Forsythia Capsule and Adzuki Bean Decoction, *Wǔ Pí Yǐn*—Five-Peel Beverage, *Wǔ Líng Sǎn*—Five Substances Powder with Poria, and *Yuè Bì Jiā Zhú Tāng*—Maid-servant From Yue Decoction Plus Atractylodes Macrocephala.

Commonly used formulas for yin edema are *Fáng Jǐ Huáng Qí Tāng*—Stephania Root and Astragalus Decoction, *Shí Pí Yǐn*—Spleen-Strengthening Beverage, and *Zhēn Wǔ Tāng*—True Warrior Decoction.

In addition, *chē qián cǎo* (plantain), *jì cài huā* (Shepherds Purse Inflorescence), *yì yǐ rén gēn* (Rhizoma Coix), *chén hú lú* (Fructus Lagenariae) and *yù mǐ xū* (Stigma Maydis) can be used to induce diuresis and disperse edema.

(6) Expelling Worms and Calming Roundworms

This method is applicable for children with various kinds of intestinal worms, e.g. roundworm, pinworm and tapeworm. Roundworm especially may cause various



complications such as biliary tract ascariasis (colic/syncope caused by ascaris) or ascaris intestinal obstruction (abdominal enterozoic masses).

The major treatment principle for intestinal worms is to expel worms, but for some complications such as colic caused by ascaris it is first necessary to ease pain and then expel the worms when the condition is alleviated. The formula also needs to be compatible according to the variable conditions of each patient.

For constipation, add purgative medicinals, for stagnation add digestion promoting and stagnation resolving medicinals, and for spleen and stomach weakness add medicinals to fortify the spleen and harmonize the stomach. For a weak physique, supplement first and then eliminate, or supplement together with elimination.

Effective medicinals for expelling roundworms are *shǐ jūn zǐ* (Fructus Quisqualis), *kǔ liàn pí* (Cortex Meliae) and *léi wán* (Omphalia).

For expelling fasciolopsis, use *bīng láng* (Semen Arecae).

For expelling pinworms, *dà huáng* (Radix et Rhizoma Rhei) and *shǐ jūn zǐ* (Fructus Quisqualis) are decocted together and combined with *bǎi bù* (Radix Stemona) as an enema.

For expelling tapeworms, use *bīng láng* (Semen Arecae), *nán guā zǐ* (Semen Cucurbitae) and *léi wán* (Omphalia).

Worm expelling medicinals are usually taken on an empty stomach.

Formulas in common use are *Zhuī Chóng Wán*—Worm-Chasing Pills, *Qū Tāo Tāng*—Tapeworm-Expelling Decoction or calm roundworms with *Wū Méi Wán*—Mume Pill. Single dry-fried *shǐ jūn zǐ* (Fructus Quisqualis) can be chewed to expel roundworms.

(7) Suppressing Fright and Opening the Orifices

This method is mainly applicable for children with convulsions and unconsciousness, febrile seizures, epilepsy and infectious summer fever. Children have immature *zang-fu* organs and timidity of spirit and qi; therefore, when invaded by pathogens they easily develop exuberant pathogenic heat. The extreme heat will produce wind which further causes internal stirring of liver-wind with twitching. Unconsciousness can also be due to rising exuberant phlegm-heat clouding the clear orifices.

The main methods of treatment are to extinguish wind and calm fright by using medicinals such as *líng yáng jiǎo* (Cornu Saigae Tataricae), *niú huáng* (Calculus Bovis), *tiān má* (Rhizoma Gastrodiae), *gōu téng* (Ramulus Uncariae Cum Uncis), *shí jué míng* (Concha Haliotidis), *cí shí* (Magnetitum), *quán xiē* (Scorpion) and *wú gōng* (Centipede). Medicinals that eliminate phlegm and open the orifices should also be used concurrently.

Commonly used formulas are *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction, *Dìng Xián Wán*—Convulsion-Settling Pill, *Zhǐ Jìng Sǎn*—Spasm-Relieving Powder, *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill, *Zhì Bǎo Dān*—Supreme Jewel Elixir, *Zǐ Xuě Dān*—Purple Snow Elixir, *Sū Hé Xiāng Wán*—Storax Pill, *Xíng Jū Sǎn*—March Powder, and *Yù Shū Dān*—Jade Pivot Pill.

Children that are restless and become suddenly frightened can take *Hǔ Pò Bào Lóng Wán*—Amber Hold Dragon Pill or *Zhū Shā Ān Shéng Wán*—Cinnabar Sedative Pill, *Cí Zhū Wán*—Magnetite and Cinnabar Pill to calm the mind and suppress fright.

In cases of extreme heat producing wind with stiff neck and twitching use *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction to suppress fright and extinguish wind.

In cases of unconsciousness and convulsions due to heat entering the *ying*-blood level, use *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill, *Zhì Bǎo Dān*—Supreme

Jewel Elixir or *Zǐ Xuě Dān*—Purple Snow Elixir to suppress fright, open the orifices, clear heat, and resolve toxins.

In cases of turbid-phlegm clouding upwards with convulsions and twitching, use *Sū Hé Xiāng Wán*—Storax Pill to resolve phlegm and open orifices.

In cases of vomiting and fainting due to seasonal pathogenic attack, use *Xíng Jū Sǎn*—March Powder, *Yù Shū Dān*—Jade Pivot Pill to dispel turbidity and open the orifices.

Commonly used Chinese patent medicines include *Qīng Kāi Líng* Injection and *Xǐng Nǎo Jīng* Injection—Brain-Awakening Injection.

(8) Fortifying the Spleen and Boosting Qi

This method is mainly applicable to children with spleen-stomach deficiency and qi deficiency manifesting as chronic diarrhea, malnutrition and a weak physique after illness. As the stomach governs reception of water and grain, and the spleen governs transportation and transformation of refined nutritious substances, if spleen and stomach are disturbed, this may cause a lack of qi and blood source production. This will hinder growth and development and lead to greater susceptibility to infection by external pathogens.

There is a close relationship between qi deficiency and spleen deficiency; they are in a causal relationship and are co-dependent. When treating qi deficiency, treatment is often focused on fortifying the spleen while always supplementing qi.

Formulas in common use are *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder, *Sì Jūn Zǐ Tāng*—Four Gentlemen Decoction, *Yì Gōng Sǎn*—Special Achievement Powder and *Bǔ Zhōng Yì Qì Tāng*—Center-Supplementing and Qi-Boosting Decoction.

A single herb powder of *huái shān yào* (Rhizoma Dioscoreae) mixed with water is effective in fortifying the spleen and checking diarrhea. Children with spleen and qi deficiency with failure of transportation and transformation often present with poor appetite and indigestion, so medicinals that rectify qi and promote digestion such as *shā rén* (Fructus Amomi), *huò xiāng* (Herba Agastachis), *chén pí* (Pericarpium Citri Reticulatae), *jiāo shān zhā* (Fructus Crataegi Praepareta), *jiāo shén qū* (Massa Medicata Fermentata Praepareta) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) can be added to fortify the spleen and boost qi according to the circumstances.

(9) Cultivating the Origin and Supplementing the Kidney

This method is mainly applicable for children with innate insufficiency, kidney qi deficiency, and kidney failing to receive qi; disorders include un-united skull, five retardations, five flaccidities, enuresis, and asthma. The fontanelle of a newborn child is open because kidney qi is insufficient and the bones and tendons are delicate. Kidney qi develops and strengthens as they mature. If children are born with congenital insufficiencies or affected by disease, kidney qi can become asthenic.

Commonly used formulas are *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill, *Jīn Guì Shèn Qì Wán*—Golden Cabinet's Kidney Qi Pill, *Tiáo Yuán Sǎn*—Origin-Regulating Powder, *Sāng Piāo Xiǎo Sǎn*—Mantis Egg Shell Powder and *Shēn Gé Sǎn*—Ginseng and Gecko Powder.

During childhood it is common to have concurrent disorders of the liver and kidney, concurrent disorders of the spleen and kidney, or concurrent disorders of the lung and kidney. Therefore, medicinals that nourish the liver, fortify the spleen and supplement the lung should be added when applying this method.



(10) Cooling Blood and Stanching Bleeding

This method is mainly applicable for various kinds of bleeding syndromes in children such as nose bleeding, gum bleeding, purpura, hematuria, or bloody stools. Most acute cases with a sudden onset of blood patterns are due to blood heat moving frenetically and blood unable to flow normally within the vessels. In this situation, formulas that clear heat and cool blood are often applied.

However, it is quite common that bleeding disorders might also be caused by qi failing to control blood, spleen failing to govern blood, or yin deficiency with fire exuberance. When treating blood syndromes with this situation, medicinals that supplement qi, fortify the spleen, nourish yin and clear fire should be incorporated according to the condition.

Formulas in common use are *Xī Jiǎo Dì Huáng Tāng*—Rhinceros Horn and Rehmannia Decoction, *Yù Nǚ Jiān*—Jade Lady Decoction, *Xiǎo Jì Yīn Zǐ*—Field Thistle Drink, *Huái Huā Sǎn*—Sophora Flower Powder.

Chinese patent medicines such as *Yún Nán Bái Yào*—Yunnan White Medicine, *Dān Wèi Shēn Sān Qī*—Sole Notoginseng and *Bái Jí Fěn*—Bletilla Tuber Powder are commonly used.

(11) Invigorating Blood and Dissolving Stasis

This method is mainly applicable to various blood stasis conditions, such as panting and cough presenting with blue and purple lips and purple spots on the skin, and stabbing abdominal pain with a fixed location, and palpable abdominal masses.

Formulas such as *Táo Hóng Sì Wù Tāng*—Peach Kernel and Carthamus Four Substances Decoction, *Xuè Fǔ Zhú Yū Tāng*—Blood Mansion Stasis Expelling Decoction, *Shào Fǔ Zhú Yū Tāng*—Lower Abdominal Stasis Expelling Decoction and *Táo Rén Chéng Qì Tāng*—Peach Kernel Qi-Guiding Decoction are commonly used.

“Qi is the commander of blood; when qi is in motion it enables the blood to circulate normally”, thus when applying formulas to invigorate blood and dissolve stasis, qi moving medicinals are often added to enhance the formula actions.

(12) Restoring Yang to Rescue Desertion

This method is mainly applicable to children with critical conditions of original yang decline and collapse presenting with pale complexion, spirit fatigue, cold limbs, profuse sweating, weak breathing, and barely perceptible thready pulses. In this situation, formulas that powerfully supplement yang qi such as *Sì Nì Tāng*—Frigid Extremities Decoction and *Shēn Fù Lóng Mǔ Jiù Nì Tāng*—Ginseng, Aconite, Dragon Bone, and Oyster Shell Counterflow Decoction should be used urgently to save the patient's life.

(13) Drying Dampness and Rectifying Qi

This method is mainly applicable to children with diseases due to dampness stagnation and dampness encumbering the spleen which disturbs transportation and transformation. Children often have weak spleen and stomach which are easily encumbered by dampness. This often results in splenic failure of transformation and transportation presenting with poor appetite, chest oppression, abdominal fullness, loose stools, and a thick greasy tongue coating; there may also be nausea, vomiting and lassitude. This pattern is commonly seen with food stagnation, malnutrition, and summer non-acclimatization with diarrhea or anorexia.

As dampness is sticky, greasy and turbid, medicinals with fragrant-bitter-warm properties should be used. Dampness tends to obstruct qi movement, so medicinals that regulate and move qi should also be used. For cases with a weak spleen and stomach,

medicinals that supplement the spleen and fortify the stomach are often added.

Formulas in common use are *Huò Xiāng Zhèng Qì Sǎn*—Agastache Qi-Correcting Powder, *Sān Rén Tāng*—Three Kernels Decoction, *Píng Wèi Sǎn*—Stomach-Calming Powder, *Wèi Líng Tāng*—Stomach-Calming Poria Decoction and *Èr Chén Tāng*—Two Matured Substances Decoction.

(14) Boosting Qi and Nourishing Yin

This method is mainly applicable to children with constitutional debility or yin and qi damage due to illness. Children have an immature yin and yang with rapid growth and development; if fed improperly or if there is inadequate food intake, this will easily damage their qi and yin. This causes weight loss, loss of appetite, night sweating, lassitude, low fever, dry stools, and a red tongue with little coating.

Young children are susceptible to external contraction, therefore the rate of seasonal disease is relatively high. If there is a febrile disease which has exhausted qi and yin, the previously mentioned symptoms may also manifest.

Formulas in common use are: *Shēng Mài Sǎn*—Pulse-Engendering Powder, *Yǎng Wèi Tāng*—Stomach-Nourishing Decoction and *Shā Shēn Mài Dōng Tāng*—Glehnia Root and Ophiopogon Root Decoction.

For heart qi and yin insufficiency, use *Zhì Gān Cǎo Tāng*—Honey-Fried Licorice Decoction; and for damaged kidney yin, use *Zuǒ Guī Yīn*—Left-Restoring Pill.

According to the principle of yin and yang being rooted in one another, yang supplementing medicinals are usually added to any group of yin supplementing medicinals.

[EXTERNAL THERAPY]

1. ADVANTAGES OF EXTERNAL THERAPY

Most children are reluctant to take decoctions and fear injections, so administration may be difficult, particularly with infants. Children have delicate skin and clear *zang* qi, so external therapy acts rapidly; furthermore, application is very convenient. There is an ancient saying: “Good doctors will never neglect external therapy.”

Clinical experiences have proven that external therapies are acceptable for the majority of children, with clear and beneficial therapeutic effects if used appropriately. External therapies can be used alone or combined with internal therapies.

The principles of external therapies and internal therapies are interlinked, in that external therapy is also based on pattern differentiation of cold, heat, deficiency and excess conditions. In external therapy the treatment location is usually selected according to the associated channels, collaterals and acupoints.

Rhyming Discourse on External Remedies (Lǐ Yuè Pián Wén) states: “The principles of external therapy are same as the principles of internal therapy. External therapies utilize similar medicinals as internal therapies; the differences lie in the delivery method.” The principles used to produce an effect are the same for both external and internal treatments.

2. COMMONLY USED EXTERNAL THERAPIES

External treatment methods in current clinical pediatrics practice are medicinal applications referred to as pasting, fumigation, washing, insufflation, dripping, enema, and



smelling. Acupuncture, tui na and cupping also belong to the category of external therapy.

(1) Fumigating and Washing

This therapy uses decocted medicinals for fumigation and steaming, immersion, washing or bathing parts or whole body. Fumigating and steaming methods use the vapor of boiled decoctions to steam the skin. Immersion and washing use warm medicinal decoctions, whereas medicinal baths use a very large volume of decoctions to wash the whole body.

Fumigating and steaming is applicable for the prevention of measles, common cold and respiratory infections. This method acts to disperse wind and cold, release the flesh, clear heat, vent the exterior, and promote eruptions as well as to disinfect the air. Fumigating and steaming can be used in the early stage of measles to promote eruptions. *Má huáng* (Herba Ephedrae), *fú píng* (Herba Spirodelae), *yán suí zǐ* (Coriandrum sativum) and *xī hé liǔ* (Cacumen Tamaricis) with yellow wine added, can be used to scrub the head and limbs. The decoction can also be steamed into the air, while allowing the vapor to contact the child's body surface.

Immersing and washing is also applicable for *bi* syndrome, atrophy-flaccidity disease, external injuries, diarrhea, rectal prolapse, frostbite and other skin diseases. These methods act to disperse wind, dredge the collaterals, relax the tendons, activate blood, expel cold, warm yang, expel wind, and check itching.

Washing is usually combined with fumigation (steam first, followed by washing). Rectal prolapse is treated by decocting *shí liú pí* (Pericarpium Granati), *wǔ bèi zǐ* (Galla Chinensis), and *míng fán* (Alumen) by steaming first and then washing.

Medicinal baths are used for the common cold, measles, *bi* syndrome and various skin diseases such as urticaria, eczema or psoriasis. This method induces sweating, expels wind, releases the exterior, clears heat, promotes eruption, clears toxins, activates the collaterals, diffuses *bi*, expels wind, and relieves itching.

For example, warm bathing with *Kǔ Shēn Tāng*—Flavescent Sophora Root Decoction treats whole body itching.

Washing and wiping with *Xiāng Zhāng Mù Tāng*—Cinnamomum camphora Sieb Decoction is applicable for urticaria.

Steaming and washing with *Hé Bái Cǎo Jiān Tāng*—Polygonum Perfoliatum Decoction is applicable for yin pattern edema.

(2) Coating Method

This method involves grinding fresh medicinals into a paste by adding water or vinegar to the powder to prepare a medicinal liquid, which is then spread onto acupoints or the body surface.

Medicinal liquids are applicable for fever, diarrhea, summer furuncles, eczema, drug rashes or burns. It acts to clear heat, resolve toxins, warm the middle, check diarrhea, activate blood, resolve swellings, dry dampness, and astringe.

For example, *Fù Fāng Shī Zhěn Yè*—Compound Eczema Liquid, composed of *mǎ chǐ xiàn* (Herba Portulacae), *lián qiào* (Fructus Forsythiae), *bǎi bù* (Radix Stemonae), *kǔ shēn* (Radix Sophorae Flavescentis), *wǔ bèi zǐ* (Galla Chinensis), *shēng gān cǎo* (Radix et Rhizoma Glycyrrhizae) and *bái zhǐ* (Radix Angelicae Dahuricae) is spread topically on the affected areas of infantile eczema.

Medicinal pastes are applicable to mumps, mouth sores/aphtha, asthma, cough,

pneumonia, diarrhea, abdominal pain, eczema, or traumatic injury. Medicinal pastes act to calm the mind, resolve toxins and swellings, relieve cough and asthma, warm the middle and relieve pain. For example, for cold type asthma, grind *bái jiè zǐ* (Semen Sinapis), *hú jiāo* (Fructus Piperis) and *xì xīn* (Radix et Rhizoma Asari) to a fine powder, mix with ginger juice and spread the paste on BL 13 (*fēi shù*).

For mumps, select either fresh *mǎ chǐ xiàn* (puslane), fresh *wū liǎn méi* (Cayratia japonica Gagn), fresh *fú róng yè* (Cottonrose hibiscus leaves) or fresh luffa leaf; pound one of the above until it becomes a pulp and spread the paste on the cheeks.

(3) Wrapping Method

This method is to apply and bind medicinals to a localized skin area, e.g. dressing the navel area with *pí xiāo* (Mirabilite). It treats food stagnation, accumulations, abdominal fullness, belching with a fetid odor and occasional nausea. The tongue has a thick and greasy coating.

Dressing the navel area and the center of the feet with smashed garlic can prevent and treat chronic diarrhea by warming the channels.

For night sweating, mix powdered *wǔ bèi zǐ* (Galla Chinensis) with vinegar and dress the navel area.

(4) Hot Iron Method

Hot compress-application therapy uses heat-treated medicinals, equipment, or other materials by applying them to the local body surfaces. The general method is to wrap specific stir-fried medicinals with a piece of cloth and then iron them onto the skin.

Hot iron therapy can be applied in cases of abdominal pain, diarrhea, stagnation, urinary retention, *bi*-syndrome, atrophy-flaccidity, or asthma. It acts to warm the middle and expel cold, regulate qi, relieve pain, unblock yang, promote urination, warm the channels and unblock collaterals, expel cold, and descend qi.

For abdominal pain, iron the abdomen with stir-fried salt.

For enuresis, iron the navel area and lower abdomen with stir-fried fresh spring onion and salt.

For abdominal fullness and pain due to internal cold stagnation, iron the abdomen with stir-fried spring onion stalk (*Bulbus Allii Fistulosi*), fresh ginger and bran.

For wind-cold abdominal pain, iron the abdomen with stir-fried *wú zhū yú* (*Fructus Evodiae*) which is then placed in a bag.

Ironing therapy should be continually applied by using two bags of medicinals alternately. The best ironing temperature is 45-55°C. If the temperature of the medicinals is too high they may burn the skin, but if too low the curative effect is reduced.

(5) Application Method

Medicinals are prepared in the form of an ointment, medicinal cake, or by sprinkling medicinal powder onto an ordinary plaster for sticking onto the body surface.

An ointment is applicable for carbuncles, furuncles, boils, trauma, tendon and bone aching, *zhēng jiǔ* (abdominal masses), scrofula, abdominal pain and diarrhea. It acts to resolve furuncles, dissipate and remove masses, activate blood, promote granulation, resolve stasis, dispel cold, and warm the spleen.

For example, *Nuǎn Qí Gāo*—Navel-Warming Ointment can treat abdominal pain and diarrhea due to cold accumulation when applied on the umbilicus.

Medicinal cakes are applicable for the common cold, cough, asthma, anorexia, diarrhea,



infantile slobbering, and night sweating. It acts to release the exterior, diffuse the lung, resolve phlegm, relieve panting, warm the middle, fortify the spleen and control saliva and sweat.

For example, if the lung has intractable moist rales that can be detected by auscultation during the later stage of pneumonia, this can be treated by grinding stir-fired *bái jiè zǐ* (Semen Sinapis) with an equal amount of flour mixed with water and wrapped with gauze. The gauze is then applied onto the back around the 3rd - 4th thoracic vertebrae for 15 minutes or until the skin become red, after which the gauze is removed.

When there is infantile diarrhea due to deficiency cold, treat by sprinkling *dīng xiāng* (Flos Caryophylli) and *ròu guì* (Cortex Cinnamomi) powder onto a normal plaster and applying it onto the naval area.

Treatment for cold type asthma is best done during three periods of the hottest part of summer. Grind *yán hú suǒ* (Rhizoma Corydalis), *bái jiè zǐ* (Semen Sinapis), *gān suǐ* (Radix Kansui) and *xì xīn* (Radix et Rhizoma Asari) into a powder, mix with ginger juice to make a medicinal cake, sprinkle some *dīng xiāng* (Flos Caryophylli) powder onto the middle, and apply to acupoints BL 13 (*fèi shù*), BL 43 (*gāo huāng*) and EX-HN15 (*bǎi láo*).

(6) Scrubbing Method

Medicinal liquid or powder is scrubbed onto certain locations. For example, to wash the mouth to treat thrush and aphtha, scrub the oral cavity with *Bīng Péng Sǎn*—Borneol and Borax Powder, or using mild salty water, or a decoction of *jīn yín huā* (Flos Lonicerae Japonicae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) or *yě jú huā* (Flos Chrysanthemi Indici). Cleansing the mouth with Wild Rose Distillate can also be used to treat thrush.

(7) Dripping and Insufflating Therapies

Medicinal liquid or fresh medicinal juice is dripped into the ear, nose or eyes. The dripping method is usually applicable for the five sense organs of the eyes, ears, nose and mouth. It treats throat diseases such as otopyorrhea/otitis media suppurativa, furuncle of the external ear, sinusitis, stuffy nose, epidemic red eye or tonsillitis. This method is used to clear heat and resolve toxin, relieve swellings and dispel nodules, activate blood, check pain, and remove nebula to improve vision.

For epidemic red eyes, use *Huáng Lián Xī Guā Shuāng Yǎn Yào Shuǐ*—Rhizoma Coptidis and Water Melon Frost Eye Drops.

For otopyorrhea, grind fresh *Hǔ Ěr Cǎo* (Saxifraga stolonifera Meerb) and fresh *dì jīn cǎo* (Herba Euphorbiae Humifusae), extract the juice to use as a dripping liquid. Or smashed garlic with cold boiled water and extract the juice for use as a dripping liquid.

The method for insufflation is to insufflate medicinal powder into the oral cavity, throat, ear, nose, or surface of skin wounds with a tool or a small bamboo pipe or a rolled paper tube. This treats relevant local diseases or some general illnesses such as thrush, tonsillitis, throat wind, ear sores, otopyorrhea, sinusitis, stuffy nose, itchy eyes with millet sores (conjunctival folliculitis) as well as diphtheria, scarlet fever, jaundice, convulsions, epilepsy, coma, and phlegm accumulation.

Insufflation can clear heat and resolve toxins, cool blood, resolve swellings, dry dampness, expel phlegm, benefit qi, relieve stuffy orifices, extinguish wind, and relieve convulsions.

It can be used for chronic otopyorrhea by insufflating *Hóng Mián Sǎn*—Hongmian Powder into the ear.

For stuffy nose or syncope, insufflate *Tōng Guān Sǎn*—Gate-Freeing Powder into the nose to produce a sneeze.

Disorders such as sinusitis can be treated by insufflating a small quantity of finely powdered *cāng ěr cǎo* (Herba Xanthii) and *xīn yí* (Flos Magnoliae) into each nostril.

Powders for insufflation should be ground very finely and passed through a 7° mesh sieve. Prior to insufflation use a saline or 3% hydrogen peroxide solution to clean the pus from the location. Use a small amount of powder for ear, nose or eye insufflation. Wipe away the remaining powder on the surface before the second insufflation.

(8) Vesiculation Therapy

This external therapy uses particular medicinals applied onto the skin to induce blistering. Medicinals in common use are *máo gèn* (ranunculus japonicus) and *bān máo* (Mylabris). When used for asthma, smash some fresh *máo gèn* (ranunculus japonicus) and garlic and apply them onto DU 14 (*dà zhuī*) with sticky tape. Blisters will form after 8 hours. Before use, it is important to assess the risks and benefits of this approach in line with the indications of the disease.

(9) Tui na Therapy

Infantile massage or tui na is a traditional therapeutic method in which various manipulations are applied to certain locations or acupoints on the body in order to achieve a curative effect. Tui na can promote qi and blood circulation, free movement of the channels and collaterals, settle the spirit, and harmonize the *zang-fu* organs. It is often applied to treat spleen system diseases such as diarrhea, vomiting, abdominal pain, malnutrition and anorexia as well as lung system diseases such as the common cold, fever, cough, pneumonia and asthma, also miscellaneous diseases such as enuresis, aphtha, myopia, atrophy, *bi*-syndrome, convulsions, muscular torticollis, cerebral palsy, and polio sequelae.

Tui na manipulation techniques should be nimble and gentle. The most common manipulations are pushing, kneading, pressing, rubbing, circling, nipping, twisting, rotating, pinching, grasping and patting.

Acupoint selection is flexible and based on *zang-fu* organs, channel and collaterals, and the theories of yin, yang, qi and blood, cold or heat, deficiency or excess, and the patient's condition. The correct order of tui na usually begins from the four limbs, then to the head and face, chest, abdomen, spine and back; or apply tui na from top to bottom.

Tui na therapy has also some contraindications including acute hemorrhagic disease, acute trauma or acute abdominal diseases. Some severe infectious diseases should have integrated treatments rather than using tui na only.

In addition, the room temperature should be appropriate in order to prevent the child from catching cold. Attention to hygiene is also needed to avoid cross-infection. Practitioners must trim their fingernails regularly to prevent injuring the child's skin.

(10) Spine Pinching Therapy

This is a special therapeutic manipulation used in infantile tui na. It can be done by massaging the *du mai* and gallbladder channels to regulate yin and yang, remove obstructions in the channels and collaterals, harmonize qi and blood and revive *zang-fu* organ functions. In clinical practice it is often applicable for infantile malnutrition, indigestion, anorexia, diarrhea, vomiting, constipation, cough and wheezing, or night crying. It is also applied as a preventive massage for maintaining health.

Manipulation Method

The patient lies on a prostrate position. The practitioner keeps both hands in a semi-clenched fist. Their two index fingers touch the patient's spine, two thumbs stretch, pinch and pull the muscles along the patient's spine with the two index fingers. The index fingers move forward and the thumbs move backwards, both hands make a turning-over movement at the same time pinching along the spine beginning from acupoint DU 1 (*cháng qiáng*) until reaching DU 14 (*dà zhuī*).

If the patient has obvious symptoms of the head and face (red, itching, photophobic eyes, red nostrils, loose teeth, gingival ulceration, emaciation with a sallow complexion, red lips, excessive thirst, a red face, irritability, palpitations due to fright, or grinding teeth, then pinch upward to DU 16 (*fēng fǔ*). After finishing pinching and pulling the muscles along the patient's spine, press BL 23 (*shèn shù*) once again. This procedure must be repeated 3-5 times. When pinching for the third time, lift the skin once after every 3 pinches. Treat once daily with 6 days as a treatment course.

To enhance the curative effect, the operator may pinch and pull forcefully on the relevant back-shu points corresponding to the *zang-fu* pattern identification in accordance with the patient's condition.

For anorexia, lift BL 25 (*dà cháng shù*), BL 21 (*wèi shù*) and BL 20 (*pí shù*).

For vomiting, lift BL 21 (*wèi shù*), BL 18 (*gān shù*) and BL 17 (*gé shù*).

For diarrhea, lift BL 25 (*dà cháng shù*), BL 20 (*pí shù*) and BL 22 (*sān jiāo shù*).

For constipation, lift BL 25 (*dà cháng shù*), BL 21 (*wèi shù*) and BL 18 (*gān shù*).

For profuse sweating, lift BL 23 (*shèn shù*), *zhào míng shù* and BL 13 (*fèi shù*).

For frequent urination, lift BL 28 (*páng guāng shù*), BL 23 (*shèn shù*) and BL 13 (*fèi shù*).

For restlessness, lift BL 13 (*fèi shù*), BL 14 (*jué yīn shù*) and BL 15 (*xīn shù*).

For night crying, lift BL 21 (*wèi shù*), BL 18 (*gān shù*) and BL 14 (*jué yīn shù*).

For sleep disorders, lift BL 23 (*shèn shù*), BL 20 (*pí shù*) and BL 18 (*gān shù*).

For lung system diseases, lift BL 13 (*fèi shù*), BL 12 (*fēng mén*) and BL 23 (*shèn shù*).

This therapy is usually applied when the stomach is empty, or 2 hours after a meal; pinching should not be done immediately after a meal. When performing manipulations the room temperature should be pleasantly warm and the technique should be gentle. Manipulation should be limited to 3-5 minutes each time, once daily for children with weak physiques. This therapy is contraindicated in children with skin infections or purpura on the back. Caution is necessary for children with high fever, heart disease, or bleeding tendencies.

(11) Needling *Sì Fèng* (EX-UE10)

The *sì fèng* points belong to the extraordinary points and are located at the middle of the transverse creases of the first interphalangeal joints of index, middle, ring and little fingers. The three hand yin channels run through these points. (See Fig. 7-1).

Needling *sì fèng* (EX-UE10) is a special acupuncture manipulation method. Its effects are to fortify the spleen and promote digestion, clear heat, relieve restlessness, check coughing, resolve phlegm, remove obstructions from the channels, and harmonize the *zang-fu*. It is often applied for infantile malnutrition, anorexia, cough, whooping cough and asthma. The curative effect is most notable

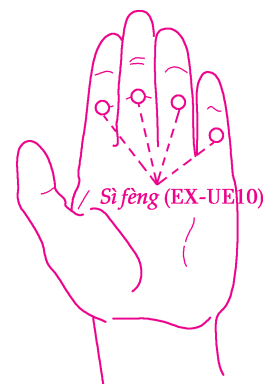


Fig. 7-1 *Sì fèng* (EX-UE10) acupoints

among children under 5 years of age, especially in infants.

Operational Procedures

First sterilize the skin, insert a three-edged needle or filiform needle into the acupoints about 1 *fen* (1/10 *cun*), then finger-press to extract some yellow-white fluid. Needling *sì fēng* may be performed once or twice per week, or alternative days in severe cases. After the patient's condition has improved, needle *sì fēng* once weekly or once every 10-15 days. Total needling is no more than 10 times. To prevent infection, the patient's hands should avoid touching the unclean substance for 24 hours after each needling.

(12) Burning Rush Moxibustion

This therapy was called "sacred fire" in ancient times, which refers to direct moxibustion for selected acupoints or locations with burning *dēng xīn cǎo* (juncus) which is dipped into sesame oil before use. The effects of this method are to disperse wind and release the exterior, move qi, resolve phlegm, wake up the brain, and check twitching.

Operational Procedures: Select a 5-6 cm piece of *dēng xīn cǎo* (juncus). Light the end of the juncus which has been dipped in vegetable oil beforehand and point the burning end to the selected acupoints. Then make a quick and very brief touch onto the skin; remove it immediately as soon as it touches the skin surface. When the acupoint is scorched, a popping sound can be heard; this is called "*yi jiao*" (once done). One acupoint is only to be scorched once. If there is no juncus, matches can be used instead. When all the selected points are done, extinguish all materials.

This therapy is mainly applicable for mumps, neonatal abdominal distention, or diarrhea. This method is forbidden in excess-heat patterns when pathogens have entered the interior, or for weak body constitutions due to chronic disease as well as chronic heat, diabetes, deficient heat, or yin and blood deficiency patterns.

(13) Cupping Therapy

This refers to a therapeutic method by which an inverted cup or jar with negative pressure inside produced by a flame or suction is attached to the skin surface to produce local congestion.

Bamboo or glass cups commonly used for children are 4-5 cm in diameter with the rims covered with Vaseline before use, or the surface of the skin can be oiled lightly instead. Place a burning piece of cotton wool dipped in alcohol into the cup for several seconds, remove the cotton wool, and quickly invert and attach the cup to the selected regions of the skin surface. The skin surface becomes raised due to negative pressure, and the cup is removed after 5-10 minutes. When removing the cup, press the skin near the cup with the index finger; meanwhile, tilt the cup body to the other side so that air will enter the cup and the cup will come off easily. To avoid injury and increased pain, do not pluck the cup directly off the skin. Vacuum pump cups are also available, which do not require a flame.

This method is applicable for children with the common cold, cough, pneumonia, asthma, abdominal pain, diarrhea, back and neck pain, stiff neck, snake bites or enuresis. Its effects are to activate blood circulation and qi flow, promote *yīng* and *wei* circulation, dispel wind, disperse cold, diffuse the lung and check cough, resolve phlegm and calm asthma, relax the sinews, warm the middle, arrest diarrhea, draw out toxins, and relieve pain.

For example, in cases of pneumonia select DU 14 (*dà zhuī*), DU 12 (*shēn zhù*), BL 13 (*fèi shù*) for cupping or directly cup onto the areas where there are clear sounds of moist rales.

For snake bite, cup directly over the bite wound site to remove the poison.



Cupping is usually not suitable for infants aged less than 6 months or those with febrile seizures, convulsions, skin allergies, edema, or those with a tendency to bleeding, evident malnutrition, or skin infections.

(14) Medicinal Bag Therapy

This external therapy consists of putting ground medicinals into a hanging container, pillow or belly band. For example, grind *shān nài* (Rhizoma Kaempferiae), *xióng huáng* (Realgar), *bīng piàn* (Borneolum Syntheticum) and *zhāng nǎo* (Camphora) into a powder, place them into a cloth bag as a sachet and hang in front of the chest. It has the effect of preventing respiratory tract infections.

[COMMON FORMS OF TCM PEDIATRIC MEDICINALS]

1. CRUDE MEDICINAL SLICES

Crude medicinals are herbal medicinals prepared in small pieces ready for decoction, which when processed according to TCM medicinal theories and methods can be applied for clinical use or prepared as various pharmaceuticals.

Crude medicinal slices also include those roughly processed by the producer/grower (slices, sections, blocks, pieces), as well as the more finely processed medicinals. The first two kinds are regarded as TCM medicinal materials or crude drugs. They can only be regarded as TCM processed medicinals when pharmacists prepare the medicine according to TCM theories. From a management point of view, crude slices should refer only to those that have been processed further by their production place and are ready to use for clinical prescriptions and preparations.

Crude slices are the materials for making a prescription for either internal therapy or external therapy, as well as for making a preparation. When using crude slices to make up a prescription in a clinic, the practitioner bases their facts on the analysis and differentiation of the condition of each individual patient. This incarnates the greatest advantage of making an individual diagnosis and giving individual treatment and achieving multiple targeted effects from treating with compound TCM prescriptions.

2. GRANULES

Granules are made up of extracts or fine powders of processed medicinals of certain grain sizes in a granular preparation. This includes soluble granules, suspension particles and effervescent granules. Granules do not have to be decocted and usually taste better than a decoction, so they are worth popularizing and applying in pediatrics.

For example, *Xiǎo Ér Chǐ Qiào Qīng Rè Kē Lì*—Children's Fermented Soybean and Forsythia Fruit Heat-Clearing Granules, acts to disperse wind, release the exterior, clear heat, and remove stagnation; it is used for wind-heat and common colds intermingled with food retention.

Xiǎo Ér Fù Xiè Níng Pào Téng Kē Lì—Children's Diarrhea Soothing Effervescent Granules originated from the *Qī Wèi Bái Zhú Sǎn*—Seven Ingredient Powder with Atractylodes Macrocephala that is specified in the book *Key to Diagnosis and Treatment of Children's Diseases*, has functions to fortify the spleen, check diarrhea, harmonize the stomach, and check pain; it is used to treat diarrhea due to spleen deficiency.

Formula granules have been developed in recent years by adopting modern

pharmaceutical technology. These are produced as single herb products according to traditional medicinal decoction procedures undergoing extraction, concentration and drying. TCM formula granules keep the nature, flavor and efficacy of crude slices and comply with the requirements of treatment according to pattern differentiation and prescription. They vary according to the individual need and can be applied in clinic as prescriptions. Formula granules can be made into medical decoctions, external washing liquids, enemas, blending agents for plasters, capsules, tablets, pills and pastes.

The instructions for administration of granules are to place the granules according to their single doses into a cup, add appropriate amounts of warm water and stir. Use a spoon or drug feeder and give to the patient.

3. CHINESE PATENT MEDICINES

(1) Mixtures (Oral Liquids)

This is a liquid preparation taken orally and extracted by proper processing techniques from crude slices mixed with water or other solvents. The single dosage pack can also be called an “oral liquid”. Pediatricians use oral liquids such as *Pú Dì Lán Xiāo Yán Kǒu Fú Yè*—*Pú Dì Lán* Anti-Inflammation Oral Liquid for treating common colds, tonsillitis, boils, or mumps.

Administration instructions: pour a dose into a spoon or drug feeder; older children may use a straw.

(2) Syrup

Syrups are a concentrated sucrose solution containing extracts. Pediatricians use syrups such as *Xiǎo Ér Bǎi Bù Zhǐ Ké Tǎng Jiāng*—Children’s Stemona Root Cough-Relieving Syrup to clear the lung, check coughing and resolving phlegm; used for cough due to phlegm-heat accumulated in the lung.

Administration instructions: pour a single dose into a spoon or drug feeder.

(3) Tinctures

This is a clear liquid made by using standard concentrations of ethanol to extract or dissolve the crude slices, or it can be made with a diluted fluid extract. It is taken orally or used externally. Generally speaking, it is better not to apply tinctures for infants and young children because they are sensitive to ethanol. There are tinctures used in pediatrics such as *Huò Xiāng Zhèng Qì Shuǐ*—Agastache Qi-Correcting Liquid which acts to release the exterior, remove dampness, regulate qi and harmonize the middle. It is used for treating wind-cold attack, internal injury with dampness stagnation, headache and dizziness, or heaviness of the head, abdominal distention and pain, vomiting or diarrhea.

The administration method is to pour a single dose into a spoon or drug feeder. If the amount of the tincture is small, dilute with some warm water. Take the tincture as directed.

(4) Distillate

Distillate is an aromatic liquid prepared by distillation of crude slices which contain volatile components. Pediatricians use distillates such as *Jīn Yíng Huā Lù*—Honeysuckle Flower Distillate to clear heat, resolve toxins; used for treating children with prickly heat toxin, summerheat, and thirst.

Administration instructions: pour a dose into a spoon or drug feeder; if the amount is small, dilute with warm water.



(5) Tablets (Buccal Tablets, Chewable Tablets and Effervescent Tablets)

These are small, round or various shaped flattened pills comprised of extracts or extracts plus powder, or powder plus excipients. Tablets can be divided into extract tablets, half extract tablets and powder tablets. Apart from the normal tablets, there are also buccal tablets, chewable tablets, effervescent tablets, vaginal tablets, vaginal effervescent tablets and enteric-coated tablets.

Tablets used in pediatrics include *Sān Āo Piàn*—Three Rough and Ready Tablet, originally from the book *Tài Píng Huì Mín Hé Jì Jú Fāng* (Beneficial Formulas from the Taiping Imperial Pharmacy). These tablets diffuse the lung, dissipate cold, check cough, and resolve phlegm; used for cough due to wind-cold attack.

Buccal tablets can be sucked and slowly melted in the mouth to produce local or systemic effects. Chewable tablets can be chewed first and then swallowed. Effervescent tablets containing sodium bicarbonate and organic acids can produce bubbles and gases when dissolved with water. Vaginal tablets and vaginal effervescent tablets are placed in the vagina, and are seldom used in pediatrics. Enteric-coated tablets are those covered by enteric coatings.

Tablet Administration Instructions: School-age children can take them directly with warm water or bulky tablets can be broken into several pieces before swallowing. For buccal tablets, ask the child to keep it inside their mouth and dissolve it slowly, taking care not to swallow the whole tablet at once. With chewable tablets, ask the child to chew or suck them before swallowing. When younger children have to take tablets, break the tablets into small pieces, put the pieces into the child's mouth one by one and feed with warm water. For infants, grind the tablets into a powder and mix with warm water.

(6) Capsules

Capsules are filled or sealed into a soft oval or round casing with a preparation made from crude and adjuvant materials. Capsules include hard capsules, soft capsules and enteric-coated capsules. They are mainly taken orally. Capsules such as *Xū Hàn Tíng Jiāo Náng*—Stopping Abnormal Sweating Capsules are used in pediatrics to boost qi, nourish yin, consolidate the exterior and arrest sweating; used for sweating patterns due to qi and yin deficiency.

Administration instructions: for school-age children, take with warm water. Capsules may not be suitable for young children.

(7) Powder

Powders refer to powdered preparations which contain medicinal slices or extracts that have been ground and mixed together. Powders can be divided into those used for internal administration and those for external use.

Pediatricians use oral powders such as *Líng Yáng Jiǎo Fěi*—Antelope Horn Powder to clear heat, calm fright, calm the liver, and extinguish wind; used for infantile convulsions or epilepsy.

Powder used externally such as *Rú Yì Huáng Jīn Sǎn*—Satisfied Golden Yellow Powder can relieve swellings and pain; used for early stage sores and ulcers and hot pain with inflammation.

The instructions for powders by oral administration are to place the powder on a spoon, mix with a small amount of warm water and pour it into the patient's mouth. Then ask the patient to drink several spoons of water to wash it down.

The method for using external powder is to mix it with water, tea, vinegar, vegetable oil or honey according to the individual needs; then apply the mixture onto the affected area or corresponding acupoint.

(8) Pills (Concentrated Pills and Drop Pills)

A pill is coated or uncoated and made of finely powdered medicinals or extracts mixed with suitable adhesives or subsidiary materials. Pills are divided into honeyed pills, hydromel pills, water pills, paste pills, wax pills and concentrated pills.

For example, *Wáng Shì Bǎo Chì Wán*—Wang's Infant-Protecting Pill is used to resolve stagnation, fortify the spleen and dispel phlegm to treat milk stagnation, malnutrition, phlegm syncope, convulsions, cough, asthma, gurgling with sputum, poor appetite, vomiting, diarrhea, fever, constipation, seasonal cold, spleen-stomach deficiency and dysplasia.

The honeyed pill is a globular medicine made from fine medicinal powder with honey as the binder.

Hydromel pills are made from fine powder using honey and water as the binder.

Water pills are made from fine powder using water (or yellow wine, vinegar, watery medicinal fluids or sugar liquid) as the binder.

Paste pills are made from fine powder using rice or flour paste as the binder.

Wax pills are made from fine powder using honey wax as the binder.

A concentrated pill is a globular medicine made from condensed extracts of all or part of the medicinal slices, combined with adjuvant materials or other medicinal slices into powders, using water, honey or both of honey and water as a binder. Based on the adhesives used for the pill, there are concentrated water pills, concentrated honey pills, and concentrated water and honey pills.

Drop pills are globular medicines made with extracts of medicinal slices, which have been purified, mixed and heated within a suitable matrix, and then dripped into a condensate which does not mix or melt with each substance.

Administration Instructions: School-age children can take the pills directly with warm water; large pills can be broken into small pieces and then taken. Preschool children can only take small-sized pills such as concentrated pills, drop-pills or others. Infants can only take minute-pellets with the same instructions.

(9) Cake Medicine

Cake medicine refers to block preparations made from steaming fine medicinal powders with rice powder and sucrose. Pediatric cake preparations such as *Jiàn Pí Bā Zhēn Gāo*—Spleen-Fortifying Eight-Gem Cake fortify the spleen and boost the stomach and are used for spleen-stomach deficiency after illness, poor digestion, sallow complexion, abdominal stuffiness and loose stools.

To administer, melt the cake into a paste with hot water and then feed to the child. School-age children may take it directly by chewing well and then swallowing.

(10) Glue/Colloid Preparations

This is a solid block medicine used for oral administration made by decocting animal skin, bone, shells or horns until it becomes gelatinous, further concentrating them into a thick colloidal-matter and finally going through a drying phase. For example, *ē jiāo* (Colla Corii Asini) can nourish blood, check bleeding, nourish yin and moisten dryness; used for treating pediatric blood deficiency with a sallow complexion, vertigo and palpitations.

Administration Instructions: If colloid preparations are used in a compound decoction formula, decoct the other medicinals first, separate the liquid from the dregs, then melt the glue into the boiling decoction; take while warm. If the glue is taken alone, first put it into a cup, add water, steam until melted and take.

[CASE STUDY]

► Case #1. Female, age 7. Initial Visit: 4/16/1999

Chief Complaint: diarrhea for 3 months.

The patient had diarrhea beginning 3 months before, occurring 4-5 times a day with loose stools mixed with bloody mucus. She also has a poor appetite and abdominal pain. After taking berberine, gentamicin and furazolidone over a long period, there was no improvement in her symptoms.

Physical examinations show a slightly yellow complexion, slightly red throat and no tonsil swelling. Heart and lung are normal. The tongue is light red with a thin yellow coating and her pulse is deep and weak.

Stool examination shows mucus (++++), WBC (+), RBC (++) , but with no amebic trophozoites or cysts found. Microbial cultivation was negative. Barium enema indicates an altered distribution of colonic mucosal folds, part of the mucous membranes have villous appearance, and there is a deepened colon haustra.

She was diagnosed with colitis ulcerativa in Western medicine and diarrhea in TCM.

The pattern here is damp-heat and blood stasis accumulation in the intestine.

The treatment principle is to fortify the spleen, harmonize the stomach, clear the intestine, and resolve toxins.

Formula (5 doses)

葛根	<i>gé gēn</i>	10 g	Radix Puerariae Lobatae
山药	<i>shān yào</i>	10 g	Rhizoma Dioscoreae
苍术	<i>cāng zhú</i>	10 g	Rhizoma Atractylodis
黄芩	<i>huáng qín</i>	5 g	Radix Scutellariae
煨木香	<i>wèi mù xiāng</i>	5 g	Radix Aucklandiae Rosc
陈皮	<i>chén pí</i>	5 g	Pericarpium Citri Reticulatae
甘草	<i>gān cǎo</i>	5 g	Radix et Rhizoma Glycyrrhizae

Also mix and administer *Yún Nán Bái Yào*—*Yún Nán* White Medicine, 2 g and *Xī Lèi Sǎn*—Tin-Like Powder. 2 g with 50 ml of normal saline as a retention enema, twice daily.

On the second visit, after 5 days, her abdominal pain was relieved and the bloody stools were reduced. She had a light red complexion. Her tongue was now light red with a thin white coating. The same formula was used for another 5 days.

On her third visit, her food intake had increased and her stools were slightly loose without mucus or blood. This indicated that the damp-heat had not been totally removed and the spleen was failing to transform and transport.

Formula

炒白术	chǎo bái zhú	8 g	Rhizoma Atractylodis Macrocephalae (stir-fried)
陈皮	chén pí	8 g	Pericarpium Citri Reticulatae
鸡内金	jī nèi jīn	8 g	Endothelium Corneum Gigeriae Galli
泽泻	zé xiè	8 g	Rhizoma Alismatis
山药	shān yào	10 g	Rhizoma Dioscoreae
茯苓	fú líng	10 g	Poria
炒神曲	chǎo shén qū	10 g	Massa Medicata Fermentata (stir-fried)
炙甘草	zhì gān cǎo	5 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
炙米壳	zhì mǐ ké	3 g	Rice skin (liquid-fried)

After 2 weeks, her appetite became normal and she defecated once daily. The physical examination was normal, and at a 3 month follow-up her health had returned to normal.

Analysis

Ulcerative colitis occurs occasionally in children and often has a prolonged course, frequent recurrence, and is refractory to treatment. The disease often occurs due to a contaminated or improper diet which impairs the spleen-stomach, resulting in failure to transport and transform and qi failing to ascend and descend. The root of this disease is spleen-stomach deficiency, and the illness branch is damp-heat and blood stasis accumulated in the intestines.

The treatment principle here is to fortify the spleen, boost qi, and harmonize spleen and stomach for the root, and clear heat, drain dampness, activate blood, and dissolve stasis for the branch. The treatment methods included oral decoctions and medicinal enemas. The diarrhea was checked after clearing the damp-heat and dissolving blood stasis. The disease was totally cured after the spleen had been strengthened.

Source: Wan LS, editor. [Wang Shouchuan's Selected Medical Works and Pediatric Case Records]. Beijing: Academy Press; 2008: 169-170.

[QUESTIONS]

1. A 5-year-old child suffers from abdominal stabbing pain for one week. The abdominal pain has a fixed location and is aggravated when pressed. The tongue is dark purple with petechia spots and the pulse is rough.

What is the best treatment for this patient?

- A. Activate blood and resolve stasis
- B. Promote digestion and remove food stagnation
- C. Warm the middle and relax spasms
- D. Disperse cold and relieve pain
- E. Unblock the bowels and move qi

2. An 11-year-old child has developed skin purpura for 5 months. The skin purpura is recurrent with a fresh red color. The patient has a low fever and night sweating. He is vexated with less sleep. His stools are dry and the urine is a dark yellow color. The child has a bright red tongue with little coating and a fine and thready pulse.



What is the best treatment for this patient?

- A. Disperse wind and clear heat
- B. Clear heat and cool blood
- C. Fortify the spleen and check bleeding
- D. Nourish yin and cool blood
- E. Boost qi and control blood

3. A 6-year-old child has been suffering from asthma for more than five years. The child usually has recurrent common colds. He has shortness of breath with spontaneous sweating, a forceless cough, and is often spitting sputum. The patient has a pale tongue with a thin white coating and fine thready pulse.

Which external therapy is used to prevent this condition?

- A. Fumigation and washing
- B. Smearing and spreading
- C. Spreading and sticking
- D. Rubbing and scrubbing
- E. Medicinal bag therapy

4. A one and half month old infant has his head tilting to the right side after birth. A physical examination reveals the right sternocleidomastoid muscle is rough and stiff. What is the treatment for his condition?

- A. Acupuncture
- B. Moxibustion
- C. Cupping
- D. Juncus scorching
- E. Tui na

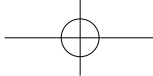
5. A 9-month-old infant has caught cold since yesterday. The infant is crying and restless at night, has borborygmus, and since this morning has had loose foamy diarrhea 3 times with but with no foul odor. The infant has a light red tongue with a thin white coating and a floating pulse.

As the diagnosis is wind-cold type diarrhea, what Chinese patent medicine should be applied?

- A. *Huò Xiāng Zhèng Qì Sǎn*—Agastache Qi-Correcting Powder
- B. *Huò Xiāng Zhèng Qì Yè*—Agastache Qi-Correcting Oral Liquid
- C. *Huò Xiāng Zhèng Qì Shuǐ*—Agastache Qi-Correcting Liquid
- D. *Huò Xiāng Zhèng Qì Wán*—Agastache Qi-Correcting Pill
- E. *Huò Xiāng Zhèng Qì Jiāo Náng*—Agastache Qi-Correcting Capsules

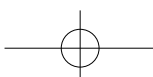
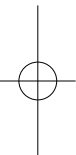
[REFERENCES]

- [1] Wang SC. Traditional Chinese Medicine Pediatrics (2nd edition). Beijing: China Press of Traditional Chinese Medicine, 2007: 25-30.
- [2] Chinese Pharmacopoeia Commission. Pharmacopoeia of the People's Republic of China. Beijing: China Medico-Pharmaceutical Sciences and Technology Publishing House, 2010: annex 5-13.



Part II

Lung Diseases



Chapter 8

Common Cold (*Gǎn Mào*)

The common cold (*gǎn mào*) is one of the most common diseases of the lung system. Mainly caused by an attack of external pathogenic factors, clinical manifestations typically include fever, nasal congestion and discharge, sneezing and cough. In TCM, the seasonal common cold and influenza both fall under the category of *gǎn mào*. The seasonal common cold is caused by the six pathogenic factors and is generally non-epidemic, whereas influenza is an infectious condition caused by seasonal epidemic pathogens, often with relatively serious clinical manifestations.

In Western medicine, associated conditions also include acute infections of the upper respiratory tract and influenza. In 90% of all cases, influenza is a result of viral infection. After the virus has infected its host, there is a consequent decrease in the defense of the mucosa or membranes of the upper respiratory tract which may lead to secondary bacterial infections. Common colds may also result in secondary bronchitis or pneumonia, which can prolong the course of disease and worsen the patient's condition.

Common colds may occur all year-round, but are more prevalent in winter, spring and during periods of sudden weather change. As the most commonly seen pediatric condition, the common cold can affect children of any age, most commonly seen in infants and young children. The disorder is often complicated with patterns of phlegm and food retention, or even with fright or convulsions, as child's lung is said to be especially delicate, with the spleen often insufficient and the spirit relatively weak. It is important to differentiate the common cold from other acute infectious pediatric diseases as they often present with similar signs and symptoms.

Viral respiratory tract infections include the common cold and influenza ^[1]. For children under 5 years of age in the Atlanta metropolitan area, the incidence of upper respiratory tract infections reached 24% ^[2].

Common cold/influenza is an acute respiratory tract disease with a high incidence and the condition spreads widely and rapidly. In human history, influenza has resulted in disastrous consequences; for example, 20-40 million people died from the "Spanish flu" in 1918. In recent years, H1N1 Type A influenza and avian flu have both become a major public health concern. Because the common cold is caused by a viral infection, there is no special Western medication that can effectively treat the condition. Traditional Chinese medicine pattern identification and individualized treatments show significant advantages in treatment.

Li Yan-ning et al. applied *Xiǎo Ēr Gǎn Mào Shū Kē Lì*—Children's Common Cold Comfort Granules for 3 days in 240 pediatric patients with common cold, in a double-blind, controlled trial. They found that the cure and effective rates were 66.1% in the treatment group as compared to 43.44% in the *Xiǎo Ēr Gǎn Mào Sǎn*—Children's Common Cold Powder control group. The treatment effects of the two groups were statistically significantly different ($P < 0.01$) with the treatment group being superior to the control ^[3].

Cai Dong-sheng used *Xiǎo Ēr Gǎn Mào Líng Tāng*—Children's Common Cold Decoction consisting of *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *jú huā* (Flos

Chrysanthemi), *jīng jiè* (Herba Schizonepetae), *bò hé* (Herba Menthae), *bǎn lán gēn* (Radix Isatidis) and *zǎo xiū* (Rhizoma Paridis)) in enema form to treat 60 children with the common cold. The effective rate was 90%^[4].

[ETIOLOGY & PATHOMECHANISM]

The common cold in children mainly results from pathogenic wind invasion, and is also often associated with pathogenic cold, heat, summerheat, dampness and dryness; although it can also be a result of seasonal epidemic pathogens. Children tend to catch colds when their healthy qi is insufficient. Susceptibility also increases when bodily resistance decreases because of weather changes, extremely hot or cold days, improper care, or when bathing in a cold environment. This shows that the onset is closely related to an insufficiency of *wei* qi.

Although the main location of the common cold is the lung, it sometimes affects the liver and the spleen. The key pathomechanism involves lung *wei* failure to diffuse. The lung controls the skin and hair, governs the interstitial spaces and opens to the nose. The *wei* and the exterior are in disharmony, *wei*-yang is restrained and lung qi fails to diffuse due to the exterior pathogen attacking the body through the mouth and nose or the skin and hair, with the pathogen staying in the lung-*wei* level. Signs and symptoms will include fever, aversion to wind and cold, nasal congestion and discharge, sneezing and cough.

Wind-Cold

Wind-cold pathogens attack the body through the mouth and nose or the skin and hair and stay in the interstitial spaces to constrain the exterior, causing closure of the pores and a failure of the *wei*-yang to disperse. This leads to fever and aversion to cold without sweating. If the cold pathogen fetters the lung, then lung qi will not be able to disperse and the qi movement becomes disturbed, leading to nasal congestion, nasal discharge and cough. If a cold pathogen stagnates in the *taiyang* channel, it will cause spasms and contractions in the channel as well as blood stagnation that can lead to headaches and aching of the body, limbs and joints.

Wind-Heat

As wind-heat pathogens attack the *wei*-exterior, the striae and interstices will fail to disperse, manifesting with severe fever, aversion to wind and slight sweating. If the wind-heat pathogen disturbs the upper body, it causes headache. If the heat pathogen stays in the lung *wei*, lung qi fails to disperse, leading to nasal congestion and discharge, sneezing and cough. If the wind-heat pathogen attacks the throat, it leads to swelling and pain in the throat; furthermore, the throat is the door to the lung and the stomach. In children, the common cold can easily transform into a heat pattern as a result of healthy qi fighting against the pathogenic wind-cold, or when exterior-cold is not resolved, it can form internal heat that leads to a cold-heat complex pattern.

Summer-Dampness

Summerheat occurs in the summertime, while summer-dampness occurs during long summers. Summerheat is a yang pathogen and is often accompanied by dampness. Summer-dampness fetters the exterior and encumbers the spleen, leading to common cold. Following an external pathogenic attack, the *wei*-exterior fails to disperse, leading to fever without sweating. If summerheat stagnates and stops the normal ascending of clear yang, dizziness or headache appears. If dampness stagnates in the exterior, it leads to heaviness

of the body and fatigue. If the pathogen encumbers the middle *jiao* and constrains qi movement, this will impair the ascending and descending of the spleen-stomach, leading to epigastric fullness, nausea, poor appetite, and in severe cases, vomiting and diarrhea.

Seasonal Pathogens

Externally contracted seasonal epidemic pathogens most often attack the lung and stomach channels. The disease occurs suddenly and changes rapidly. If the pathogen attacks the lung *wei* and constrains the exterior, it will cause fever, aversion to cold and muscle aches. As the epidemic fire steams upwards there will be red eyes and throat; if the pathogenic toxin attacks the stomach, stomach qi will ascend and counterflow, leading to nausea and vomiting.

The physiological and pathological characteristics of children are different from adults, and the common cold is often accompanied by other patterns, as follows:

a. Phlegm

When the pathogen attacks, the lung qi fails to disperse and descend, disturbing qi movement and impairing the fluid distribution. This results in the fluids staying in the lung collaterals and transforming into phlegm which blocks the respiratory tract, causing severe coughing and wheezing in the throat.

b. Food Retention

When the pathogen attacks, the spleen fails to transform and transport because a child's spleen is often deficient. Together with improper feeding, this leads to food stagnation in the middle *jiao*, epigastric and abdominal distention and fullness and poor appetite; there

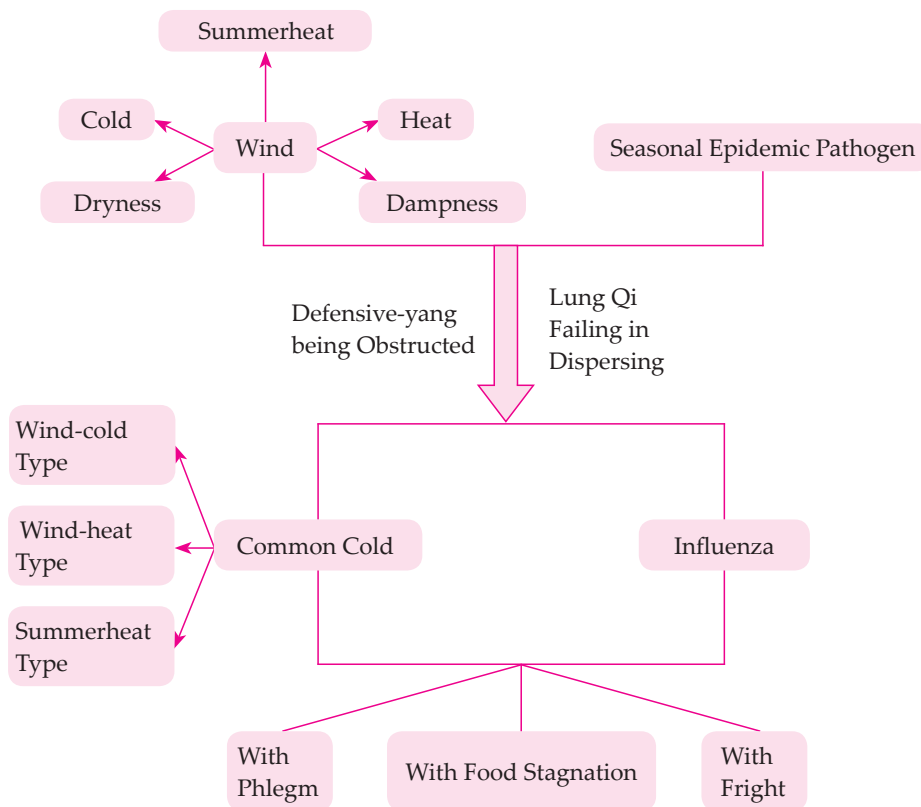


Fig. 8-1 Etiology and Pathomechanism of the Common Cold

can also be vomiting and diarrhea.

c. Fright, Nervousness or Convulsions

When the pathogen attacks, heat disturbs the heart and liver; because children often have a timid spirit and their liver qi is not well developed; this transforms into fire and generates wind. Manifestations include restlessness of the heart-spirit, susceptibility to fright, disturbed sleep, and in severe cases, transient unconsciousness and convulsions.

[DIAGNOSIS & DIFFERENTIATION]

► Essentials of Diagnosis

a. History of contact with individuals who have a common cold, exposure to extremely cold and hot environments, exposure to sudden weather changes, or pre-existing fatigue from overstrain.

b. Clinical manifestations include nasal congestion, nasal discharge and sneezing, with aversion to cold, fever, cough and sore throat. With influenza, the general symptoms are severe with relatively mild lung symptoms. The general symptoms are more predominant in infants, sometimes including high fever and occasional convulsions associated with the fever.

c. Some specific types of common cold are characterized by pharyngeal hyperemia, oral herpetic lesions (2-4 cm in diameter) in the pharyngeal arch palate, uvula or soft palate, follicular conjunctivitis, or signs of enlarged lymphatic nodes in the neck or behind the ears.

d. Routine blood examination shows a normal white cell count, slightly lower in children with viral infections. Increased total white cell counts with high neutrophils are seen in children with secondary bacterial infections.

► Differential Diagnosis

The condition should be classified as common cold or influenza and also differentiated from allergies, the early stages of acute infectious disease, and acute infectious laryngitis. See Table 8-1.

Table 8-1 Differential Diagnosis of Other Relevant Conditions ^[5].

Symptoms	Allergy	URI (Upper Respiratory Infection)	Influenza	Acute Infectious Laryngitis	Early Stages of Acute Infectious Diseases
Itchy, Watery Eyes	Common	Rare; conjunctivitis may occur with adenovirus	Soreness behind eyes, sometimes conjunctivitis	Rare	Rare; may occur often in measles
Nasal Discharge	Common	Common	Common	Sometimes	Common
Nasal Congestion	Common	Common	Sometimes	Sometimes	Common
Sneezing	Very common	Very common	Sometimes	Sometimes	Common

Continued

Symptoms	Allergy	URI (Upper Respiratory Infection)	Influenza	Acute Infectious Laryngitis	Early Stages of Acute Infectious Diseases
Sore Throat	Sometimes (postnasal dripping)	Very common	Sometimes	Common, laryngeal with hoarseness	Sometimes
Cough	Sometimes	Common, mild to moderate, hacking cough	Common, dry cough, can be severe	Common, barking cough, can be severe	Common, mild to moderate
Headache	Uncommon	Rare	Common	Uncommon	Common
Fever	Never	Rare in adults, possible in children	Very common, higher in young children, maybe chills	Very common	Very common
Malaise	Sometimes	Sometimes	Very common	Very common	Sometimes
Fatigue, Weakness	Sometimes	Sometimes	Very common, can last for weeks, extreme exhaustion early stage	Very common,	Sometimes
Duration	Weeks	3-14 days	7 days, followed by additional days of cough and fatigue	3-7 days	7-14 days

If the illness is diagnosed as an acute infectious disease, the child should be isolated and treated immediately. If diagnosed as acute infectious laryngitis, which can deteriorate quickly and become complicated with laryngeal obstruction, then the child should be treated with antibiotics and corticosteroids and closely monitored for any changes. A tracheotomy may be considered for severe hypoxia.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Pattern identification for the common cold is carried out according to eight-principle pattern identification. First differentiate the signs of wind-cold, wind-heat, summer-dampness, exterior or interior and excess or deficiency; secondly differentiate the common cold from influenza; thirdly, identify any accompanying concurrent patterns.

The common cold due to wind-cold or wind-heat usually occurs in the winter and spring in accordance with the seasonal influences and the characteristics of epidemic diseases. Common colds due to summerheat are most often seen in the summer; influenza due to seasonal epidemic pathogens occurs during epidemics.

A common cold due to wind-cold is indicated by aversion to cold with no sweating, thin nasal discharge and no redness in the throat. The tongue is pale red with a thin white coating.

Common colds due to wind-heat are indicated by fever, aversion to wind, sweating, nasal congestion with turbid nasal discharge and a red throat. There is a thin yellow tongue coating.

Common colds due to summerheat with heat preponderance occur in the hot days of summer and are marked by high fever without sweating or with slight sweating, thirst and restlessness.

The summer-dampness type is marked by epigastric fullness, nausea, a heavy body with fatigue, poor appetite and a greasy tongue coating.

Influenza occurs during an epidemic period and has a sudden onset. The exterior pattern is indicated by fever, aversion to cold without sweating or with slight sweating, headache, restlessness and aching, and heaviness or pain in the limbs; the interior pattern is marked by nausea, vomiting, abdominal distention, constipation or diarrhea and a reddish complexion and eyes.

The common cold belongs to the category of exogenous disease located in the exterior and lung-*wei*, and is often an exterior and excess pattern. Among children with repeated occurrences, a complex excess and deficiency pattern is seen, manifesting with a weakened constitution and a tendency to sweating or aversion to cold.

No matter how severe, any accompanying patterns are generally related to the common cold; these symptoms should reduce when the common cold condition improves. If the accompanying patterns are not relieved or become worse when the common cold symptoms improve, then diseases other than the common cold should be considered.

► Treatment Principles

The basic principles for treating common cold are to disperse wind and release the exterior. The different patterns are treated by releasing the exterior with acrid-warm herbs, releasing the exterior with acrid-cool herbs, clearing summerheat and releasing the exterior, and clearing the heat and removing toxins. In addition to releasing the exterior, dissolving phlegm, promoting digestion and calming fright are used to address the accompanying patterns of common cold. In order to preserve the immature yin and yang in children and prevent them from having overconsumption of body fluids, it is important not to overuse the sweating method.

In children, cold type common cold is prone to transforming into heat type or blocked heat, forming the pattern of exterior cold with interior heat. In such cases, medicinal herbs with acrid-cool and acrid-warm nature are often used together because acrid-cold medicinal herbs alone cannot induce sufficient sweating, whereas acrid-warm medicinal herbs alone promote heat into fire. For children with weak constitutions, the principle of releasing the exterior by strengthening the healthy qi is the appropriate method.

Apart from oral decoctions, Chinese patent medicines are also often applied according to pattern differentiation.

► Classification of Patterns and Treatments

1. MAIN PATTERNS

Wind-Cold Common Cold

Signs and Symptoms

These present as fever, aversion to cold with no sweating, headache, nasal congestion with a thin nasal discharge, sneezing, cough and without a red throat. The tongue is pale

red with a thin and white coating and the pulse is floating or both tight and floating. There are red finger venules.

Pattern Differentiation

This pattern is characterized by aversion to cold with no sweating, thin nasal discharge, absence of redness in the throat and floating and tight pulse or just floating, as well as red finger venules.

If the exterior cold is preponderant, it is marked by an aversion to cold with no sweating and a cough with deep and harsh sounds.

If the child has a pre-existing heat accumulation and has a wind-cold attack, the common cold presents as a complex pattern of exterior cold with interior heat and manifests as aversion to cold, headache, pain in the body, thin nasal discharge, red face and lips, dry mouth, thirst and a red throat and tongue with thin and yellow coating.

In children, if the pathogens are exuberant while the healthy qi is strong, a wind-cold common cold tends to transform into to a heat pattern.

Treatment Principles

Release the exterior with acrid-warm medicinals

Formula

Modified *Jīng Fáng BÀI DÚ Sǎn*—Schizonepeta and Saposhnikovia Toxin-Resolving Powder

荆芥	<i>jīng jiè</i>	Herba Schizonepetae
川防风	<i>chuān fáng fēng</i>	Radix Ligustici Brachylobi
羌活	<i>qiāng huó</i>	Rhizoma et Radix Notopterygii
紫苏叶	<i>zǐ sū yè</i>	Folium Perillae
前胡	<i>qián hú</i>	Radix Peucedani
桔梗	<i>jié gěng</i>	Radix Platycodonis
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Jīng jiè (Herba Schizonepetae), *chuān fáng fēng* (Radix Ligustici Brachylobi), *qiāng huó* (Rhizoma et Radix Notopterygii) and *zǐ sū yè* (Folium Perillae) release the exterior and dissipate cold.

Qián hú (Radix Peucedani) diffuses the lung and dissolves phlegm and *jié gěng* (Radix Platycodonis) diffuses the lung and clears the throat.

Zhì gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of the other medicinals.

Modifications

For severe headache, add *gé gēn* (Radix Puerariae Lobatae) and *bái zhǐ* (Radix Angelicae Dahuricae) to dissipate cold and relieve pain.

For severe aversion to cold without sweating, add *guì zhī* (Ramulus Cinnamomi) and *má huáng* (Radix Herba Ephedrae) to release the exterior and dissipate cold.

For deep and harsh sounding cough, add *bái qián* (Rhizoma et Radix Cynanchi Stauntonii) and *zǐ wǎn* (Radix et Rhizoma Asteris) to diffuse the lung and relieve cough.

For phlegm, add *bàn xià* (Rhizoma Pinelliae) and *chén pí* (Pericarpium Citri Reticulatae) to dry dampness and dissolve phlegm.

For vomiting, add *bàn xià* (Rhizoma Pinelliae), *shēng jiāng* (Rhizoma Zingiberis Recens) and *zhú rú* (Caulis Bambusae in Taenia) to descend qi and arrest vomiting.

For poor appetite with a white greasy tongue coating, replace *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae) with *cāng zhú* (Rhizoma Atractylodis) and *hòu pò* (Cortex Magnoliae Officinalis) to harmonize the stomach and relieve distention.

For patterns of exterior cold with interior heat, add *huáng qín* (Radix Scutellariae), *shí gāo* (Gypsum Fibrosum) and *bǎn lán gēn* (Radix Isatidis) to clear heat and purge fire.

Chinese Patent Medicines

Gǎn Mào Qīng Rè Kē Lì—Children's Common Cold Heat-Clearing Granules

12 g each bag, 1/2 bag, twice daily.

Tui na

Points	Repetitions	Methods
<i>Kǎn gōng</i> (坎宮)	200-300	Pushing
EX-HN 5 (<i>tài yáng</i>)	100-150	Kneading
<i>Sān guān</i> (三關)	100-150	Pushing
<i>Liù fǔ</i> (六腑)	100-150	Pushing
BL 13 (<i>fèi shù</i>)	150-200	Kneading
<i>Nèi láo gōng</i> (內勞宮)	100-150	Kneading
GB 20 (<i>fēng chí</i>)	100-200	Grasping
LI 4 (<i>hé gǔ</i>)	100-200	Grasping

Push *kǎn gōng* 200-300 times, knead *tài yáng* 100-150 times, push *sān guān* 100-150 times, push *liù fǔ* 100-150 times, knead *fèi shù* 150-200 times, knead *nèi láo gōng* 100-200 times, grasp *fēng chí* 100-200 times, and grasp *hé gǔ* 100-200 times.

Treat once or twice daily, with 4 times as one treatment course.

Acupuncture

GB 20 (<i>fēng chí</i>)	LI 4 (<i>hé gǔ</i>)	DU 14 (<i>dà zhuī</i>)
BL 12 (<i>fēng mén</i>)	BL 13 (<i>fèi shù</i>)	

Needle with drainage, retain all needles for 5 minutes, or give strong stimulation without retaining the needles. Treat once or twice daily, with 4 times as one treatment course.

Moxibustion

DU 14 (<i>dà zhuī</i>)	BL 12 (<i>fēng mén</i>)	BL 13 (<i>fèi shù</i>)
ST 36 (<i>zú sān lǐ</i>)		

Moxibustion: 1 or 2 moxa cones are applied to one acupuncture point at a time, following the above-mentioned order. Moxa each point for 5-10 minutes until the skin is

warm. Treat once or twice daily, with 4 times as one treatment course.

Herbal Bathing Therapy

羌活	<i>qiāng huó</i>	30 g	Rhizoma et Radix Notopterygii
独活	<i>dú huó</i>	30 g	Radix Angelicae Pubescentis
细辛	<i>xì xīn</i>	15 g	Radix et Rhizoma Asari
防风	<i>fáng fēng</i>	30 g	Radix Saposhnikoviae
苏叶	<i>sū yè</i>	30 g	Folium Perillae
白芷	<i>bái zhǐ</i>	30 g	Radix Angelicae Dahuricae
桂枝	<i>guì zhī</i>	20 g	Ramulus Cinnamomi
葱白	<i>cōng bái</i>	30 g	Bulbus Allii Fistulosi
生姜	<i>shēng jiāng</i>	20 g	Rhizoma Zingiberis Recens

Decoct to 3,000 ml. Bathe the child once or twice a day with the warm decoction.

Wind-Heat Common Cold

Signs and Symptoms

This manifests with a severe fever, aversion to wind, sweating or slightly sweating, headache, nasal congestion with turbid nasal discharge, sneezing, cough with yellow or white sticky sputum, red and swollen painful throat, dry mouth and thirsty. The tongue is red with a thin and yellow coating and there is a floating and rapid pulse and purple finger venules.

Pattern Differentiation

This pattern is indicated by a severe fever, nasal congestion with turbid nasal discharge, cough with sticky sputum, red throat and tongue with a thin and yellow coating, floating and rapid or just floating pulse and purple finger venules. If the exterior heat is preponderant, it is marked by high fever, severe cough with yellow and sticky phlegm and a red swollen and painful throat. The key point to differentiating wind-heat from wind-cold is whether the throat is red or not.

Treatment Principles

Release the exterior with acrid-cool medicinals

Formula

Modified *Yín Qiào Sǎn*—Lonicera and Forsythia Powder

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
大青叶	<i>dà qīng yè</i>	Folium Isatidis
薄荷	<i>bò he</i>	Herba Menthae
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
桔梗	<i>jié gěng</i>	Radix Platycodonis
荆芥	<i>jīng jiè</i>	Herba Schizonepetae

豆豉	dòu chǐ	Semen Sojae Praeparatum
芦根	lú gēn	Rhizoma Phragmitis
竹叶	zhú yè	Folium Phyllostachydis Henonis

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae) and *dà qīng yè* (Folium Isatidis) release the exterior and clear heat.

Bò he (Herba Menthae), *niú bàng zǐ* (Fructus Arctii) and *jié gēng* (Radix Platycodonis) disperse wind, diffuse the lung, clear heat and benefit the throat.

Jīng jiè (Herba Schizonepetae) and *dòu chǐ* (Semen Sojae Praeparatum) vent the exterior with warmth and acridity.

Lú gēn (Rhizoma Phragmitis) and *zhú yè* (Folium Phyllostachydis Henonis) clear heat, promote fluid production and relieve restlessness.

Modifications

For high fever, add *zhī zǐ* (Fructus Gardeniae) and *huáng qín* (Radix Scutellariae) to clear heat.

For severe cough with yellow and sticky sputum, add *sāng yè* (Folium Mori), *guā lóu pí* (Pericarpium Trichosanthis) and *Dài Gé Sǎn* — Indigo and Gecko Powder to diffuse the lung, relieve cough and dispel phlegm.

For red, swollen and painful throat, add *chán tuì* (Periostracum Cicadae), *pú gōng yīng* (Herba Taraxaci) and *xuán shēn* (Radix Scrophulariae) to clear heat and benefit the throat.

For constipation, add *zhǐ shí* (Fructus Aurantii Immaturus) and *dà huáng* (Radix et Rhizoma Rhei) to unblock the bowels and discharge heat.

Chinese Patent Medicines

Xiǎo Ér Gǎn Mào Kē Lì — Children's Common Cold Granules

12 g each bag. For children less than one year of age, 1/2 bag. 1-3 years, 1/2-1 bag. 4-7 years, 1/2 -1 bag. 8-12 years, 2 bags. Taken twice daily.

Tuī nà

Points	Repetitions	Methods
<i>Kǎn gōng</i> (坎宫)	200-300	Pushing
EX-HN 5 (<i>tài yáng</i>)	100-150	Kneading
<i>Sān guān</i> (三关)	100-150	Pushing
<i>Liù fǔ</i> (六腑)	100-150	Pushing
BL 13 (<i>fèi shù</i>)	150-200	Kneading
<i>Tiān zhù gǔ</i> (天柱骨)	100-200	Pushing
<i>Fèi jīng</i> (肺经)	100-200	Clearing
<i>Tiān hé shuǐ</i> (天河水)	100-200	Clearing

Push *kǎn gōng* 200-300 times, knead *tài yáng* 100-150 times, push *sān guān* 100-150 times, push *liù fǔ* 100-150 times, knead *fèi shù* 150-200 times, push *tiān zhù gǔ* 100-200 times, clear

fèi jīng 100-200 times, and clear *tiān hé shuǐ* 100-200 times. Apply once or twice daily, with 4 times as a treatment course.

Acupuncture

DU 14 (<i>dà zhuī</i>)	LI 11 (<i>qū chí</i>)	SJ 5 (<i>wài guān</i>)
LI 4 (<i>hé gǔ</i>)	LU 11 (<i>shào shāng</i>)	

Needle with drainage, retain all needles for 5 minutes or do not retain the needles. For headache, add EX-HN5 (*tài yáng*) and ST 8 (*tóu wéi*).

Treat once or twice daily, with 4 times as one treatment course.

Herbal Bathing Therapy

金银花	<i>jīn yín huā</i>	30 g	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	30 g	Fructus Forsythiae
柴胡	<i>chái hú</i>	15 g	Radix Bupleuri
桑叶	<i>sāng yè</i>	30 g	Folium Mori
大青叶	<i>dà qīng yè</i>	30 g	Folium Isatidis
薄荷	<i>bò he</i>	20 g	Herba Menthae
蝉蜕	<i>chán tuì</i>	30 g	Periostracum Cicadae
栀子	<i>zhī zǐ</i>	30 g	Fructus Gardeniae

Decoct to 3,000 ml. Bathe the child with the warm decoction once or twice daily.

Summerheat Common Cold

Signs and Symptoms

This pattern manifests as a fever without sweating or an unrelieved fever after sweating, with dizziness and headache, nasal congestion, heaviness of the body with fatigue, stuffiness in the chest, nausea, thirst with irritation, poor appetite, or vomiting, diarrhea and scanty yellow urine. The tongue is red with a yellow and greasy coating. The pulse is rapid and there are purple finger venules.

Pattern Differentiation

This pattern occurs in the summertime and is characterized by fever, headache, heaviness of the body with fatigue and a poor appetite. The tongue is red with a greasy yellow coating. If heat is preponderant, it is marked by high fever, dizziness and headache, thirst with irritation and scanty yellow urine; if dampness is preponderant, it is marked by fever without sweating or fever that is not relieved after sweating, tired heavy body, stuffiness in the chest, nausea, poor appetite and vomiting or diarrhea.

Treatment Principles

Clear summerheat and release the exterior

Formula

Xīn Jiā Xiāng Rú Yǐn—Newly Supplemented Mosla Beverage

香薷	<i>xiāng rú</i>	Herba Moslae
金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
厚朴	<i>hòu pò</i>	Cortex Magnoliae Officinalis
扁豆	<i>biǎn dòu</i>	Semen Lablab Album
大豆卷	<i>dà dòu juǎn</i>	Semen Sojae Germinatum

Formula Analysis

Xiāng rú (Herba Moslae) induces sweating, releases the exterior and removes dampness.

Jīn yín huā (Flos Lonicerae Japonicae) and *lián qiào* (Fructus Forsythiae) clear heat and relieve summerheat.

Hòu pò (Cortex Magnoliae Officinalis) harmonizes the middle and removes *pǐ* by moving *qì*.

Biǎn dòu (Semen Lablab Album) and *dà dòu juǎn* (Semen Sojae Germinatum) harmonize the middle *jiao*, fortify the spleen, drain dampness and clear summerheat.

Modifications

For high fever, add *huáng lián* (Rhizoma Coptidis), *zhī zǐ* (Fructus Gardeniae) and *zhú yè* (Folium Phyllostachydis Henonis) to clear heat.

For damp preponderance type, add *pèi lán* (Herba Eupatorii), *huò xiāng* (Herba Agastachis) and *Jī Sū Sǎn* (Mint Powder) to drain dampness and clear summerheat.

For vomiting, add *bàn xià* (Rhizoma Pinelliae) and *zhú rú* (Caulis Bambusae in Taenia) to descend *qì* and arrest vomiting.

For diarrhea, add *gé gēn* (Radix Puerariae Lobatae), *huáng qín* (Radix Scutellariae), *huáng lián* (Rhizoma Coptidis) and *cāng zhú* (Rhizoma Atractylodis) to clear heat in the intestine and remove dampness.

Chinese Patent Medicines

Jīn Yín Huā Lù—Honeysuckle Flower Liquid

20-30 ml, 2-3 times daily. For children with prickly heat toxin and thirst due to summerheat.

Huò Xiāng Zhèng Qì Kǒu Fú Yè—Agastache Qi-Correcting Oral Liquid

5-10 ml, twice daily, for common cold due to summer dampness.

Tui na

Points	Repetitions	Methods
<i>Yīn-yáng</i>	200-300	Pushing aside
<i>Pí jīng</i> (脾经)	200-300	Pushing
<i>Kǎn gōng</i> (坎宫)	200-300	Pushing
EX-HN 5 (<i>tài yáng</i>)	100-150	Kneading
<i>Sān guān</i> (三关)	100-150	Pushing
<i>Liù fǔ</i> (六腑)	100-150	Pushing

Continued

Points	Repetitions	Methods
BL 13 (<i>fèi shù</i>)	150-200	Kneading
<i>Tiān zhù gǔ</i> (天柱骨)	100-200	Pushing
<i>Fèi jīng</i> (肺经)	100-200	Clearing
<i>Tiān hé shuǐ</i> (天河水)	100-200	Clearing

Push aside yin-yang 200-300 times, push *pí jīng* 200-300 times, push *kǎn gōng* 200-300 times, knead *tài yáng* 100-150 times, push *sān guān* 100-150 times, push *liù fǔ* 100-150 times, knead *fèi shù* 150-200 times, push *tiān zhù gǔ* 100-200 times, clear *fèi jīng* 100-200 times, and clear *tiān hé shuǐ* 100-200 times. Apply once or twice daily, with 4 times as a treatment course.

Acupuncture

DU 14 (<i>dà zhuī</i>)	LI 4 (<i>hé gǔ</i>)	SJ 6 (<i>zhī gōu</i>)
SP 6 (<i>sān yīn jiāo</i>)	ST 36 (<i>zú sān lǐ</i>)	

Needle with drainage, retain all needles for 5 minutes or do not retain the needles. Treat once or twice daily, with 4 times as one treatment course.

Herbal Bathing Therapy

香薷	<i>xiāng rú</i>	30 g	Herba Moslae
柴胡	<i>chái hú</i>	30 g	Radix Bupleuri
扁豆花	<i>biǎn dòu huā</i>	30 g	Flos Dolichoris
防风	<i>fáng fēng</i>	30 g	Radix Saposhnikoviae
金银花	<i>jīn yín huā</i>	50 g	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	50 g	Fructus Forsythiae
鸡苏散	<i>Jī Sū Sǎn</i>	50 g	Mint Powder
生石膏	<i>shēng shí gāo</i>	50 g	Gypsum Fibrosum
板蓝根	<i>bǎn lán gēn</i>	50 g	Radix Isatidis

Decoct to 3000 ml. Bathe with the warm decoction once or twice daily.

Influenza due to Seasonal Epidemic Pathogens

Signs and Symptoms

This pattern is associated with sudden onset and severe general symptoms: high fever, aversion to cold without sweating or fever that is not relieved after sweating, headache, restlessness, red eyes and throat, aching pain in the muscles, abdominal pain, or nausea or vomiting. The tongue is red with a yellow coating and there is a rapid pulse.

Pattern Differentiation

Influenza is characterized by sudden onset, severe general symptoms and mild

symptoms in the lung with fever, aversion to cold without sweating or fever that is not relieved after sweating, red eyes and throat and aching pain in the muscles. The tongue is red with a yellow coating.

If an exterior pattern is preponderant, there is high fever without sweating or unremitting fever after sweating with headache and muscle aches; if the interior pattern is preponderant, there are red eyes, abdominal pain or nausea and vomiting or diarrhea.

Treatment Principles

Clear heat and resolve toxins

Formula

Modified *Yín Qiào Sǎn*—Lonicera and Forsythia Powder

and *Pǔ Jì Xiāo Dú Yīn*—Universal Relief Toxin-Removing Beverage

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
荆芥	<i>jīng jiè</i>	Herba Schizonepetae
羌活	<i>qiāng huó</i>	Rhizoma et Radix Notopterygii
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
黄芩	<i>huáng qín</i>	Radix Scutellariae
大青叶	<i>dà qīng yè</i>	Folium Isatidis
桔梗	<i>jié gěng</i>	Radix Platycodonis
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
薄荷	<i>bò he</i>	Herba Menthae

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae) and *lián qiào* (Fructus Forsythiae) clear heat and resolve toxins.

Jīng jiè (Herba Schizonepetae) and *qiāng huó* (Rhizoma et Radix Notopterygii) release the exterior and eliminate pathogens.

Zhī zǐ (Fructus Gardeniae) and *huáng qín* (Radix Scutellariae) clear the lung and discharge heat.

Dà qīng yè (Folium Isatidis), *jié gěng* (Radix Platycodonis) and *niú bàng zǐ* (Fructus Arctii) diffuse the lung and benefit the throat.

Bò he (Herba Menthae) disperses the exterior pathogen with its acrid-cool nature.

Modifications

For high fever, add *chái hú* (Radix Bupleuri) and *gé gēn* (Radix Puerariae Lobatae) to release the exterior and clear heat.

For nausea and vomiting, add *zhú rú* (Caulis Bambusae in Taenia) and *huáng lián* (Rhizoma Coptidis) to descend qi and arrest vomiting.

Chinese Patented Medicines

Kàng Bīng Dú Kǒu Fú Yè—Anti-Virus Liquid

5-10 ml, 2-3 times daily.

Enema Therapy

金银花	<i>jīn yín huā</i>	20 g	Flos Lonicerae Japonicae
青蒿	<i>qīng hāo</i>	10 g	Herba Artemisiae Annuae
柴胡	<i>chái hú</i>	10 g	Radix Bupleuri
生石膏	<i>shēng shí gāo</i>	20 g	Gypsum Fibrosum (decocted first)
板蓝根	<i>bǎn lán gēn</i>	15 g	Radix Isatidis
竹叶	<i>zhú yè</i>	5 g	Folium Phyllostachydis Henonis

Boil twice to make one decoction, administer as an enema at 36-37°C. Retain for 20-30 minutes, twice daily. The intubation depth is about 10-15 cm according to the age of the child.

2. ACCOMPANYING PATTERNS

Phlegm

Signs and Symptoms

In addition to the symptoms of common cold, the child also presents with a severe cough with copious phlegm and phlegm rale in the throat.

Pattern Differentiation

Common cold with phlegm is characterized by a severe cough with phlegm rale in the throat. If it is a wind-cold with phlegm pattern, then it manifests as a wind-cold exterior pattern with white and thin phlegm. If it is a wind-heat pattern with phlegm, then it manifests as a wind-heat exterior pattern with thick, white or yellow sputum.

Treatment Principles

For wind-cold with phlegm, release the exterior with acrid-warm medicinals, diffuse the lung and dissolve phlegm; for wind-heat with phlegm, release the exterior with acrid-cool medicinals, clear lung heat and dissolve phlegm.

Formula

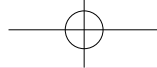
For wind-cold accompanied by phlegm, add *Sān Ào Tāng*—**Rough and Ready Three Decoction** and *Èr Chén Tāng*—**Two Matured Substances Decoction** into the formula.

Medicinals commonly used to diffuse the lung and dissolve phlegm:

麻黄	<i>má huáng</i>	Herba Ephedrae
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae

For wind-heat accompanied by phlegm, add *Sāng Jú Yǐn*—**Mulberry Leaf and Chrysanthemum Beverage** into the formula.

Medicinals commonly used to clear lung heat and dissolve phlegm:



桑叶	sāng yè	Folium Mori
菊花	jú huā	Flos Chrysanthemi
瓜蒌皮	guā lóu pí	Pericarpium Trichosanthis
浙贝母	zhè bèi mǔ	Bulbus Fritillariae Thunbergii
黛蛤散	dài gé sǎn	Indigo and Gecko Powder

Chinese Patent Medicines

Zhú Lì—Bamboo Juice

100 ml/bottle, 5-10 ml, 3 times daily.

Applicable for common colds due to wind-heat with phlegm.

Luó Hàn Guǒ Zhǐ Ké Táng Jiāng—Momordica Fruit Cough Relieving Syrup

100 ml/bottle. 10-15 ml, three times daily.

Applicable for common colds due to wind-cold with phlegm.

Tuǐ na

Points	Repetitions	Methods
<i>Kǎn gōng</i> (坎宫)	200-300	Pushing
EX-HN 5 (<i>tài yáng</i>)	200-300	Kneading
<i>Sān guān</i> (三关)	100-150	Pushing
<i>Liù fǔ</i> (六腑)	100-150	Pushing
BL 13 (<i>fèi shù</i>)	150-200	Kneading
<i>tiān shū</i> (天枢)	100-200	Kneading
<i>Xiōng</i> (chest)	100-200	Rubbing

Push *kǎn gōng* 200-300 times, knead *tài yáng* 200-300 times, push *sān guān* 100-150 times, push *liù fǔ* 100-150 times, knead *fèi shù* 150-200 times, knead *tiān shū* 100-200 times, and rub the chest 100-200 times. Use once or twice a day with 4 times as one treatment course.

Food Retention

Signs and Symptoms

In addition to the symptoms of common cold, the child presents with abdominal distention, anorexia, vomiting of acid and undigested food, bad breath, fetid stools or abdominal pain with diarrhea, or hard stools, constipation and scanty yellow urine. The tongue has a thick greasy coating and there is a slippery pulse.

Pattern Differentiation

The key points for differential diagnosis are abdominal distention, anorexia, alternating loose and dry stools, scanty yellow urine, thick and greasy tongue coating, and a slippery pulse. If food stagnation is in the middle *jiao*, the manifestations are abdominal distention, anorexia, vomiting or diarrhea; if food stagnation leads to a counterflow of fetid qi, the manifestations are bad breath and fetid stools.

Treatment Principles

Release the exterior, promote digestion and remove food stagnation.

Formula

To the basic formula for dispersing wind and releasing the exterior, add *Bǎo Hé Wán*—**Harmony-Preserving Pill**.

Common medicinals to promote digestion and remove food stagnation:

焦山楂	<i>jiāo shān zhā</i>	Fructus Crataegi Praeparata
焦六曲	<i>jiāo liù qū</i>	Massa Medicata Fermentata Praeparata
鸡内金	<i>jī nèi jīn</i>	Endothelium Corneum Gigeriae Galli
莱菔子	<i>lái fú zǐ</i>	Semen Raphani
枳实	<i>zhǐ shí</i>	Fructus Aurantii Immaturus

For cases of constipation, dry stools, scanty yellow urine, and a high fever with thirst, add *dà huáng* (Radix et Rhizoma Rhei) and *xuán míng fěn* (Natrii Sulfas Exsiccatus) to unblock the bowels, discharge heat, and release both exterior and interior.

Chinese Patent Medicines

Wǔ Shí Chá Kē Lì—Noon Tea Granules

6 g bag. 1/2 bag, once or twice daily.

Applicable for common colds with food retention.

Jiàn Ēr Qīng Jiě Yè—Children-Fortifying Heat-Clearing Liquid

10 ml/ bottle. 10-15 ml, 4 ml for infants, 8 ml for children under 5 years old, 3 times daily. Increase the dose accordingly for children older than 6 years.

Tui na

Points	Repetitions	Methods
<i>Kǎn gōng</i> (坎宫)	200-300	Pushing
EX-HN 5 (<i>tài yáng</i>)	200-300	Kneading
<i>Sān guān</i> (三关)	100-150	Pushing
<i>Liù fǔ</i> (六腑)	100-150	Pushing
BL 13 (<i>fēi shù</i>)	150-200	Kneading
<i>tiān shū</i> (天枢)	100-200	Kneading
<i>Jí</i> (spine)	5-8	Pinching

Push *kǎn gōng* 200-300 times, knead *tài yáng* 200-300 times, push *sān guān* 100-150 times, push *liù fǔ* 100-150 times, knead *fēi shù* 150-200 times, knead *tiān shū* 100-200 times, and pinch the spine 5-8 times. Apply once or twice daily, with 4 times as one treatment course.

Fright, Nervousness or Convulsions

Signs and Symptoms

In addition to the common cold symptoms, the child is susceptible to fright, crying a lot and has a disturbed sleep. In severe cases, the child has sudden convulsions with unconsciousness. The tongue is red and the pulse is floating and wiry.

Pattern Differentiation

When there is common cold with fright and nervousness or convulsions, the seizures

usually only occur once and rarely occur a second time during the illness. The symptoms disappear with the release of heat and some patients will not have another convulsion, even if there is the same degree of fever in subsequent febrile illnesses. This pattern is characterized by susceptibility to fright, copious crying, disturbed sleep, and even sudden convulsive seizures with unconsciousness.

If there is severe heat in the heart and liver, the manifestations are a red tongue and wiry pulse.

Treatment Principles

Release the exterior, clear heat, and suppress fright

Formula

Add *Zhèn Jīng Wán—Fright-Calming Pill* into the formula of dispersing wind and releasing the exterior medicinals.

The commonly added medicinals to clear heat and suppress fright are:

钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
僵蚕	<i>jiāng cán</i>	Bombyx Batryticatus
蝉蜕	<i>chán tuì</i>	Periostracum Cicadae

Chinese Patent Medicines

Xiǎo Ér Huí Chūn Dān—Children's Return-of-Spring Elixir

0.09 g/pill. If younger than 1 year, use 1 pill. 1-2 years old, 2 pills.

Use 2 or 3 times daily.

Xiǎo Ér Jīn Dān Piàn—Children's Gold Elixir Pill

0.3 g/pill. For children over 1 year, use 2 pills, 3 times daily.

If children under 1 year, decrease the dosage accordingly.

Tuī na

Points	Repetitions	Methods
<i>Kǎn gōng</i> (坎宮)	200-300	Pushing
EX-HN 5 (<i>tài yáng</i>)	200-300	Kneading
<i>Sān guān</i> (三关)	100-150	Pushing
<i>Liù fǔ</i> (六腑)	100-150	Pushing
BL 13 (<i>fèi shù</i>)	150-200	Kneading
<i>Xīn jīng</i> (心经)	100-200	Pushing
<i>Tiān hé shuǐ</i> (天河水)	100-200	Clearing

Push *kǎn gōng* 200-300 times, knead *tài yáng* 200-300 times, push *sān guān* 100-150 times, push *liù fǔ* 100-150 times, knead *fèi shù* 150-200 times, push *xīn jīng* 100-200 times, and clear *tiān hé shuǐ* 100-200 times. Apply once or twice daily, with 4 times as one treatment course.

Acupuncture

DU 26 (<i>rén zhōng</i>)	LI 4 (<i>hé gǔ</i>)	KI 1 (<i>yǒng quán</i>)
----------------------------	-----------------------	---------------------------

Use the drainage method with strong stimulation and without needle retention. For phlegm rale in the throat, add ST 40 (*fēng lóng*) and RN 22 (*tiān tū*); for red complexion with high fever, add DU 14 (*dà zhuī*) and LI 11 (*qū chí*); for lockjaw, add ST 7 (*xià guān*) and ST 6 (*jiá chē*).

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) Avoid exposure to patients with common cold and stay away from public places during common cold epidemics.

(2) Fumigate the room with vinegar to disinfect the air and prevent influenza during an epidemic. Method: For every cubic metre, use vinegar 3-5 ml with 3-10 ml water. Pour mixture into a pot and heat without lid, until the pot is dry. Use once daily for 3-5 days. Keep the doors and windows closed when fumigating.

2. NURSING CARE

(1) Increase the child's warm water intake during their fever. Let the child drink the decoction when warm, then cover the child with blankets to encourage sweating.

(2) Closely monitor any changes in the condition. For children with a history of febrile convulsions, preventive measures should be adopted at the early stage when the body temperature rises.

[CASE STUDIES]

► Case # 1. Male, age 7 months. Initial Visit: 5/19/80

Signs and Symptoms: fever, mild cough, minimal sweating and a thin nasal discharge. The symptoms didn't reduce after the child was given *Gǎn Mào Chōng Jì*—Cold Granules. On the morning of the visit, he developed red and itching canthi, had increased salivation and had a fever of 39°C. The physical signs were a swollen and red throat and a white tongue coating. The child was diagnosed with externally contracted wind affecting the heart and lung. The treatment principle was to release the exterior by dispersing wind and to clear heat from the heart and lung.

Formula

荆芥穗	<i>jīng jiè suì</i>	6 g	Spica Schizonepetae
羌活	<i>qiāng huó</i>	6 g	Rhizoma et Radix Notopterygii
板蓝根	<i>bǎn lán gēn</i>	6 g	Radix Isatidis
牛蒡子	<i>niú bàng zǐ</i>	10 g	Fructus Arctii
防风	<i>fáng fēng</i>	6 g	Radix Saposhnikoviae
黄芩	<i>huáng qín</i>	10 g	Radix Scutellariae
炒知母	<i>chǎo zhī mǔ</i>	6 g	Rhizoma Anemarrhenae Praeparata cum Melle
淡豆豉	<i>dàn dòu chǐ</i>	6 g	Semen Sojae Praeparatum

神曲	shén qū	10 g	Massa Medicata Fermentata
桔梗	jié gěng	6 g	Radix Platycodonis
杏仁泥	xìng rén	6 g	Semen Armeniacae Amarum
淡竹叶	dàn zhú yè	6 g	Herba Lophatheri
生甘草	shēng gān cǎo	3 g	Radix et Rhizoma Glycyrrhizae

3 doses

After 3 doses, all symptoms were relieved.

Analysis

By checking for redness in the throat we can differentiate a heat pattern from a cold pattern. This case manifested at the beginning as a wind-cold pattern, but then quickly transformed into heat with inward penetration; this is characteristic of the common cold in children. This case is a complex cold-heat pattern, so the treatment method was to release the exterior, disperse wind, and clear heat by using both acrid-warm and acrid-cold medicinals together.

Source: Zhang SQ. 中国百年百名中医临床家丛书 [Collection of Works Written by 100 Famous Doctors of TCM in the 20th Century]. Beijing: China Press of Traditional Chinese Medicine; 2001:10.

► Case # 2. Male, age 1 year. Initial Visit: 2/2/2000

Signs and Symptoms: fever for 1 day. After a big meal the previous day, he caught a cold while taking a bath. At this visit he had a low fever of 38°C, slight aversion to cold, no sweating, thin nasal discharge, a mild cough without phlegm, wheezing, poor appetite, abdominal distention and dry stools. His physical signs were a normal-colored throat, a slightly red tongue with thin white coating and light-red finger venules within the wind pass. The diagnosis was external contraction of wind-cold with food retention. The treatment principles are to release the exterior, dissipate cold, promote digestion and remove food stagnation.

Formula

杏仁	xìng rén	5 g	Semen Armeniacae Amarum
苏叶	sū yè	5 g	Folium Perillae
陈皮	chén pí	5 g	Pericarpium Citri Reticulatae
半夏	bàn xià	5 g	Rhizoma Pinelliae
茯苓	fú líng	5 g	Poria
荆芥	jīng jiè	5 g	Herba Schizonepetae
桔梗	jié gěng	5 g	Radix Platycodonis
枳壳	zhǐ qiào	5 g	Fructus Aurantii
神曲	shén qū	10 g	Massa Medicata Fermentata
甘草	gān cǎo	3 g	Radix et Rhizoma Glycyrrhizae



2 doses

After 1 dose, the fever was reduced. After 2 doses, his cough was relieved, appetite improved and stools normal. He had a light red tongue with thin white coating, and light-purple finger venules. He was then given *Bǎo Hé Wán*—Harmony-Preserving Pill to fortify and activate the spleen and stomach.

Analysis

Common cold with food retention is a common pattern in children. The physiological characteristics of a “delicate lung” and “constant insufficiency of the spleen” were prominent in this case as the boy was very young. The food stagnation occurred due to overeating, causing dysfunction of splenic transportation and transformation. An attack of common cold occurred after exposure to exogenous pathogens and lung *wei* failed to diffuse. Therefore, the treatment methods were to release and dissipate the external pathogens while promoting digestion and guiding out food stagnation. When the exterior pathogens were released, the internal stagnation was removed, and qi movement was harmonized, the symptoms disappeared.

Source: Wan LS, editor. 汪受传儿科医论医案选 [Wang Shouchuan's Selected Medical Views and Case Records on Pediatrics]. Beijing: Academy Press; 2008:79.

[QUESTIONS]

1. A 4 years old child is seen with a fever (T 39°C) for one day accompanied by aversion to wind, slight sweating, headache, nasal congestion with thick nasal discharge, mild cough, swelling and redness and a sore throat. The tongue is red with a thin yellow coating; there is a floating and rapid pulse.

What is the best choice of formula?

- A. *Sāng Jú Yīn*—Mulberry Leaf and Chrysanthemum Beverage
- B. *Jīng Fáng BÀI Dú Sǎn*—Schizonepeta and Saposhnikovia Toxin-Resolving Powder
- C. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder
- D. *Xīn Jiā Xiāng Rú Yīn*—Newly Supplemented Mosla Beverage
- E. *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder

2. A 2-year-old child has had a fever for two hours, aversion to cold without sweating, nasal congestion with a thin nasal discharge, mild cough, a normal-colored throat and poor appetite. The tongue is light red with a thin white coating and there are floating red finger venules.

What is the most suitable Chinese patent medicine?

- A. *Gǎn Mào Qīng Rè Kē Lì*—Children's Common Cold Clearing Heat Granules
- B. *Xǎo Ēr Gǎn Mào Kē Lì*—Children's Common Cold Granules
- C. *Huò Xiāng Zhèng Qì Kǒu Fú Yè*—Agastache Qi-Correcting Oral Liquid
- D. *Kàng Bīng Dú Kǒu Fú Yè*—Anti-virus Liquid
- E. *Jiàn Ēr Qīng Jiě Yè*—Children's Fortifying and Heat Clearing Liquid

3. A 7-year-old child has had a fever for 3 days after several consecutive hot days. The symptoms are an unremitting fever after sweating, dizziness, headache, stuffiness in the chest, a heavy body with fatigue and nausea, irritation with thirst, poor appetite, loose stools, and scanty yellow urine.

What is the pattern?

- A. Common cold due to wind-heat

- B. Common cold due to wind-cold
- C. Common cold with food retention
- D. Common cold due to summerheat
- E. Common cold due to seasonal epidemic pathogens

4. A 5-year-old child with fever, aversion to cold without sweating, nasal congestion and discharge, a mild cough, epigastric and abdominal distention, vomiting with acid and a fetid odor, bad breath, foul stools, and scanty yellow urine. The tongue is red with thick greasy coating and there is a slippery pulse.

What is the pattern?

- A. Common cold due to wind-heat
- B. Common cold due to wind-cold
- C. Diarrhea due to dampness and heat
- D. Common cold due to summerheat
- E. Common cold with food retention

5. A 1-year-old child presents with fever for two days, aversion to cold without sweating, headache, nasal congestion with thin nasal discharge, cough, and phlegm rale in the throat. The tongue is light red with a white coating and there is a floating and slippery pulse.

Aside from releasing the exterior, what are the other treatment methods?

- A. Warm the lung and resolve phlegm
- B. Descend lung qi and resolve phlegm
- C. Diffuse the lung and resolve phlegm
- D. Clear the lung and resolve phlegm
- E. Dry dampness and resolve phlegm

[REFERENCES]

- [1] <http://www.merck.com/mmhe/sec23/ch273/ch273i.html>
- [2] David W. Fleming MD, Stephen L. etc. Childhood Upper Respiratory Tract Infections: To What Degree Is Incidence Affected by Day-Care Attendance? *Pediatrics*. 1987; 79 (1):55-60
- [3] Li YN, Zhang BJ, Pan YL, et, al. A double-blind trial on the effects of Xiaoorganmaoshu granule on externally contracted fevers in children (pattern of exterior cold and interior heat) [J]. *Chinese Journal of Information on Traditional Chinese Medicine*, 2001; 8(9): 55-56.
- [4] Cai DS. Clinic observations on the effects of Xiaoorganmaoling on 60 children's cases of common cold due to viral infections [J]. *Journal of Public Health and Preventive Medicine*, 2006; 17(1): 27.
- [5] <http://emedicine.medscape.com/article/302460-overview>

Chapter 9

Cough (Ké Sòu)

Cough is a common lung system disorder in childhood, corresponding to tracheitis and bronchitis in Western medicine. Coughing due to pneumonia, asthma, tuberculosis and pertussis are not included in this section.

Cough may occur throughout the year but is more common in winter and spring. It affects children of any age, especially children under 3 years old. Childhood cough can be classified into exogenous and endogenous types, with the exogenous type being most common. The prognosis is generally favorable, but improper treatment or incorrect nursing care may result in recurrence, deteriorated conditions or even pneumonia.

Coughing is a common symptom in pediatric clinics around the world. In this section, acute and chronic bronchitis are mainly discussed. The etiology of cough is complex, especially chronic coughing in children, of which there are certain difficulties in diagnosis and treatment. Western medical treatment focuses mainly on etiological factors and symptomatic treatment^[1]. The United States, Australia, Singapore, Japan and Europe have established clinical guidelines for diagnosis and treatment of childhood chronic cough; China also developed separate guidelines in 2007.

There is abundant literature supporting the clinical efficacy of treating cough with Chinese medicine. Chen Guang-ming et al. considered that cough was mainly caused by pathogenic wind, theorizing that pathogens invade the lung and obstruct the lung collaterals and impair normal lung qi functions of dispersing and descending, which leads to lung qi counterflow. *Sāng Xīng Qián Jié Tāng*—Mulberry Leaf, Apricot Kernel, Hogfennel Root and Platycodon Decoction, composed of *sāng yè* (Folium Mori), *xīng rén* (Semen Armeniacae Amarum), *qián hú* (Radix Peucedani), *jié gēng* (Radix Platycodonis), *chén pí* (Pericarpium Citri Reticulatae), *zhì bàn xià* (Rhizoma Pinelliae Praeparatum), *zhì bǎi bù* (Radix Stemonae Praeparatum), *zhì zǐ wǎn* (Radix et Rhizoma Asteris Praeparatum), *zhì kuǎn dōng huā* (Flos Farfarae Praeparatum), *pí pá yè* (Folium Eriobotryae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) was applied in 124 children with acute bronchitis. Results showed a cure in 63 cases, marked improvement in 57 cases, and no beneficial effect in 4 cases. Overall, the formula was effective in 96.78% of cases^[2].

Hu Jia-cai et al. applied *Infrared Relieving Cough Paste* on acupoints to treat 30 cases of patients with cough. Using *bái jiè zǐ* (Semen Sinapis), *zhú lì* (Succus Bambusae), *shēng jiāng zhī* (Succus Rhizomatis Zingiberis) and other medicinals, the paste was produced with modern pharmaceutical technology. RN 17 (*dàn zhōng*), BL 13 (*fēi shù*), BL 43 (*gāo huāng*) and other points were selected in those patients. Results showed cures in 17 cases, marked improvement in 12 cases, and minor improvements in 1 case. The overall effective rate was 96.70%^[3].

[ETIOLOGY & PATHOMECHANISM]

The etiology of childhood cough includes external contraction and internal damage factors. Externally contracted cough is more common in childhood because due to their

delicate skin and muscle and defensive qi weakness, children are susceptible to invasion by external pathogens, especially wind pathogens.

The Book for Saving Children's Lives—Cough (Huó Yòu Xīn Shū—Ké Sòu) states that “although cough includes a variety of situations, it is often classified into cold, heat, deficiency and excess, and treatment varies according to the pattern. The onset of this disease is always caused by lung damage from the common cold.” (咳嗽者，固有数类，但分寒热虚实，随证疏解，初中时未有不因感冒而伤于肺。) This suggests that coughing is mainly caused by external contraction, however, endogenous causes may involve spleen and lung deficiency.

The pathological location is mainly in the lung and often relates to the spleen; the pathomechanism is impaired lung dispersing and descending leading to lung qi ascending counterflow. External pathogens invade the lung through the mouth and nose or the skin and hair resulting in lung failure to disperse and descend. A child's spleen is always insufficient, thus generating phlegm which builds up in the lung. Persistent cough will consume and damage healthy qi, and the disease may transform into an internal damage cough pattern as a result.

Invasion of External Pathogens

The etiology of this disease mainly involves wind pathogens invading the body. Wind invades lung-wei, obstructs the lung collaterals, hinders qi movement and impairs the normal lung qi functions of dispersing and descending. This causes ascending counterflow of lung qi and manifests as cough. Wind is the leading factor in various diseases and other exogenous pathogens which often attack the body. If wind invades the body with cold, wind-cold constrains the lung and lung qi fails to disperse, which manifests as coughing and itching in the throat with deep, harsh voice and the production of thin white phlegm. If wind invades the lung with heat, there will be a rough cough with sticky yellow phlegm.

Accumulation of Phlegm-Heat in the Lung

Heat pathogens linger after external contraction and easily invade internally into the lung, thus lung qi fails to disperse fluids leading to the generation of phlegm. Alternatively, an insufficient spleen fails to transform fluids may also result in the generation of phlegm-dampness. When there is pre-existing food stagnation which turns into heat or there is heart and liver fire, phlegm combines with pathogenic heat to block the respiratory tract and results in failure of the lung qi to purify. This pattern manifests as coughing with profuse sticky yellow difficult to expectorate phlegm.

Accumulation of Phlegm-Dampness in the Lung

Because children are often insufficient in the spleen, they are liable to be injured by improper milk feeding or raw cold foods, resulting in impairment of normal splenic functions of transformation and transportation. Water and dampness thus fail to be transformed into body fluids, while water and food are unable to transform into nutrients, brewing into phlegm accumulating in the lung. The delicate lung fails to disperse fluids, which may also coagulate into phlegm. Phlegm obstructs the airways and qi cannot flow freely, so lung qi fails to disperse and descend to cause coughing with profuse thin white phlegm.

Deficiency of Lung and Spleen Qi

Children with congenital insufficiency and weak constitution or prolonged cough impairing healthy qi may suffer from lung and spleen qi deficiency, which results in

impaired transformation and transportation. Qi fails to disperse fluids properly and thus generates phlegm accumulating in the lung collaterals with a persistent weak cough with thin white phlegm.

Deficiency of Lung Yin

The lung is delicate and weak in children. If coughing persists, the deficiency of vital qi leads to lingering pathogens and the heat that will scorch and damage the lung fluids. Yin deficiency may generate interior heat or dryness which impairs the lung collaterals, manifesting as a persistent dry cough and a hoarse voice.

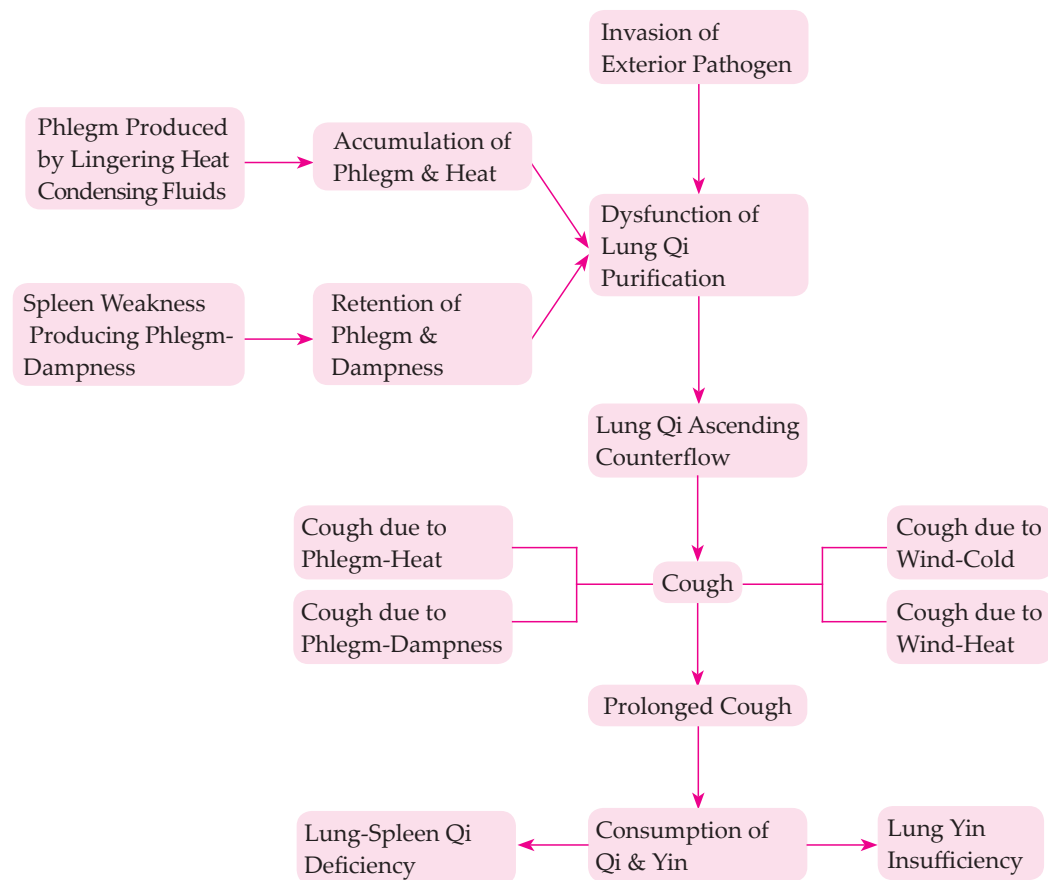


Fig. 9-1 Etiology and Pathomechanism of Cough

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

- (1) Often occurs in winter and spring, usually induced by climatic changes.
- (2) Often with a common cold before the onset of cough.
- (3) Cough as the main symptom.
- (4) Lung auscultation reveals harsh breathing sounds, dry rales or coarse moist rales.
- (5) Laboratory Examination:

a. Blood examination reveals normal or reduced white blood cell counts in cases of viral infection, whereas increased white blood cell and neutrophil counts are seen in cases of bacterial infection.

b. X-ray examination is normal or with increased lung markings and a widened hilar shadow.

► Differential Diagnosis

Cough needs to be differentiated from the common cold, pneumonia, asthma, primary pulmonary tuberculosis, and bronchial foreign body. See Table 9-1.

Table 9-1 Differential Diagnosis of Cough and Commonly Related Diseases

Essentials of Diagnosis	Cough	Common Cold	Asthma	Pneumonia	Primary Pulmonary Tuberculosis	Bronchial Foreign Body
History	Common cold	Catching cold	Allergic constitution	Bronchitis	Contact with tuberculosis patients	Foreign body aspiration
Main Signs & Symptoms	Cough, mild symptoms of common cold, normal or harsh respiratory sounds, or rhonchi	Symptoms of common cold, normal or harsh respiratory sounds	Mild or acute paroxysmal cough, wheezing	Fever, cough, profuse sputum, dyspnea, small moist rales	Constant cough, persistent low fever, night sweats	Refractory constant cough, choking cough, wheezing
Chest X-ray Examination	Normal or increased lung markings	Normal	Normal or increased lung marking or emphysema	Increased lung markings, minor opacities	Prominent hilar shadow with blurred edges	Pulmonary atelectasis or emphysema
PPD Test	Negative	Negative	Negative	Negative	Positive	Negative

The treatment for tuberculosis involves anti-tuberculosis chemotherapy; those with active tuberculosis should be isolated. To diagnose a bronchial foreign body fiberoptic bronchoscopy is used; the foreign body may then be removed, but if firmly impacted, rigid bronchoscopy may be required.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Cough is classified according to eight-principle pattern differentiation; cough caused by external contraction and internal damage should be differentiated first. Cough due to external contraction typically has an acute onset, a high-pitched cough of short duration, and is accompanied by an exterior pattern; cough due to internal damage has a typical chronic onset and a low-pitched cough of long duration.

Next, deficiency and excess should be differentiated. Externally contracted coughing

is usually an excess pattern, while an internal damage cough is usually accompanied by patterns that transform from excess to deficiency, or there are deficiency patterns complicated by excess.

Finally, cold and heat should be differentiated. Cold patterns typically produce a cough with thin white sputum, a normal throat and a slightly red tongue with a thin white or greasy tongue coating. Heat patterns manifest as coughing with thick sticky yellow phlegm and a red throat. The tongue may have scant coating or there may be a yellow greasy coating.

► Treatment Principles

The main treatment principle for cough is to diffuse and descend lung qi.

For externally contracted cough, the basic principles are to disperse and dissipate external pathogens and diffuse lung qi. Different treatment methods are used depending on whether it is a cold or heat pattern, such as diffusing the lung and dissipating cold or diffusing the lung and resolving heat. An externally contracted cough usually involves excess pathogens with sufficient healthy qi, so it is important to avoid application of replenishing or astringing medicinals or cough-suppressant drugs too early so as to prevent internal retention of the pathogens.

For those with an internal damage cough, treatment is based on the location and nature of the disease. With phlegm-heat or phlegm-dampness patterns, excess phlegm is treated by clearing the lung and resolving phlegm or by drying dampness and resolving phlegm. Qi and yin deficiency is treated by fortifying the spleen and supplementing the lung, boosting qi and dissolving phlegm, or by nourishing yin and moistening the lung combined with clearing residual heat respectively. Apart from oral decoctions, Chinese patent medicines are also often applied.

► Classification of Patterns and Treatments

1. EXOGENOUS COUGH

Wind-Cold Cough

Signs and Symptoms

Manifestations include frequent cough, heavy voice, itchy throat, thin white sputum, nasal congestion with nasal discharge, aversion to cold without sweating, fever and headache, aching body and a light-red throat. The tongue has a thin white coating and there are red finger venules; the pulse is floating and/or tight.

Pattern Differentiation

Cough due to wind-cold is characterized by sudden onset, frequent coughing, a heavy voice, itchy throat and thin white phlegm. Childhood cough due to wind-cold can easily transmute into a heat pattern. If wind-cold is accompanied by heat, there is a hoarse voice, aversion to cold, nasal congestion, a red throat, and thirst. If transmuted into a wind-heat pattern, there is cough with yellow phlegm, thirst, a sore throat, and a turbid nasal discharge.

Treatment Principles

Disperse wind and dissipate cold, diffuse the lung and relieve cough

Formula**Modified *Jīng Fèi Cǎo Sǎn*—Inula Herb Powder**

金沸草	<i>jīn fèi cǎo</i>	Herba Inulae
前胡	<i>qián hú</i>	Radix Peucedani
荆芥	<i>jīng jiè</i>	Herba Schizonepetae
细辛	<i>xì xīn</i>	Radix et Rhizoma Asari
生姜	<i>shēng jiāng</i>	Rhizoma Zingiberis Recens
半夏	<i>bàn xià</i>	Rhizoma Pinelliae

Formula Analysis

Jīn fèi cǎo (Herba Inulae) expels wind, dissolves phlegm and relieves cough.

Qián hú (Radix Peucedani) and *jīng jiè* (Herba Schizonepetae) disperse wind and dissipate cold.

Xì xīn (Radix et Rhizoma Asari) warms the channels and dissipates cold.

Shēng jiāng (Rhizoma Zingiberis Recens) and *bàn xià* (Rhizoma Pinelliae) dissipate cold, dry dampness, and dissolve phlegm.

Modifications

For severe cold, add *zhì má huáng* (Herba Ephedrae Praeparata cum Melle) to diffuse the lung with acrid and warm medicinals.

For severe cough, add *xìng rén* (Semen Armeniacae Amarum), *jié gěng* (Radix Platycodonis) and *pí pá yè* (Folium Eriobotryae) to disperse the lung and relieve cough.

For profuse phlegm, add *chén pí* (Pericarpium Citri Reticulatae) and *fú líng* (Poria) to dissolve phlegm and regulate qì.

For wind-cold accompanied by heat, replace the formula with *Xìng Sū Sǎn*—Apricot Kernel and Perilla Powder and add *dà qīng yè* (Folium Isatidis) and *huáng qíng* (Radix Scutellariae) to clear lung heat.

Chinese Patent Medicines

Xiǎo Ér Xuān Fèi Zhǐ Ké Kē Lì—Children Lung-Dispersing Cough-Releasing Granules

8 g each bag. Less than one year old, 1/3 bag. Age 1-3, 2/3 bag. Age 4-7, 1 bag. Age 8-14, 1.5 bags. Take with warm water, 3 times daily.

Indications

Cough due to wind-cold constraining the exterior or cough due to stagnation of phlegm-heat in the lung.

Tuī na

Points	Repetitions	Methods
Nèi bā guà (内八卦)	200-300	Kneading (gently, clockwise)
Fèi jīng (肺经)	200-300	Clearing
EX-HN 5 (tài yáng)	50-100	Kneading
Wài láo gōng (EX-UE 8)	150-200	Kneading
Sān guān (三关)	150-200	Pushing

Knead *nèi bā guà* clockwise gently 200-300 times, clear *fèi jīng* 200-300 times, knead *tài yáng* 50-100 times, knead *wài láo gōng* 150-200 times, and push *sān guān* 150-200 times. Treat 1-2 times daily, 4 times as one course of treatment.

Acupuncture

BL 13 (*fèi shù*)

GB 20 (*fēng chí*)

Needle perpendicularly, then remove the needle. Treat 1-2 times daily, 4 times as one course of treatment.

Wind-Heat Cough

Signs and Symptoms

Manifestations include a rough cough with thick yellow phlegm that is difficult to expectorate, thirst, sore throat and turbid nasal discharge accompanied by fever and aversion to wind, headache, and slight sweating. The tongue is red with a thin yellow coating and there are purple finger venules; the pulse is floating and/or rapid.

Pattern Differentiation

This pattern is characterized by a rough cough with thick yellow phlegm and other symptoms of externally contracted wind-heat. If lung-heat is predominant there is poor clearance of thick yellow phlegm, thirst, and a sore throat.

If wind-cold constrains the exterior there is fever, headache, aversion to wind and slight sweating.

In the case of acute wind-heat there is fever and a turbid nasal discharge. The tongue is red with thin and yellow coating, there are purple finger venules, and the pulse is floating and/or rapid.

If wind-heat is accompanied by dampness there is coughing with profuse phlegm, chest tightness, and sweating. The tongue has a greasy yellow coating and the pulse is soggy and rapid.

Treatment Principles

Disperse wind and clear heat, diffuse the lung and relieve cough

Formula

Modified *Sāng Jú Yǐn*—Mulberry Leaf and Chrysanthemum Beverage

桑叶	<i>sāng yè</i>	Folium Mori
菊花	<i>jú huā</i>	Flos Chrysanthemi
薄荷	<i>bò he</i>	Herba Menthae
连翘	<i>lián qiào</i>	Fructus Forsythiae
大青叶	<i>dà qīng yè</i>	Folium Isatidis
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
前胡	<i>qián hú</i>	Radix Peucedani
桔梗	<i>jié gěng</i>	Radix Platycodonis
芦根	<i>lú gēn</i>	Rhizoma Phragmitis
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle

Formula Analysis

Sāng yè (Folium Mori) and *jú huā* (Flos Chrysanthemi) expel wind and clear heat.

Bò he (Herba Menthae), *lián qiào* (Fructus Forsythiae) and *dà qīng yè* (Folium Isatidis) clear heat, release the exterior, and diffuse pathogens with acrid and cool medicinals.

Xīng rén (Semen Armeniacae Amarum), *qián hú* (Radix Peucedani) and *jié gěng* (Radix Platycodonis) disperse the lung and relieve coughing.

Lú gēn (Rhizoma Phragmitis) clears heat and engenders fluids.

Zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) harmonizes the actions of all formula medicinals.

Modifications

For acute lung-heat, add *jīn yín huā* (Lonicerae Japonicae) and *huáng qíng* (Radix Scutellariae) to clear and diffuse lung heat.

For a red and swollen sore throat, add *tǔ niú xī* (Radix et Rhizome Achyranthes) and *xuán shēn* (Radix Scrophulariae) to cool the throat and reduce swelling.

For acute cough, add *pí pá yè* (Folium Eriobotryae) and *sāng bái pí* (Cortex Mori) to clear the lung and relieve coughing.

For profuse phlegm, add *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii) and *guā lóu pí* (Pericarpium Trichosanthis) to dissolve phlegm and relieve cough.

For wind-heat accompanied by dampness, add *yì yǐ rén* (Semen Coicis), *bàn xià* (Rhizoma Pinelliae) and *fú líng* (Poria) to diffuse the lung and dry dampness.

Chinese Patent Medicines

Jí Zhī Tǎng Jiāng—Acute Bronchitis Syrup

100 ml per bottle. 5-10 ml, 3 times daily.

Tuī na

Points	Repetitions	Methods
BL13 (<i>fèi shù</i>)	200-300	Kneading
<i>Fèi jīng</i> (肺经)	200-300	Clearing
<i>Tiān hé shuǐ</i> (天河水)	150-200	Clearing
<i>Liù fǔ</i> (六腑)	150-200	Pushing

Knead *fèi shù* 200-300 times, clear *fèi jīng* 200-300 times, clear *tiān hé shuǐ* 150-200 times, and push *liù fǔ* 150-200 times. Treat 1-2 times daily, with 4 times as one course of treatment.

Acupuncture

BL 13 (<i>fèi shù</i>)	DU 14 (<i>dà zhuī</i>)
--------------------------	--------------------------

Apply acupuncture perpendicularly then remove the needle. Treat 1-2 times daily, with 4 times as one course of treatment.

2. ENDOGENOUS COUGH

Phlegm-Heat Cough

Signs and Symptoms

Manifestations include coughing with profuse thick yellow difficult to expectorate sputum, or even wheezing in the throat, fever, thirst, restlessness, scant yellow urine, and

dry hard stools. The tongue is red with a greasy yellow coating, and there are purple finger venules; the pulse is slippery and rapid.

Pattern Differentiation

This pattern is characterized by cough with profuse thick yellow phlegm which is difficult to expectorate. If heat is predominant there is fever, thirst, restlessness, scant yellow urine, and dry hard stools. If phlegm is predominant there is wheezing in the throat, a greasy tongue coating, and a rapid slippery pulse.

Treatment Principles

Clear the lung, dissolve phlegm and relieve cough

Formula

Modified *Qīng Jīn Huà Tán Tāng*—Metal-Clearing Phlegm-Resolving Decoction

桑白皮	<i>sāng bái pí</i>	Cortex Mori
前胡	<i>qián hú</i>	Radix Peucedani
款冬花	<i>kuǎn dōng huā</i>	Flos Farfarae
黄芩	<i>huáng qín</i>	Radix Scutellariae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
鱼腥草	<i>yú xīng cǎo</i>	Herba Houttuyniae
桔梗	<i>jié gěng</i>	Radix Platycodonis
浙贝母	<i>zhè bèi mǔ</i>	Bulbus Fritillariae Thunbergii
橘红	<i>jú hóng</i>	Exocarpium Citri Rubrum
麦冬	<i>mài dōng</i>	Radix Ophiopogonis
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle

Formula Analysis

Sāng bái pí (Cortex Mori), *qián hú* (Radix Peucedani) and *kuǎn dōng huā* (Flos Farfarae) clear the lung, suppress lung qi, and relieve cough.

Huáng qín (Radix Scutellariae), *zhī zǐ* (Fructus Gardeniae) and *yú xīng cǎo* (Herba Houttuyniae) clear lung heat.

Jié gěng (Radix Platycodonis), *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii) and *jú hóng* (Exocarpium Citri Rubrum) relieve cough and dissolve phlegm.

Mài dōng (Radix Ophiopogonis) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) moisten the lung and relieve cough.

Modifications

For profuse yellow phlegm that is difficult to expectorate, add *guā lóu pí* (Pericarpium Trichosanthis), *dǎn nán xīng* (Arisaema cum Bile) and *tíng lì zǐ* (Semen Lepidii; Semen Descurainiae) to clear the lung and dissolve phlegm.

For acute cough with chest and rib-side pain, add *yù jīn* (Radix Curcumae) and *zhǐ qiào* (Fructus Aurantii) to rectify qi and unblock the lung collaterals.

For dysphoria and thirst, add *zhú yè* (Folium Phyllostachydis Henonis) and *zhī mǔ* (Rhizoma Anemarrhenae) to clear the heart and eliminate dysphoria.

For constipation, add *guā lóu rén* (Semen Coicis) and *zhì dà huáng* (Radix et Rhizoma Rhei Praeparata) to moisten the intestines and promote defecation.

Chinese Patent Medicines

Zhú Lì—Bamboo Juice

100 ml per bottle. 5-10 ml, 3 times daily.

Tui na

Points	Repetitions	Methods
Nèi bā guà (内八卦)	200-300	Kneading (counter-clockwise, gentle)
Fèi jīng (肺经)	200-300	Clearing
Gān jīng (肝经)	100-150	Clearing
Xiǎo héng wén (小横纹)	150-200	Kneading

Apply gentle counter-clockwise kneading on *nèi bā guà* 200-300 times, clear *fèi jīng* 200-300 times, clear *gān jīng* 100-150 times, and knead *xiǎo héng wén* 150-200 times. Treat 1-2 times daily, 4 times as one course of treatment.

Phlegm-Dampness Cough

Signs and Symptoms

Manifestations include coughing with a heavy voice, profuse thin white phlegm, rumbling in the throat, chest tightness, poor appetite, spirit-fatigue and lassitude. The tongue is light red with a greasy white coating; the pulse is slippery.

Pattern Differentiation

This pattern is characterized by an accumulation of profuse thin white phlegm. If dampness is predominant, there is chest tightness, spirit-fatigue and lassitude. If damp-turbidity encumbers the spleen, there is poor appetite.

Treatment Principles

Dry dampness, dissolve phlegm and relieve cough

Formula

Modified *Sān Ào Tāng*—Rough and Ready Three Decoction with *Èr Chén Tāng*—Two Mature Red Substances Decoction

炙麻黄	<i>Zhì má huáng</i>	Herba Ephedrae Praeparata cum Melle
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
白前	<i>bái qián</i>	Rhizoma et Radix Cynanchi Stauntonii
远志	<i>yuǎn zhì</i>	Radix Polygalae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
茯苓	<i>fú líng</i>	Poria
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle

Formula Analysis

Zhì má huáng (Herba Ephedrae Praeparata cum Melle), *xìng rén* (Semen Armeniacae Amarum), *bái qián* (Rhizoma et Radix Cynanchi Stauntonii) and *yuǎn zhì* (Radix Polygalae)

diffuse the lung and relieve cough.

Chén pí (Pericarpium Citri Reticulatae), *bàn xià* (Rhizoma Pinelliae) and *fú líng* (Poria) dry dampness and dissolve phlegm.

Zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) harmonizes the middle *jiao*.

Modifications

For profuse phlegm, add *zǐ sū zǐ* (Fructus Perillae) and *lái fú zǐ* (Semen Raphani) to promote qì circulation and dissolve phlegm.

For predominant dampness, add *cāng zhú* (Rhizoma Atractylodis) and *hòu pò* (Cortex Magnoliae Officinalis) to dry dampness, fortify the spleen, ease chest tightness and move qì.

For acute cough, add *kuān dōng huā* (Flos Farfarae), *bǎi bù* (Radix Stemonae) and *pí pá yè* (Folium Eriobotryae) to diffuse the lung and dissolve phlegm.

For poor appetite, add *jiāo liú qū* (Massa Medicata Fermentata Praeparata), *chǎo mài yá* (Fructus Hordei Germinatus Praeparata) and *jiāo shān zhā* (Fructus Crataegi) to awaken the spleen and promote digestion.

Chinese Patent Medicines

Bàn Xià Lù Chōng Jì—Rhizoma Pinelliae Granules.

14 g per bag. 7 g with warm water, 4 times daily.

Tuī na

Points	Repetitions	Methods
<i>Nèi bā guà</i> (内八卦)	200-300	Kneading (clockwise)
<i>Fèi jīng</i> (肺经)	200-300	Clearing
<i>Pí jīng</i> (脾经)	150-200	Supplementing

Clockwise manipulation with gentle kneading on *nèi bā guà* 200-300 times, clear *fèi jīng* 200-300 times, and supplement *pí jīng* 150-200 times.

Treat 1-2 times daily, 7 times as one course of treatment.

Acupuncture

BL 13 (<i>fèi shù</i>)	ST 40 (<i>fēng lóng</i>)
--------------------------	----------------------------

Needle perpendicularly, then remove the needle.

Treat 1-2 times daily, 4 times as one course of treatment.

Qi-Deficiency Cough

Signs and Symptoms

Manifestations include a weak cough with thin white phlegm, a pale complexion, shortness of breath, reticence, a low voice, spontaneous sweating, and aversion to cold. The tongue is pale with teeth marks; the pulse is thready and weak.

Pattern Differentiation

This pattern is often characterized by a prolonged cough, usually developing from a phlegm-dampness pattern. There is typically a weak cough with thin white phlegm. If lung qì deficiency is predominant, there is shortness of breath, a reluctance to speak, a low voice, spontaneous sweating, and aversion to cold. If spleen qì deficiency is predominant, there is a pale complexion, thin profuse sputum, a poor appetite, and teeth

marks on the tongue.

Treatment Principles

Fortify the spleen and supplement the lung, boost qi and dissolve phlegm.

Formula

Modified *Liù Jūn Zǐ Tāng*—Six Gentlemen Decoction

党参	<i>dǎng shēn</i>	Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
百部	<i>bǎi bù</i>	Radix Stemonae
炙紫菀	<i>zhì zǐ wǎn</i>	Radix et Rhizoma Asteris Praeparata
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle

Formula Analysis

Dǎng shēn (Radix Codonopsis) fortifies the spleen and boosts qi.

Bái zhú (Rhizoma Atractylodis Macrocephalae) and *fú líng* (Poria) fortify the spleen and dissolve dampness.

Chén pí (Pericarpium Citri Reticulatae) and *bàn xià* (Rhizoma Pinelliae) dry dampness and dissolve phlegm.

Bǎi bù (Radix Stemonae) and *zhì zǐ wǎn* (Radix et Rhizoma Asteris Praeparata) diffuse the lung and relieve cough.

Zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) harmonizes the actions of all medicinals.

Modifications

For obvious qi deficiency, add *huáng qí* (Radix Astragali) and *huáng jīng* (Rhizoma Polygonati) to boost qi and supplement deficiency.

For acute cough with profuse sputum, add *xìng rén* (Semen Armeniacae Amarum), *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae) and *pí pá yè* (Folium Eriobotryae) to dissolve phlegm and relieve cough.

For poor appetite, add *jiāo shān zhā* (Fructus Crataegi Praeparata) and *jiāo liú qū* (Massa Medicata Fermentata Praeparata) to harmonize the stomach and promote digestion.

Acupuncture

a.

RN 22 (<i>tiān tū</i>)	PC 6 (<i>nèi guān</i>)	LI 11 (<i>qū chí</i>)
ST 40 (<i>fēng lóng</i>)		

b.

BL 13 (<i>fèi shù</i>)	LU 5 (<i>chǐ zé</i>)	SP 3 (<i>tài bái</i>)
LV 3 (<i>tài chōng</i>)		

Needle one group of points each time with mild stimulation, alternating daily; moxibustion may be applied following acupuncture.

Treat once daily, 10-15 times as one course of treatment.

Yin-Deficiency Cough

Signs and Symptoms

Manifestations include a dry cough without phlegm or with scant sticky phlegm, difficult expectoration of phlegm or blood-streaked phlegm, thirst, an itchy throat, hoarseness, and afternoon tidal fever or hot palms and soles. The tongue is red with little coating; the pulse is thready and rapid.

Pattern Differentiation

This pattern is often seen in persistent cough cases and is characterized by a dry cough without phlegm, an itchy throat and hoarseness. It is often transmuted from a phlegm-heat cough.

If the yin deficiency is predominant, there is afternoon tidal fever, hot palms and soles, a red tongue, and a thready rapid pulse.

If the lung collaterals are impaired by heat, there is expectorated phlegm mixed with blood.

If yin-fluids are consumed and fail to moisten the upper, there is thirst.

Treatment Principles

Nourish yin and moisten lung as well as clearing residual heat.

Formula

Modified *Shā Shēn Mài Dōng Tāng*—**Radix Glehniae and Radix Ophiopogonis Decoction**

南沙参	<i>nán shā shēn</i>	Radix Adenophorae
麦冬	<i>mài dōng</i>	Radix Ophiopogonis
生地	<i>shēng dì</i>	Radix Rehmanniae
玉竹	<i>yù zhú</i>	Rhizoma Polygonati Odorati
天花粉	<i>tiān huā fěn</i>	Radix Trichosanthis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
桑白皮	<i>sāng bái pí</i>	Cortex Mori
款冬花	<i>kuǎn dōng huā</i>	Flos Farfarae
枇杷叶	<i>pí pá yè</i>	Folium Eriobotryae

Formula Analysis

Nán shā shēn (Radix Adenophorae), *mài dōng* (Radix Ophiopogonis), *shēng dì* (Radix Rehmanniae) and *yù zhú* (Rhizoma Polygonati Odorati) nourish yin, clear heat and moisten the lung.

Tiān huā fěn (Radix Trichosanthis) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) engender fluids and moisten the lung.

Sāng bái pí (Cortex Mori), *kuǎn dōng huā* (Flos Farfarae) and *pí pá yè* (Folium Eriobotryae) clear and diffuse the lung and suppress lung qi.

Modifications

For obvious yin deficiency, add *dì gǔ pí* (Cortex Lycii) and *shí hú* (Caulis Dendrobii), *ē*

jiāo (Colla Corii Asini) to nourish yin and clear heat.

For acute cough, add *zǐ wǎn* (Radix et Rhizoma Asteris) and *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae) to moisten the lung and relieve coughing.

For acute cough with blood-streaked phlegm, add *xiān hè cǎo* (Herba Agrimoniae), *bái máo gēn* (Rhizoma Imperatae) and *ǒu jié tàn* (Nodus Nelumbinis Rhizomatis Carbonisatum) to clear the lung and stop bleeding.

Chinese Patent Medicines

Luó Hàn Guǒ Zhǐ Ké Táng Jiāng—Fructus Momordicae Cough Relieving Syrup.

100 ml per bottle. 5-10 ml, 2-3 times daily.

Tui na

Points	Repetitions	Methods
BL 13 (<i>fèi shù</i>)	200-300	Kneading
<i>Fèi jīng</i> (肺经)	200-300	Clearing
<i>Tiān hé shuǐ</i> (天河水)	150-200	Clearing
<i>Liù fǔ</i> (六腑)	150-200	Pushing

Knead *fèi shù* 200-300 times, clear *fèi jīng* 200-300 times, clear *tiān hé shuǐ* 150-200 times, push *liù fǔ* 150-200 times.

Treat 1-2 times daily, 4 times as one treatment course.

Acupuncture

BL 13 (<i>fèi shù</i>)	KI 3 (<i>tài xī</i>)
--------------------------	------------------------

Needle perpendicularly, and then remove the needle.

Treat 1-2 times daily, 4 times as one treatment course.

[PREVENTION AND NURSING CARE]

1. PREVENTION

Avoid exposure to environmental hazards such as coal, gas, dust, etc.

2. NURSING CARE

(1) Frequently change the position of the child and gently pat the back to promote expectoration of phlegm.

(2) Do not change usual feeding methods for infants and young children, but to prevent choking stop feeding or eating while coughing. Older children should eat light foods, avoiding spicy or fried greasy foods. Also avoid raw and cold or very sweet or salty foods.

[CASE STUDIES]

► Case # 1. Male, age 6. Initial Visit: 10/09/1998

The patient had a frequent coughing for one month; after treatment with Western medicine, there was no obvious improvement. The cough was weak, productive, and

with thin white phlegm. There was no fever, wheezing, nasal congestion or discharge. He had a poor appetite, normal stools, chest tightness, epigastric fullness, shortness of breath and a reluctance to speak. The boy was known to have a weak constitution and would sweat easily. His tongue was pale with a small amount of thick white coating; the pulse was weak and thready.

He was diagnosed with cough due to spleen deficiency; the treatment principle is to fortify the spleen, dissolve phlegm, diffuse the lung, and relieve cough.

Formula

太子参	<i>tài zǐ shēn</i>	10 g	Radix Pseudostellariae
茯苓	<i>fú líng</i>	10 g	Poria
白术	<i>bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae
陈皮	<i>chén pí</i>	5 g	Pericarpium Citri Reticulatae
前胡	<i>qián hú</i>	10 g	Radix Peucedani
紫菀	<i>zǐ wǎn</i>	10 g	Radix et Rhizoma Asteris
法半夏	<i>fǎ bàn xià</i>	10 g	Rhizoma Pinelliae Praeparatum
神曲	<i>shén qū</i>	10 g	Massa Medicata Fermentata
莱菔子	<i>lái fú zǐ</i>	10 g	Semen Raphani
青皮	<i>qīng pí</i>	10 g	Pericarpium Citri Reticulatae Viride
甘草	<i>gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae

7 doses

Follow-up

After four doses the cough eased, less phlegm was produced, and his chest tightness was alleviated. After seven doses the cough and phlegm had almost disappeared and his appetite improved. He had normal stools, a pale tongue with a thin white coating and a weak pulse. *Bǎo Hé Wán*—Harmony-Preserving Pill was used to regulate the spleen and stomach.

Analysis

With a weakened constitution and a prolonged cough that consumed healthy qi, the child was vulnerable to attack by external pathogens. The root was spleen qi deficiency, therefore *Liù Jūn Zǐ Tāng*—Six Gentlemen Decoction was used to boost qi and fortify the spleen, also combined with *qián hú* (Radix Peucedani) and *zǐ wǎn* (Radix et Rhizoma Asteris) to disperse the lung and relieve cough.

For phlegm and food stagnation due to spleen deficiency, add *lái fú zǐ* (Semen Raphani) and *shén qū* (Massa Medicata Fermentata) to dissolve phlegm and remove food retention.

For spleen-earth deficiency with liver-wood excess and prominent liver fire, add *qīng pí* (Pericarpium Citri Reticulatae Viride) to soothe and purge the liver.

Source: Wan LS, editor. 汪受传儿科医论医案选 [*Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics*]. Beijing: Academy Press; 2008: 101

► Case #2. Male, age 5. Initial Visit: 10/21/1999

Coughing for 4 days. His cough was rough and he had difficulty expectorating sputum.

He was slightly thirsty, had nasal congestion with thick nasal discharge but with no fever. There was a poor appetite with occasional abdominal distention and pain, no vomiting, dry stools, yellow urine, and dry red lips. His throat and tongue were both red; the tongue had a thin yellow coating and the pulse was floating and rapid. He also complained of having hot palms and soles and night sweats. The pattern diagnosed was cough with pathogenic heat impairing the body fluids. The treatment principle is to clear heat and relieve cough while moistening the intestines to promote defecation.

Formula

桑叶	<i>sāng yè</i>	5 g	Folium Mori
杏仁	<i>xìng rén</i>	10 g	Semen Armeniacae Amarum
连翘	<i>lián qiào</i>	5 g	Fructus Forsythiae
桔梗	<i>jié gěng</i>	10 g	Radix Platycodonis
枳壳	<i>zhǐ qiào</i>	10 g	Fructus Aurantii
芦根	<i>lú gēn</i>	10 g	Rhizoma Phragmitis
天冬	<i>tiān dōng</i>	10 g	Radix Asparagi
紫苏梗	<i>zǐ sū gěng</i>	5 g	Caulis Perillae
陈皮	<i>chén pí</i>	5 g	Pericarpium Citri Reticulatae
百合	<i>bǎi hé</i>	5 g	Bulbus Lilii
川朴	<i>chuān pò</i>	10 g	Cortex Magnoliae Officinalis
甘草	<i>gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae

3 doses

Follow-up

After three doses the cough and sputum production eased, abdominal distention was alleviated, appetite increased, and his stools were smoother. After another three doses the cough disappeared and he regained normal appetite, stools and urine.

Analysis

This child developed a yin deficient constitution. When wind-heat pathogens invaded his body, it was easy to impair body fluids. Therefore, *Sāng Jú Yǐn*—Mulberry Leaf and Chrysanthemum Beverage was selected to dissipate wind, diffuse the lung, and relieve cough. *Tiān dōng* (Radix Asparagi) and *bǎi hé* (Bulbus Lilii) were added to moisten and diffuse the lung, relieve cough, clear heat, and moisten the intestines to promote defecation while preventing yin damage during treatment.

Source: Wan LS, editor. 汪受传儿科医论医案选 [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics]. Beijing: Academy Press; 2008: 95

► Case #3. Male, age 4

He had a fever for five days and had been treated with Western medicine for four days. Although his high temperature had subsided, he continued to have paroxysmal coughing attacks, breathlessness, and a red complexion. The symptoms were worse at night. During

episodes the child would prop himself up with both hands holding the pillow and bent over, and was noted to be sweating. The episodes of paroxysmal coughing were relieved after the expectoration of thick sputum or vomiting.

Another episode of coughing followed shortly thereafter and the child had difficulty getting to sleep. He was thirsty with desire to drink water and had dry stools. His tongue had a red tip and a thin yellow coating; the pulse was slightly rapid.

Tui na

Points	Methods
Nèi bā guà (内八卦)	Kneading (counterclockwise)
Sì héng wén (四横纹)	Pushing
Fèi jīng (肺经)	Clearing
Bǎn mén (板门)	Kneading
Dà cháng jīng (大肠经)	Clearing
Tiān hé shuǐ (天河水)	Clearing
BL 13 (fèi shù)	Kneading
RN 22 (tiān tū)	Kneading
Jiān jiá gǔ (Scapula)	Pushing

After the tui na treatment, the cough stopped, bowel movements were easy and smooth, and the disease was cured.

Analysis

This condition was caused by wind-heat pathogens lingering in the lung. The lung qi failed to purify and flowed adversely, leading to cough. The lung is the canopy of all the organs; it is open when lying down and closed when sitting, for this reason coughing is worse at night. If lung qi is rough and affects the stomach, then stomach qi ascends and counterflows, resulting in vomiting. When qi movement becomes smooth after sputum expectoration, coughing is temporarily alleviated.

Treat with kneading *nèi bā guà* to descend qi and resolve sputum, harmonize the middle *jiao* and descend adverse rising qi while removing food retention. Clear *fèi jīng* to diffuse the lung and relieve cough. Push *sì héng wén*, the key point to resolve sputum and regulate qi. Knead *bǎn mén* to clear heat from the lung and stomach, descend stomach qi, and relieve vomiting. Clear *dà cháng jīng* to promote defecation and clear heat. Clear *tiān hé shuǐ* to clear lung heat and boost lung yin.

For cough mainly attributed to the lung, the first choice is kneading on BL 13 (*fèi shù*); also select the adjacent points RN 22 (*tiān tū*) and *jiān jiá gǔ* (scapula) on the back. Stimulating these points can regulate lung function, disperse and smooth lung qi, relieve cough, and dissolve phlegm. If the points used to treat cough are chosen correctly, there will be immediate results.

Source: He RJ. *Clinical Thoughts on Treating Cough in Children with Tui Na*. Modern Journal of the Practical Chinese with Modern Medicine; 2000: 9(8):748

[QUESTIONS]

1. A 6-year-old child was sick for one month, initially with a fever fluctuating between 37.5°C-37.8°C and a paroxysmal cough with little phlegm. During the last 25 days the fever subsided but the cough worsened with production of profuse thin white phlegm and a hoarse voice. There was a rumbling in the throat and a light red tongue with a greasy white coating. He was depressed with lassitude, poor appetite, and a slippery pulse.

Which is the first choice of formula?

- A. *Má Xing Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction
- B. *Qīng Jīn Huà Tán Tāng*—Metal-Clearing Phlegm-Resolving Decoction
- C. *Shā Shēn Mài Dōng Tāng*—Adenophora Root and Dwarf Lilyturf Tuber Decoction
- D. Modified *Sān Ào Tāng*—Rough and Ready Three Decoction and *Èr Chén Tāng*—Two Matured Red Substances Decoction
- E. *Rén Shēn Wǔ Wèi Zī Tāng*—Ginseng and Fructus Decoction

2. A 5-year-old child presented with a cough for one week. The symptoms are a cough with profuse sticky yellow difficult to expectorate phlegm, rumbling in the throat, fever, thirst, and scant yellow urine. The tongue is red with a greasy yellow coating, and there is a rapid slippery pulse.

The first choice of patent medicine is?

- A. *Xiǎo Èr Xuān Fèi Zhǐ Ké Granules*—Children Dispersing Lung and Releasing Cough Granule
- B. *Jí Zhǐ Táng Jiāng*—Acute Bronchitis Syrup
- C. *Zhú Lì*—Bamboo Juice
- D. *Bàn Xià Lù Chōng Jì*—Rhizoma Pinelliae Granule
- E. *Luó Hàn Guǒ Zhǐ Ké Táng Jiāng*—Fructus Momordicae Relieve Cough Syrup

3. A 5-year-old child presented with fever for 2 days, a rough cough with hoarse voice, sticky yellow difficult to expectorate phlegm, turbid nasal discharge, thirst, a red throat and slight sweating. The tongue was red with a yellow coating, and the pulse was rapid and floating.

Which pattern is this?

- A. Wind-cold cough
- B. Wind-heat cough
- C. Phlegm-dampness cough
- D. Phlegm-heat cough
- E. Yin deficiency cough

4. A 7-year-old child who had been ill for 2 months presented with a dry cough and minimal phlegm which was difficult to expectorate. Over the last month the symptoms included thirst, a dry mouth, an itchy throat, afternoon tidal fever, and hot palms and soles. The tongue was red with a light coating, and there was a thready rapid pulse.

Which is the pathomechanism here?

- A. Wind-heat invades lung
- B. Phlegm-heat accumulates in the lung
- C. Phlegm-dampness obstructs the lung
- D. Lung-spleen qi deficiency
- E. Lung yin deficiency

5. A 2-year-old child was sick for 2 days and presented with nasal congestion, thin clear nasal discharge, sneezing, frequent coughing with a hoarse voice and a slightly red throat. There was a normal



tongue with a thin white coating, and floating red finger venules.

What is the treatment principle?

- A. Disperse wind and dissipate cold to relieve cough
- B. Disperse wind and clear heat to relieve cough
- C. Clear the lung and dissolve phlegm to relieve cough
- D. Dry dampness and dissolve phlegm to relieve cough
- E. Nourish yin and clear the lung to relieve cough

[REFERENCES]

- [1] <http://www.mdweekly.com.cn/article.asp?id=8470>
- [2] Chen GM, Qin Y, Li NG, et, al. *Sāng Xīng Qiǎn Jié Tāng Treated 124 Cases of Acute Bronchitis in Children*. [J]. Journal of Emergencies in Traditional Chinese Medicine; 2006, 15(12):1383.
- [3] Hu JC, Ren KM, Wu F, et, al. *Clinically Observed Hóng Wài Zhǐ Ké Tiē Applied on Acupuncture Points to Treat 30 Cases of Cough*. [J]. Journal of Traditional Chinese Medicine; 2001, 42 (9):536.



Chapter 10

Pneumonia (*Fèi Yán Chuǎn Sòu*)

Pneumonia is a common childhood lung system disorder clinically marked by fever, cough, phlegm congestion, wheezing and shortness of breath with nasal flaring. In severe cases, the patient is gasping for breath with an open mouth and raised-shoulder breathing, shortness of breath, a pale complexion and cyanotic lips. This condition is identical with the concept of pneumonia in Western medicine.

Pneumonia is generally classified by pathology and pathogeny. Pathological classifications include bronchial pneumonia, lobar pneumonia, interstitial pneumonia and bronchiolitis. Among them, bronchial pneumonia is particularly common in young children. Pathogenic classification includes infectious pneumonia (viral pneumonia, bacterial pneumonia, mycoplasma pneumonia, chlamydial pneumonia, fungal pneumonia, verminous pneumonia), and non-infectious pneumonia (aspiration pneumonia, hypostatic pneumonia and eosinophilic pneumonia).

Pneumonia can occur year-round, but prevails in winter and spring. Infants and young children are very susceptible to the disease; the younger the child, the more they are susceptible and the more serious the disease. Statistics rate pneumonia as the highest incidence of hospitalization for any single pediatric disease. With proper treatment at the early stages, the prognosis is generally favorable. In severe cases or when there is failure to follow through with treatment, deteriorated patterns may occur, even resulting in death.

Acute respiratory infections cause four and a half million deaths among children each year, with the overwhelming majority occurring in developing countries. Pneumonia (unassociated with measles) causes 70% of these deaths; post-measles pneumonia is 15%; pertussis is 10%; and bronchiolitis and croup syndromes are 5% ^[1].

The World Health Organization (WHO) counts infantile pneumonia as one of the three most important pediatric diseases in the world. According to WHO statistics, pneumonia causes four million deaths among children under the age of 5 every year, with the overwhelming majority occurring in developing countries; two-thirds of which are infants ^[2]. Viral pneumonia percentages exceed half of all pneumonia cases. Investigations on acute lower respiratory tract infections occurring in children under the age of 5 in 10 developing countries indicates that respiratory syncytial virus (RSV) is the most common pathogeny in acute lower respiratory tract infections, accounting for 70% of all cases ^[3].

In a multi-center clinical study of 360 cases, Wang Shou-chuan et al. applied *Qīng Fèi Kǒu Fú Yè*— Lung-Clearing Liquid composed of *zhì má huáng* (Radix Herba Ephedrae), *kǔ xìng rén* (Semen Armeniacae Amarum), *shēng shí gāo* (Gypsum Fibrosum), *huáng qín* (Radix Scutellariae), *tíng lì zǐ* (Semen Lepidii), *hǔ zhàng* (Rhizoma Polygoni cuspidati) to treat childhood viral pneumonia with the TCM pattern of phlegm-heat blocking the lung. Ribavirin was applied in the control group.

Results: The overall effective rate was 89.62% in the test group and 73.92% in the control group. The efficacy of the test group was superior to the control group with a statistically significant effect ($P < 0.01$) ^[4].

Zhao Xia et al. observed the curative effect of intravenous drip *Qīngkǎilíng* Injection with

Qīng Fèi Kǒu Fú Yè—Lung-Heat Clearing Liquid in contrast to standard Western medicine treatment. They conducted clinical experiments in five centers with randomized blocks in the treatment of 240 children with viral pneumonia (RSV) with the TCM pattern of phlegm-heat blocking the lung.

Results: The efficacy of the test group was superior to the control group with a statistically significant effect ($P < 0.01$). The curative effect and the time taken to take effect of the traditional Chinese medicine group was superior to the Western medicine group with statistically significant effect ($P < 0.01$), in which the effect was in the main symptoms of fever, cough and phlegm congestion, as well as pulmonary auscultation and chest X-ray examination^[5].

[ETIOLOGY & PATHOMECHANISM]

The etiologies of this disease are classified into external and internal causes. External causes involve wind invasion or transformations from common cold disorders, cough or other diseases; internal causes involve the immature physique and qi, delicate *zang-fu* organs, and *wei* qi insecurity.

Exterior pathogenic wind invades the lung-*wei* either through the skin and body hair or through the mouth and nose, causing the failure of lung qi to diffuse and pathogens to transform into heat and scorch fluids. There is lung qi failure to disperse and descend, with scorched fluids transforming into phlegm which then obstructs the airways. Lung qi is obstructed and stagnated, manifesting with cough, dyspnea, wheezing, nasal flaring, etc.

While the main location of pneumonia is in the lung, it also commonly affects the spleen while also inwardly invading the heart and liver. The main pathological products are phlegm and heat. The key points of the pathogenesis involve lung qi obstruction and stagnation.

Wind-Cold Blocking the Lung

The lung governs the skin and body hair. As the exterior wind-cold pathogen attacks the body through the skin and body hair, the cold pathogen invades the exterior and lung-*wei* fails to diffuse leading to the pattern of exterior wind-cold. If cold fetters the lung, lung qi is obstructed and fails to diffuse and descend causing lung qi to ascend and counterflow, leading to choking cough and rapid breathing. When the lung fails to govern qi and fluid transportation, fluids coagulate and manifest as visible thin white phlegm.

Wind-Heat Blocking the Lung

External wind-heat invades the exterior either through the skin and body hair or through the mouth and nose, and lung-*wei* fails to diffuse. As heat blocks the lung, the lung qi is obstructed and fails to diffuse and descend causing coughing and shortness of breath. As the pathogens block the lung collaterals there is dysfunction of freeing and regulating the waterways. With unregulated water-fluid transportation and transformation, fluids stay in the lung and transforms into phlegm; or if warm-heat scorches the lung-fluid, the fluids transform into phlegm which accumulates in the lung to coat and block the airway. This results in severe coughing, wheezing, shortness of breath and nasal flaring. This pattern can also be transformed from wind-cold blocking the lung.

Phlegm-Heat Blocking the Lung

The pathogenic heat factors transmit to the interior and obstruct the lung, the lung qi fails to diffuse and descends, leading to transformed phlegm from the accumulation of



scorched lung-fluids. In this case, the phlegm intermingles with heat and obstructs the lung, leading to fever, coughing, shortness of breath, nasal flaring and wheezing. If the phlegm accumulates in the chest, then the stomach fails to harmonize and descend, leading to epigastric fullness, abdominal distention, vomiting of phlegm, and fluid retention. The congestion of heat toxin leads to a red complexion and thirst, where qi stagnation and blood stasis lead to inhibited blood flow resulting in visible cyanosis of the lips and nails.

Toxic-Heat Blocking the Lung

In this pattern the pathogenic qi is more intense; toxic-heat blocks lung qi or intense phlegm-heat transforms into fire scorching the lung. This leads to continual high fever, severe cough, shortness of breath, wheezing and panting, dysphoria, thirst, red complexion and lips, reduced yellow urine and dry stools. Toxic heat scorches yin-fluids, fluids fail to disperse upward and the seven orifices are disturbed; there is lack of tears and snivel with an extremely dry nose.

Lung-Heat due to Yin Deficiency

The lung is a delicate organ, especially in young children. With enduring heat and chronic coughing, excessive pathogenic heat damages the lung and scorches yin-fluids; healthy qi becomes deficient and the pathogenic qi lingers internally. The remaining pathogens cause lung yin deficiency, manifesting with low fever, dry cough without phlegm and night sweats. The tongue is red with a dry yellow coating; the pulse is rapid and thready.

Lung and Spleen Qi Deficiency

In children with weak constitutions or suffering from other diseases, the spleen can be easily affected after an attack by external pathogens.

If the pneumonia is persistent and unresolved, and if lung qi is over-consumed during the illness, the defensive exterior is insecure leading to sweating with even slight movement and a forceless cough. If the spleen qi is damaged, there will be splenic failure of transportation and transformation and the development of internal phlegm-damp leading to wheezing, poor appetite and loose stools. If both lung and spleen qi are deficient, the source of qi and blood production will be insufficient; manifestations include a lusterless complexion, mental fatigue and lack of strength. The tongue is pale with a thin coating; the pulse is thready and weak.

The lung governs the qi and links with all the vessels. If the pathogenic factors are excessive or the healthy qi is deficient, the disease can develop further, spreading from the lung to the other *zang* and *fu* organs. For example, lung dysfunction of purification and descending can affect the spleen and stomach, resulting in their dysfunctional ascending and descending with retention and accumulation of turbid qi. This prevents the large intestine qi from moving downwards, leading to excess in the *fu* organs manifesting as abdominal distention, constipation and so on.

If the lung qi is obstructed and blocked, then the disturbance of qi movement will also cause inhibited blood flow and roughness and stagnation of the vessels. This is a serious condition of qi stagnation and blood stasis manifests with cyanotic lips and nails, and a dark purple tongue.

If heat toxins transform into fire and inwardly invade and sink into the *jueyin* level to stir up liver wind, then a deteriorated pattern can manifest with unconsciousness and convulsions.

If the healthy qi can not overcome the pathogens, the qi stagnation and blood stasis may become serious; when the heart fails to receive nourishment, heart qi insufficiency or even heart yang deficiency and failure may result. This relatively critical condition manifests with shallow rapid breathing, cyanotic complexion and lips, abdominal and rib-side masses, counterflow cold of the four limbs, purple skin and other serious symptoms. The pulse is weak, thready and rapid. In severe cases, this pattern can lead to yang qi deficiency and collapse.

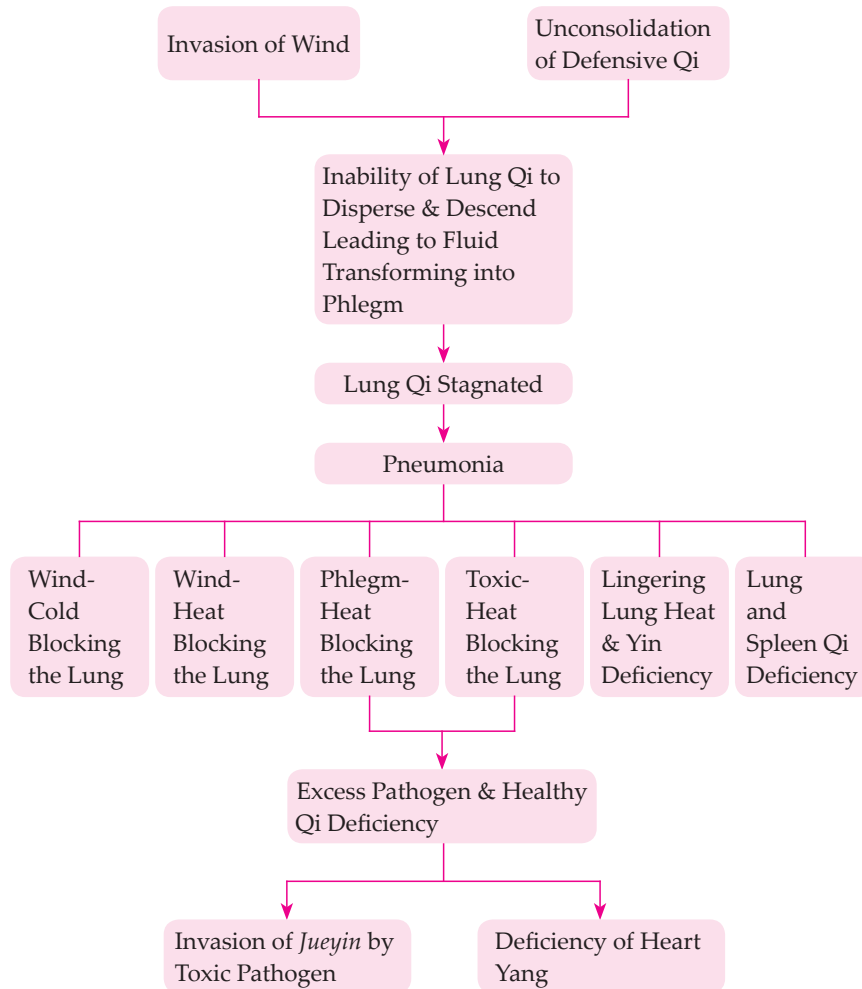


Fig.10-1 Etiology and Pathomechanism of Pneumonia

[DIAGNOSIS & DIFFERENTIAL DIAGNOSIS]

► Essentials of Diagnosis

a. Presenting signs and symptoms include acute onset, fever, cough, phlegm accumulation, wheezing and panting, shortness of breath, nasal flaring, possible mild cyanosis.



b. Severe cases manifest with wheezing and panting, rapid shallow breathing, restlessness, irritability, a pale complexion, cyanotic lips, possibly continuous high fever.

c. Newborn infants suffering from pneumonia do not have the previously mentioned typical symptoms, but they may have an inability to suck milk with listlessness and frothing at the mouth.

d. Pulmonary auscultation may reveal relatively fixed, medium-fine moist or dry rales. Tubular breathing noises can be heard if the lesions coalesce.

e. Radiography shows increased irregular pulmonary vascular markings, decreased or increased transmittance, small patchy mottling or uneven and large patchy shadows.

f. Laboratory Examinations

1) Routine blood examination: total WBC increases with high neutrophils in bacterial pneumonia cases, while normal or slightly low in children with viral pneumonia who sometimes also exhibit atypical lymphocytes.

2) Pathogenic examination: it is valuable to acquire corresponding etiological diagnosis with bacterial cultures or virus isolation and identification. Pathogen-specific antigen detection can help to make an early diagnosis.

► Differential Diagnosis

Refer to *Tables 9-1, 11-1*.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Heat, constraint, phlegm and blood stasis are the featured pathomechanisms of pneumonia; fever with cough, phlegm and dyspnea are the typical symptoms. First identify the common pattern and any deteriorated patterns. In the common pattern, cold or heat disease should be identified in the early stage, a preponderance of heat or phlegm should be identified in the middle stage, and qi deficiency or yin deficiency should be identified in the later stage.

Early-stage disease presents with an exterior pattern accompanied by dyspnea marked by cough, panting, rapid breathing and fever. Wind-cold manifests with aversion to cold, absence of sweating and clear and thin phlegm, while wind-heat attack manifests with higher fever and sticky and thick phlegm. Often the disease stays in the exterior level for only a short time, usually the pathogenic qi quickly invades internally and transforms into heat, resulting in phlegm obstruction and lung blockage.

If there is excessive heat when the disease is in the mid-stage, then the patient will present with a continuous high fever, red complexion and lips, vexing thirst with a desire to drink, constipation and yellow urine. If there is excess phlegm, patients will present with wheezing, raised chest with intercostal retractions and shortness of breath. Toxic-heat blocking the lung manifests with an intense high fever, serious asthmatic breathing, shortness of breath with an open mouth and raised-shoulder breathing.

If there is heart yang deficiency and failure, or heat sinking inward into the *jueyin*, then there will be cold reversal of limbs, mental confusion, unconsciousness and convulsions. The pulse is faint, racing, and rapid. Due to the intense pathogenic toxin and insufficiency of healthy qi, this is a critical condition.

At the later stage of disease after the cough is relieved and fever has subsided, patterns of lung yin consumption with residual heat, or lung and spleen qi deficiency can appear.

► Treatment Principles

The basic treatment principles are to open the lung, resolve phlegm, and relieve cough and panting. It is important to open the lung in order to restore its functions of diffusion, dispersion, purification and descent. If the lung's general functions work well, cough and panting will certainly be relieved.

If there is profuse phlegm accumulation, provide treatment to descend qi and clear phlegm. For severe panting and shortness of breath, the treatment should be to relieve panting and promote qi flow. If there is qi stagnation and blood stasis, provide treatment to invigorate blood and dissolve stasis. For intense high fever, add purgative medicinals to unblock the bowels and discharge heat; this principle works on the basis of the interior-exterior relationship between the lung and large intestine.

If there are transmuted patterns with deteriorated conditions, treatment should be applied according to the pattern, for example by warming and supplementing heart yang or to calm the liver and extinguish wind.

When there is prolonged illness and persistent remaining pathogenic factors with yin deficiency and lung dryness, then apply sweet and cold herbs to nourish yin, moisten the lung and resolve phlegm while clearing the remaining heat. Treatment for lung-spleen qi deficiency is to fortify the spleen and boost qi, supplement the lung to consolidate the exterior, and to reinforce healthy qi.

► Classification of Patterns and Treatments

1. COMMON PATTERNS

Wind-Cold Blocking the Lung

Signs and Symptoms

Manifestations include aversion to cold, fever without sweating, choking cough, shortness of breath, thin white phlegm, no thirst, and a normal throat color. The tongue is light red with a thin white or white greasy coating; the pulse is floating and tight, and there are superficial red finger venules.

Pattern Differentiation

This pattern often occurs in the cold season and is seen at the early stage of disease. It is characterized by the manifestations of an exterior cold pattern such as aversion to cold with fever and no sweating and the throat is not notably red; concurrent signs and symptoms include of shortness of breath and thin white phlegm.

Young children are more susceptible to cold and heat when ill, thus it is very easy for this pattern to transform into heat through the struggle between healthy and pathogenic qi. This pattern usually lasts for only a short time; in any event, special attention needs to be paid in clinical practice to the transformation of wind-cold into heat.

Treatment Principles

Diffuse the lung with acrid-warm medicinals, dissolve phlegm and relieve cough

Formula

Modified *Huá Gàì Sǎn*—**Florid Canopy Powder**

麻黄	<i>má huáng</i>	Herba Ephedrae
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
荆芥	<i>jīng jiè</i>	Herba Schizonepetae
防风	<i>fáng fēng</i>	Radix Saposhnikoviae
桔梗	<i>jié gěng</i>	Radix Platycodonis
白前	<i>bái qián</i>	Rhizoma Cynanchi Stauntonii
紫苏子	<i>zǐ sū zǐ</i>	Fructus Perillae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae

Formula Analysis

Má huáng (Herba Ephedrae) and *xìng rén* (Semen Armeniacae Amarum) dissipate cold and diffuse the lung.

Jīng jiè (Herba Schizonepetae) and *fáng fēng* (Radix Saposhnikoviae) release the exterior and dissipate cold.

jié gěng (Radix Platycodonis) and *bái qián* (Rhizoma Cynanchi Stauntonii) diffuse the lung and relieve cough.

Zǐ sū zǐ (Fructus Perillae) and *chén pí* (Pericarpium Citri Reticulatae) resolve phlegm and relieve panting.

Modifications

For serious aversion to cold and a painful body, add *guì zhī* (Ramulus Cinnamomi) and *bái zhǐ* (Radix Angelicae Dahuricae) to warm and dissipate exterior cold.

For profuse phlegm with a greasy white tongue coating, add *bàn xià* (Rhizoma Pinelliae) and *lái fú zǐ* (Semen Raphani) to dissolve phlegm and relieve cough.

If the cold pathogens fester the exterior and constrained heat lingers internally with a choking cough and white phlegm, fever, thirst, a red complexion, vexation, a white tongue coating and a rapid pulse, replace the formula with *Dà Qīng Lóng Tāng*—Major Blue-Green Dragon Decoction to release both exterior and interior.

Chinese Patent Medicines

Tōng Xuān Lǐ Fèi Wán—Diffusing-Freeing Lung-Rectifying Pill.

Honeyed pills, each 100 pills contain 10 g. Take 3-6 g, 2-3 times daily.

Tuī na

Points	Repetitions	Methods
Fèi Jīng (肺经)	200-300	Supplementing
Dà Cháng (大肠)	100-200	Clearing
Tiān Hé Shuǐ (天河水)	100-200	Clearing
GB 20 (fēng chí)	100-200	Kneading
BL 13 (fèi shù)	100-200	Kneading
RN 22 (tiān tū)	100-200	Kneading

Supplement *fēi jīng* 200-300 times, clear *dà cháng* 100-200 times, clear *tiān hé shuǐ* 100-200 times, knead GB 20 (*fēng chí*) 100-200 times, knead BL 13 (*fēi shù*) 100-200 times, and knead RN 22 (*tiān tū*) 100-200 times. Treat once daily with 3 times as one course of treatment.

Wind-Heat Blocking the Lung

Signs and Symptoms

At the early stage this pattern is marked by fever, aversion to wind, cough with shortness of breath, profuse sticky or yellow phlegm, thirst, and a red throat. The tongue is red with a thin white or yellow coating, and the pulse is floating and rapid. This is followed by high fever, irritability, cough, slight panting, shortness of breath, nasal flaring, wheezing, red complexion, constipation and yellow urine. The tongue is red with a yellow coating, the pulse is slippery and rapid, and there are purple and dark finger venules.

Pattern Differentiation

The onset of this pattern is caused by wind-heat invading the lung or is transformed from a pattern of externally contracted wind-cold. Commonly characterized by exacerbating fever, or there are other obvious heat manifestations such as fever with aversion to wind, red throat and thirst. The tongue is red with a yellow coating.

Mild conditions present mainly as exterior heat with fever, cough, shortness of breath and profuse phlegm. Serious conditions are mainly interior heat patterns with high fever, irritability, violent coughing, shortness of breath and nasal flaring. This pattern often develops quickly into phlegm-heat blocking the lung.

Treatment Principles

Diffuse the lung with acrid-cool medicinals; clear heat and dissolve phlegm.

Formula

Modified *Yín Qiào Sǎn*—**Lonicera and Forsythia Powder** with *Má Xìng Shí Gān Tāng*—**Ephedra, Apricot Kernel, Gypsum and Licorice Decoction**

麻黄	<i>má huáng</i>	Herba Ephedrae
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
生石膏	<i>shēng shí gāo</i>	Gypsum Fibrosum
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
薄荷	<i>bò hé</i>	Herba Menthae
桑叶	<i>sāng yè</i>	Folium Mori
桔梗	<i>jié gěng</i>	Radix Platycodonis
前胡	<i>qián hú</i>	Radix Peucedani
葶苈子	<i>tíng lì zǐ</i>	Semen Lepidii; Semen Descurainiae
枳壳	<i>zhǐ qiào</i>	Fructus Aurantii

Formula Analysis

Má huáng (Herba Ephedrae), *xìng rén* (Semen Armeniacae Amarum), *shēng shí gāo*

(Gypsum Fibrosum) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) diffuse the lung and clear heat.

Jīn yīn huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae) and *bò hé* (Herba Menthae) release the exterior and clear heat.

Sāng yè (Folium Mori), *jié gěng* (Radix Platycodonis) and *qián hú* (Radix Peucedani) diffuse the lung and relieve coughing.

Tíng lì zǐ (Semen Lepidii; Semen Descurainiae) and *zhǐ qiào* (Fructus Aurantii) clear phlegm and relieve panting.

Modifications

For exterior heat preponderance, choose *Yín Qiào Sǎn*—Lonicera and Forsythia Powder as the main formula.

For fever, headache and sore throat, add *niú bàng zǐ* (Fructus Arctii), *chán tuì* (Periostracum Cicadae) and *bǎn lán gēn* (Radix Isatidis) to clear heat and relieve sore throat.

For serious cough with profuse sputum, add *guā lóu pí* (Pericarpium Trichosanthis) and *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii) to clear and dissolve phlegm-heat.

For interior heat preponderance, select modifications of *Má Xìng Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction as the main formula.

For serious heat, add *huáng qín* (Radix Scutellariae), *zhī zǐ* (Fructus Gardeniae) and *yú xīng cǎo* (Herba Houttuyniae) to clear the lung and drain heat.

Chinese Patent Medicines

Shuāng Huáng Lián Kǒu Fú Yè—Double Rhizoma Coptidis Oral Liquid, 20 ml/bottle. Take 3-10 ml, 3 times daily.

Tuì nà

Points	Repetitions	Methods
<i>Fèi Jīng</i> (肺经)	100-200	Clearing
<i>Dà Cháng</i> (大肠)	100-200	Clearing
<i>Tiān Hé Shuǐ</i> (天河水)	100-200	Clearing
<i>Liù Fǔ</i> (六腑)	100-200	Pushing
<i>Xīn Jīng</i> (心经)	100-200	Clearing
<i>Pí Jīng</i> (脾经)	100-200	Clearing
KI 1 (<i>yǒng quán</i>)	100	Pushing
<i>Jǐ</i> (spine)	100	Pushing

Clear *fèi jīng* 100-200 times, clear *dà cháng* 100-200 times, clear *tiān hé shuǐ* 100-200 times, push *liù fǔ* 100-200 times, clear *xīn jīng* 100-200 times, clear *pí jīng* 100-200 times, push KI 1 (*yǒng quán*) 100 times, and push *jǐ* (spine) 100 times. Treat once daily with 3 times as one treatment course.

Phlegm-Heat Blocking the Lung

Signs and Symptoms

Manifestations include fever and dysphoria, cough and panting, dyspnea, shortness of breath, nasal flaring, wheezing, cyanotic lips, red complexion, thirst, chest distress and distention, and extensive spitting or vomiting of phlegm and saliva. The tongue is red with

a yellow coating; the pulse is wiry and slippery.

Pattern Differentiation

This pattern is often seen in mid-stage pneumonia with aggravated phlegm and heat constraining and blocking the lung. Typical symptoms include fever, cough, congested phlegm, shortness of breath and nasal flaring.

In severe cases, lung qi is constrained and blocked, leading to qi stagnation and blood stasis with manifestations of cyanotic lips, raised chest with shortness of breath, phlegm accumulation and congestion, chest distress and irritability. In this case the disease is aggravated, the prompt treatment must be applied without delay, or it can easily develop into transmuted and deteriorated patterns due to the exuberance of pathogens and healthy qi deficiency.

Treatment Principles

Clear heat and eliminate phlegm, open the lung and relieve panting.

Formula

Modified *Wú Hǔ Tāng*—Five Tigers Decoction with *Tíng Lì Dà Zǎo Xiè Fèi Tāng*—Lepidium/Descurainiae and Jujube Lung-Draining Decoction

麻黄	<i>má huáng</i>	Herba Ephedrae
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
前胡	<i>qián hú</i>	Radix Peucedani
生石膏	<i>shēng shí gāo</i>	Gypsum Fibrosum
黄芩	<i>huáng qín</i>	Radix Scutellariae
鱼腥草	<i>yú xīng cǎo</i>	Herba Houttuyniae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
桑白皮	<i>sāng bái pí</i>	Cortex Mori
葶苈子	<i>tíng lì zǐ</i>	Semen Lepidii; Semen Descurainiae
紫苏子	<i>zǐ sū zǐ</i>	Fructus Perillae
细茶	<i>xì chá</i>	Green Tea

Formula Analysis

Má huáng (Herba Ephedrae), *xìng rén* (Semen Armeniacae Amarum) and *qián hú* (Radix Peucedani) diffuse the lung and relieve cough.

Shēng shí gāo (Gypsum Fibrosum), *huáng qín* (Radix Scutellariae), *yú xīng cǎo* (Herba Houttuyniae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) clear the lung and discharge heat.

Sāng bái pí (Cortex Mori), *tíng lì zǐ* (Semen Lepidii; Semen Descurainiae) and *zǐ sū zǐ* (Fructus Perillae) purge the lung and clear phlegm.

Xì chá (Green tea) purifies the lung and dissolves phlegm.

Modifications

For obvious heat signs, add *zhī zǐ* (Fructus Gardeniae) and *hǔ zhàng* (Rhizoma Polygoni Cuspidati) to clear and discharge lung heat.

For serious heat with constipation, phlegm accumulation, shortness of breath, and

panting and wheezing, add *shēng dà huáng* (Radix et Rhizoma Rhei) and *qīng méng shí* (Lapis Chloriti) or use the formula *Niú Huáng Duó Míng Sǎn*—Bovine Bezoar Life-Saving Powder to clear phlegm and purge fire.

For profuse sputum, add *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii), *tiān zhú huáng* (Concretio Silicea Bambusae) and *xiān zhú lì* (Succus Bambusae) to clear heat and dissolve phlegm.

For panting with shortness of breath and cyanotic lips, add *zǐ dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) and *chì sháo* (Radix Paeoniae Rubra) to invigorate blood and dissolve stasis.

Chinese Patent Medicines

Qīngkǎilíng Injection. Dose according to age: dilute 10-30 ml with 5% glucose injection 100-250 ml for intravenous drip, once daily.

Tui na

Points	Repetitions	Methods
Fèi Jīng (肺经)	200-300	Clearing
Dà Cháng (大肠)	100-200	Clearing
Tiān Hé Shuǐ (天河水)	100-200	Clearing
Liù Fǔ (六腑)	100-200	Pushing
RN 22 (tiān tū)	100-200	Kneading
RN 17 (dàn zhōng)	100-200	Pushing Aside
RN 17 (dàn zhōng)	100-200	Pushing Directly
Jǐ (spine)	100	Pushing

Clear *fèi jīng* 200-300 times, clear *dà cháng* 100-200 times, clear *tiān hé shuǐ* 100-200 times, push (up and down, one way pushing only) *liù fǔ* 100-200 times, knead RN 22 (*tiān tū*) 100-200 times, push aside RN 17 (*dàn zhōng*) 100-200 times, push directly RN 17 (*dàn zhōng*) 100-200 times, and push *jǐ* 100 times. Treat once daily with 3 times as one treatment course.

Acupuncture

Main Points

LU 5 (<i>chǐ zé</i>)	LU 6 (<i>kǒng zuì</i>)	LU 7 (<i>liè quē</i>)
LI 4 (<i>hé gǔ</i>)	BL 13 (<i>fèi shù</i>)	ST 36 (<i>zú sān lǐ</i>)

Adjunct Points

LU 11 (<i>shào shāng</i>)	ST 40 (<i>fēng lóng</i>)	LI 11 (<i>qū chí</i>)
RN 12 (<i>zhōng wǎn</i>)		

Needle all points with drainage. Retain the needles for 5 minutes, or do not retain the needle. Treat once or twice daily with 4 times as one treatment course.

Toxic-Heat Blocking the Lung

Signs and Symptoms

Manifestations include a continual high fever, violent coughing, rapid shallow breathing, nasal flaring, dyspnea with restlessness, no tears or snivel, extremely dry nose, red complexion and lips, dysphoria, thirst, dark urine and constipation. The tongue is red and dry with a yellow and greasy coating; the pulse is slippery and rapid.

Pattern Differentiation

This pattern is marked by intense pathogenic heat and toxic-heat blocking the lung, often developing from phlegm-heat blocking the lung with intense toxic-heat. When the intense heat stagnates and blocks the lung qi, there is a continual high fever, violent coughing, shortness of breath and panting. The toxic-heat consumes and scorches yin-fluids, presenting with no tears or snivel and a very dry nose. This is a very serious condition of toxic-heat blocking the lung which can easily transform into a deteriorated pattern. The pathogenic heat transforms into fire and invades internally accompanied by healthy qi deficiency and failing heart yang. This pattern can quickly transform into critical conditions with pathogens sinking into *jueyin* with heart yang deficiency and failure.

Treatment Principles

Clear heat and remove toxin, purge the lung and open blockage.

Formula

Modified *Huáng Lián Jiě Dú Tāng*—**Coptis Toxin-Resolving Decoction** with *Má Xìng Shí Gān Tāng*—**Ephedra, Apricot Kernel, Gypsum and Licorice Decoction**

麻黄	<i>má huáng</i>	Herba Ephedrae
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
枳壳	<i>zhǐ qiào</i>	Fructus Aurantii
黄连	<i>huáng lián</i>	Rhizoma Coptidis
黄芩	<i>huáng qín</i>	Radix Scutellariae
生石膏	<i>shēng shí gāo</i>	Gypsum Fibrosum
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
生甘草	<i>shēng gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Má huáng (Herba Ephedrae), *xìng rén* (Semen Armeniacae Amarum) and *zhǐ qiào* (Fructus Aurantii) diffuse the lung and open the lung.

Huáng lián (Rhizoma Coptidis) and *huáng qín* (Radix Scutellariae) clear heat and remove toxins.

Shēng shí gāo (Gypsum Fibrosum), *zhī mǔ* (Rhizoma Anemarrhenae) and *shēng gān cǎo* (Radix et Rhizoma Glycyrrhizae) clear lung heat.

Modifications

For serious heat toxin, add *hǔ zhàng* (Rhizoma Polygoni Cuspidati), *pú gōng yīng* (Herba Taraxaci) and *bài jiàng cǎo* (Herba Patriniae) to clear heat toxin.

For constipation with abdominal distention, add *shēng dà huáng* (Radix et Rhizoma

Rhei) and *xuán míng fěn* (Natrii Sulfas Exsiccatus) to relax the bowels and discharge heat.

For dry mouth and nose without tears or snivel, add *shēng dì huáng* (Radix Rehmanniae), *xuán shēn* (Radix Scrophulariae) and *mài mén dōng* (Radix Ophiopogonis) to moisten the lung and produce fluids.

For serious cough, add *qián hú* (Radix Peucedani) and *kuǎn dōng huā* (Flos Farfarae) to diffuse the lung and relieve cough.

For dysphoria and irritability with restlessness, add *bái sháo* (Radix Paeoniae Alba) and *gōu téng* (Ramulus Uncariae cum Uncis) to clear heart heat and calm the mind.

Chinese Patent Medicines

Qingkailing Injection. Dose according to age: dilute 10-30 ml with 5% glucose injection 100-250 ml for intravenous drip, once daily.

Yin Deficiency with Lung-Heat

Signs and Symptoms

Manifestations include a prolonged disease course with low fever, night sweats, dry cough without phlegm, and a flushed face. The tongue is red and with little or no or a partly peeled coating; the pulse is thready and rapid.

Pattern Differentiation

This pattern is common in children with a prolonged course of disease and yin fluid consumption, as well as with reduced but incompletely cleared lung heat. Children already treated for phlegm-heat blocking the lung will often present with this pattern. There is a longer disease duration with a dry cough without phlegm and a red dry tongue. If the yin deficiency is mild, there is occasional coughing or a dry cough without phlegm. If the yin deficiency is serious then there is dry mouth and tongue, a dry cough with expectoration of blood, and general manifestations of yin deficiency.

Treatment Principles

Nourish yin and clear lung, moisten lung and relieve cough.

Formula

Modified *Shā Shēn Mài Dōng Tāng*—Radix Adenophorae and Radix Ophiopogonis Decoction

南沙参	<i>nán shā shēn</i>	Radix Adenophorae
麦冬	<i>mài mén dōng</i>	Radix Ophiopogonis
玉竹	<i>yù zhú</i>	Rhizoma Polygonati Odorati
天花粉	<i>tiān huā fěn</i>	Radix Trichosanthis
桑白皮	<i>sāng bái pí</i>	Cortex Mori
款冬花	<i>kuǎn dōng huā</i>	Flos Farfarae
扁豆	<i>biǎn dòu</i>	Semen Lablab Album
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Nán shā shēn (Radix Adenophorae), *mài mén dōng* (Radix Ophiopogonis), *yù zhú* (Rhizoma Polygonati Odorati) and *tiān huā fěn* (Radix Trichosanthis) nourish yin and clear the lung.

Sāng bái pí (Cortex Mori) and *kuǎn dōng huā* (Flos Farfarae) purify the lung and relieve

cough.

Biǎn dòu (Semen Lablab Album) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) boost qi and harmonize the stomach.

Modifications

For lingering residual pathogens with repeated low fever, add *dì gǔ pí* (Cortex Lycii), *zhī mǔ* (Rhizoma Anemarrhenae), *huáng qín* (Radix Scutellariae) and *biē jiǎ* (Carapax Trionycis) to nourish yin and clear heat.

For prolonged cough, add *bǎi bù* (Radix Stemonae), *bǎi hé* (Bulbus Lilii), *pí pá yè* (Folium Eriobotryae) and *hē zǐ* (Fructus Chebulae) to astringe the lung and relieve cough.

For profuse sweating, add *lóng gǔ* (Os Draconis; Fossilia Ossis Mastodi), *mǔ lì* (Concha Ostreae), *suān zǎo rén* (Semen Ziziphi Spinosa) and *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) to astringe yin and check sweating.

Chinese Patent Medicines

Yǎng Yīn Qīng Fèi Kǒu Fú Yè—Yin-Nourishing Lung-Clearing Oral Liquid, 10 ml each bottle. Less than one year old, 2.5 ml; 1-3 years old, 5 ml; more than 4 years old, 10 ml; take twice daily.

Lung and Spleen Qi Deficiency

Signs and Symptoms

Manifestations include a fluctuating low fever, lusterless complexion, sweating easily with any movement, forceless coughing, poor appetite, loose stools, mental fatigue and lack of strength. The tongue has a thin and white coating; the pulse is thready and weak.

Pattern Differentiation

This pattern appears in the recovery period of pneumonia and is often seen in children with weak constitutions and a prolonged course of disease, mainly marked by forceless coughing and sweating whenever there is movement. If lung qi deficiency is preponderant, there is lusterless complexion and repeated attacks of the common cold. If spleen qi deficiency is preponderant there is poor appetite, loose stools, mental fatigue and lack of strength.

Treatment Principles

Supplement lung and fortify spleen, boost qi and dissolve phlegm.

Formula

Modified *Rén Shēn Wǔ Wèi Zǐ Tāng*—Ginseng and Schisandra Decoction

人參	<i>rén shēn</i>	Radix et Rhizoma Ginseng
茯苓	<i>fú líng</i>	Poria
白朮	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
炙甘草	<i>zhì gān cǎo</i>	Radix Glycyrrhizae Praeparata
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
百部	<i>bǎi bù</i>	Radix Stemonae
橘紅	<i>jú hóng</i>	Exocarpium Citri Grandis

Formula Analysis

Rén shēn (Radix et Rhizoma Ginseng), *fú líng* (Poria), *bái zhú* (Rhizoma Atractylodis

Macrocephalae and *zhì gān cǎo* (Radix Glycyrrhizae Praeparata) boost qì and fortify the spleen (and bank Earth to generate Metal).

Wǔ wèi zǐ (Fructus Schisandrae Chinensis) astringes the lung and relieves cough.

Bǎi bù (Radix Stemonae) and *jú hóng* (Exocarpium Citri Grandis) relieve cough and dissolve phlegm.

Modifications

For cough with profuse phlegm, remove *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), and add *bàn xià* (Rhizoma Pinelliae), *chén pí* (Pericarpium Citri Reticulatae) and *xìng rén* (Semen Armeniacae Amarum) to dissolve phlegm and relieve cough.

For serious cough, add *zǐ wǎn* (Radix et Rhizoma Asteris) and *kuǎn dōng huā* (Flos Farfarae) to diffuse the lung and relieve cough.

For profuse deficiency sweating and sweating with any movement, add *huáng qí* (Radix Astragali), *duàn lóng gǔ* (Os Draconis; Fossilia Ossis Mastodi Praeparatum) and *duàn mǔ lì* (Concha Ostreae Praeparatum) to consolidate the exterior and check sweating.

For profuse sweating and common cold, add *guì zhī* (Ramulus Cinnamomi) and *bái sháo* (Radix Paeoniae Alba) to warm the *wei*-defensive level and harmonize the *ying*-nutrient level.

For loose stools, add *huái shān yào* (Rhizoma Dioscoreae) and *chǎo biǎn dòu* (Semen Lablab Album Praeparata) to fortify the spleen and boost qì.

For poor appetite with little food intake, add *jiāo shān zhā* (Fructus Crataegi Praeparata) and *jiāo liú qū* (Massa Medicata Fermentata Praeparata) to harmonize the stomach and promote digestion.

Tuī na

Points	Repetitions	Methods
<i>Pí Jīng</i> (脾经)	200-300	Supplementing
<i>Fèi Jīng</i> (肺经)	200-300	Supplementing
<i>Sān Guān</i> (三关)	200-300	Pushing
RN 12 (<i>zhōng wǎn</i>)	200-300	Rubbing
ST 36 (<i>zú sān lǐ</i>)	100-00	Kneading
BL 13 (<i>fèi shù</i>)	100-200	Kneading

Supplement *pí jīng* 200-300 times, supplement *fèi jīng* 200-300 times, push *sān guān* 200-300 times, rub RN 12 (*zhōng wǎn*) 200-300 times, knead ST 36 (*zú sān lǐ*) 100-200 times, and knead BL 15 (*fèi shù*) 100-200 times.

Treat once daily with 3 times as one treatment course.

2. DETERIORATED PATTERNS

Heart Yang Deficiency and Failure

Signs and Symptoms

Manifestations include a sudden pale complexion, cyanotic lips, difficult shallow rapid breathing, sweating on the forehead with reversal-cold and cool limbs, listlessness, dysphoria, clouded spirit, and gradually enlarging right rib-side masses. The tongue is slightly purple with a thin white coating; the pulse is thin, thready, weak and racing. Purple finger venules reach to the life pass.

Pattern Differentiation

This pattern is common in infants and young children or constitutionally weak children with pneumonia; there is an excess pathogen and a deficiency of healthy qi. The onset of this pattern is acute, and the condition is serious. Because the intense pathogenic toxin injures heart yang, blocks the lung and stagnates qi, blood stagnates in the collaterals with stasis and congestion.

The key points for clinical differentiation are a pale complexion, sudden cyanosis, cool or reversal-cold of the limbs, enlarging right rib-side masses, and shallow rapid breathing. The pulse is weak, thready and racing rapidly.

Treatment Principles

Warm and supplement the heart yang to rescue desertion and collapse.

Formula

Modified *Shēn Fù Lóng Mǔ Jiù Nì Tāng*—Ginseng, Aconite, Dragon Bone, and Oyster Shell Counterflow Decoction

人參	<i>rén shēn</i>	Radix et Rhizoma Ginseng
附子	<i>fù zǐ</i>	Radix Aconiti Praeparata
龙骨	<i>lóng gǔ</i>	Os Draconis; Fossilia Ossis Mastodi
牡蛎	<i>mǔ lì</i>	Concha Ostreae
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
炙甘草	<i>zhì gān cǎo</i>	Radix Glycyrrhizae Praeparata

Formula Analysis

Rén shēn (Radix et Rhizoma Ginseng) powerfully supplements original qi.

Fù zǐ (Radix Aconiti Praeparata) restores yang to rescue collapse.

Lóng gǔ (Os Draconis) and *mǔ lì* (Concha Ostreae) subdue yang and astringe yin.

Bái sháo (Radix Paeoniae Alba) and *zhì gān cǎo* (Radix Glycyrrhizae Praeparata cum Melle) harmonize the nutrient level and protect yin.

Modifications

For qi and yang deficiency, replace the formula with *Dú Shēn Tāng*—Single Ginseng Decoction or *Shēn Fù Tāng*—Ginseng and Aconite Decoction, with frequent oral administration to rescue from crisis. An intravenous drip of *Shēn Fù Zhù Shè Yè*—Ginseng and Aconite Injection can also be used.

For qi and yin exhaustion, add *Shēng Mài Zhù Shè Yè*—Pulse-Engendering Injection by using intravenous drip, to boost qi and nourish yin to rescue desertion.

For pale complexion with cyanotic lips and tongue, obvious right rib-side masses, consider adding blood invigorating and stasis dissolving medicinals such as *hóng huā* (Flos Carthami) and *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) to expel stasis and unblock the collaterals.

Acupuncture

Main Points

LU 5 (<i>chǐ zé</i>)	LU 6 (<i>kǒng zuì</i>)	LU 7 (<i>liè quē</i>)
LI 4 (<i>hé gǔ</i>)	BL 13 (<i>fēi shù</i>)	ST 36 (<i>zú sān lǐ</i>)

Adjunct Points

BL 24 (*qì hǎi shù*)BL 26 (*guān yuán shù*)DU 20 (*bǎi huì*)

Needle all points with supplementation, retain all needles for 5 minutes or do not retain the needle. Treat once daily with 5 times as one treatment course.

This condition must be detected early and treated urgently. It is imperative to provide rescue treatment without waiting for yang qi failure symptoms to develop completely; seriously critical cases should be rescued and treated with a combination of traditional Chinese and Western medicine.

Pathogenic Factors Sinking in Jueyin**Signs and Symptoms**

Manifestations include a high fever, dysphoria, unconsciousness, delirious speech, convulsions of four limbs, lockjaw, neck rigidity and eyes staring upwards. The tongue is red and crimson; there are purple finger venules which can reach the life pass, or extension of the visible veins through all the passes towards the nail.

Pattern Differentiation

This pattern is caused by intense pathogens invading internally and sinking into the *jueyin* hand and foot channels. The key point of clinical evidence is the accelerating and deteriorating condition, which appears with heart and liver manifestations of high fever, dysphoria, unconsciousness, four limb convulsions, lockjaw and neck rigidity. The condition is critical.

Treatment Principles

Calm the liver and extinguish wind, clear heart and open the orifices.

Formula

Modified *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction with *Niú Huáng Qīng Xīn Wán*—Bovine Bezoar Heart-Clearing Pill

羚羊角粉	<i>líng yáng jiǎo fěn</i>	Cornu Saigae Tataricae (infused)
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
茯神	<i>fú shén</i>	Sclerotium Poriae Paradicis
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
生地	<i>shēng dì</i>	Radix Rehmanniae
炙甘草	<i>zhì gān cǎo</i>	Radix Glycyrrhizae Praeparata cum Melle
黄连	<i>huáng lián</i>	Rhizoma Coptidis
黄芩	<i>huáng qín</i>	Radix Scutellariae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
郁金	<i>yù jīn</i>	Radix Curcumae
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii

Formula Analysis

Líng yáng jiǎo fēn (Cornu Saigae Tataricae) and *gōu téng* (Ramulus Uncariae Cum Uncis) calm the liver and extinguish wind.

Fú shén (Sclerotium Poriae Paradicis) calms and stabilizes the mind.

Bái sháo (Radix Paeoniae Alba), *shēng dì* (Radix Rehmanniae) and *zhì gān cǎo* (Radix Glycyrrhizae Praeparata cum Melle) nourish yin and resolve spasms.

Huáng lián (Rhizoma Coptidis), *huáng qín* (Radix Scutellariae) and *zhī zǐ* (Fructus Gardeniae) clear heat, purge fire and remove toxins.

Yù jīn (Radix Curcumae) and *shí chāng pú* (Rhizoma Acori Tatarinowii) clear the heart and open the orifices.

Modifications

For unconsciousness with profuse sputum, add *dǎn nán xīng* (Arisaema cum Bile), *zhú lì* (Succus Bambusae) and *Hóu Zǎo Sǎn* (Calculus Macacae Mulattae Powder) to eliminate phlegm and open the orifices.

For high fever with unconsciousness and convulsions, add patent medicines such as *Zǐ Xuě Dān*—Purple Snow Elixir, *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill or *Zhì Bǎo Dān*—Supreme Jewel Elixir.

Tuī na

Points	Repetitions	Methods
<i>Tiān Hé Shuǐ</i> (天河水)	200-300	Clearing
<i>Liù Fǔ</i> (六腑)	200-300	Pushing
<i>Xīn Jīng</i> (心经)	200-300	Supplementing
<i>Fèi Jīng</i> (肺经)	200-300	Supplementing
<i>Xiǎo Tiān Xīn</i> (小天心)		Pinching
DU 26 (<i>rén zhōng</i>)		Pinching
EX-UE 11 (<i>shí xuān</i>)		Pinching

Clear *tiān hé shuǐ* 200-300 times, push *liù fǔ* 200-300 times, supplement *xīn jīng* 200-300 times, supplement *fèi jīng* 200-300 times, and pinch *xiǎo tiān xīn*, DU 26 (*rén zhōng*) and *shí xuān*. Treat once daily with 3 times as one course of treatment.

Acupuncture

DU 26 (<i>rén zhōng</i>)	LI 4 (<i>hé gǔ</i>)	KI 1 (<i>yǒng quán</i>)
----------------------------	-----------------------	---------------------------

Apply drainage to all points. Use rapid needling with strong stimulation and do not retain the needle. For wheezing in the throat, add ST 40 (*fēng lóng*) and RN 22 (*tiān tū*); for high fever with red complexion, add DU 14 (*dà zhuī*) and LI 11 (*qū chí*); for trismus, add ST 7 (*xià guān*) and ST 6 (*jiá chē*).

Administer emergency treatment to seriously critical patients with combined Chinese and Western medicine.



[OTHER THERAPIES]

1. EXTERNAL THERAPIES

(1) Formula

天花粉	<i>tiān huā fěn</i>	Radix Trichosanthis
黄柏	<i>huáng bǎi</i>	Cortex Phellodendri Chinensis
乳香	<i>rǔ xiāng</i>	Olibanum
没药	<i>mò yào</i>	Myrrha
樟脑	<i>zhāng nǎo</i>	Camphora
大黄	<i>dà huáng</i>	Radix et Rhizoma Rhei
生天南星	<i>shēng tiān nán xīng</i>	Rhizoma Arisaematis
白芷	<i>bái zhǐ</i>	Radix Angelicae Dahuricae

Grind equal doses of the above medicinals into a fine powder, mix with warm vinegar and make into a paste. Put the paste in gauze and apply to acupoints LU 1 (*zhōng fǔ*) and ST 15 (*wū yì*) on both sides of the chest, once or twice daily. For children with pneumonia.

(2) Formula

肉桂	<i>ròu guì</i>	12 g	Cortex Cinnamomi
丁香	<i>dīng xiāng</i>	16 g	Flos Caryophylli
制川乌	<i>zhì chuān wū</i>	15 g	Radix Aconiti Praeparata
制草乌	<i>zhì cǎo wū</i>	15 g	Radix Aconiti Kusnezoffii Praeparata
乳香	<i>rǔ xiāng</i>	15 g	Olibanum
没药	<i>mò yào</i>	15 g	Myrrha
当归	<i>dāng guī</i>	30 g	Radix Angelicae Sinensis
红花	<i>hóng huā</i>	30 g	Flos Carthami
赤芍	<i>chì sháo</i>	30 g	Radix Paeoniae Rubra
川芎	<i>chuān xiōng</i>	30 g	Rhizoma Chuanxiong
透骨草	<i>tòu gǔ cǎo</i>	30 g	Herba Vaccinii Urophylli

Prepare the above medicinals into an ointment and paste onto the back where obvious rales are heard. Use once daily, with 5-7 days as one course of treatment. Apply this method to assist the lung in absorbing moisture.

2. CUPPING THERAPY

Use points on the lower part of both sides of the scapula. Treat for 5-10 minutes once daily, with 5 days as one course of treatment. Apply in children with stubborn moist rales

in the later stages of pneumonia.

[WESTERN MEDICINE THERAPIES]

1. TREATMENT AIMED AT THE CAUSES

Antibiotics such as penicillin and cephalosporin antibiotics are selected to treat bacterial pneumonia. The macrolide class of antibiotics is indicated for the treatment of mycoplasma pneumonia, and ribavirin injections or interferon are used to treat viral pneumonia.

2. TREATMENT FOR HEART FAILURE COMPLICATIONS

Give inspired oxygen to increase blood oxygen levels. The only time oxygen should be avoided or used with caution is in neonates. Sedation of very irritable infants and children reduces their use of oxygen and increases their comfort.

Slow down the heart rate to lower systemic vascular resistance and increase cardiac output to improve myocardial function and increase and boost myocardial contractility.

Control salt, water and calorie intake to enable elimination of excess salt and water and to prevent their re-accumulation, which also reduces the cardiac preload pressure.

Lanatoside C (Cedilanid) is often used in the treatment of heart failure.

Furosemide (Furosemide) is used for diuresis. Dopamine can be used when heart failure is associated with hypotension.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) Increase physical activities and exercise to improve and enhance the physique and fitness levels.

(2) Change and maintain clothing according to the varying warm and cold weather changes. Stay away from public places during common cold and influenza epidemics.

2. NURSING CARE

(1) Children with pneumonia should be put on bed rest and given adequate fluids. Oxygen needs to be provided when cyanosis is present. Regularly clear the airways of respiratory secretions. Change body positions frequently to promote the discharge of phlegm and mucus.

(2) Children with severe pneumonia need intensive care with increased inspections to observe any changing conditions in their illness.

[CASE STUDIES]

► Case #1. Male, age 1 year. Initial Visit: 12/7/1962

The infant had high fever, panting and shortness of breath for 5 days.

The child presented with fever, cough, wheezing and asthmatic breathing with restlessness for 5 days. He had been diagnosed with pneumonia in another hospital and had been taking antibiotics with an unsatisfactory response and no relief of symptoms.



He still presented with high fever and a temperature of 39.5°C, coughing, wheezing, panting, restlessness, red lips and complexion, irritability, dry mouth, constipation and reduced urine. His tongue was red with a yellow greasy coating; purple finger venules appeared up to the qì pass.

Based on the symptoms and signs, this patient was diagnosed with pneumonia with external pathogenic factor obstruction and lingering internal phlegm-heat, obstructed qì movement, and failure of lung qì to disperse and descend. Therefore, he was treated by diffusing the lung and dissolving phlegm to relieve cough and panting.

Formula

炙麻黄	zhì má huáng	2 g	Herba Ephedrae Praeparata cum Melle
杏仁	xìng rén	10 g	Semen Armeniacae Amarum
生石膏	shēng shí gāo	25 g	Gypsum Fibrosum (decocted first)
生甘草	shēng gān cǎo	3 g	Radix et Rhizoma Glycyrrhizae
连翘	lián qiào	10 g	Fructus Forsythiae
紫苏子	zǐ sū zǐ	3 g	Fructus Perillae
莱菔子	lái fú zǐ	5 g	Semen Raphani
炙枇杷叶	zhì pí pá yè	5 g	Folium Eriobotryae Praeparata cum Melle
象贝母	xiàng bèi mǔ	5 g	Bulbus Fritillariae Ussuriensis
桔梗	jié gěng	3 g	Radix Platycodonis
焦六曲	jiāo liù qū	12 g	Massa Medicata Fermentata Praeparata
焦山楂	jiāo shān zhā	12 g	Fructus Crataegi Praeparata
焦麦芽	jiāo mài yá	12 g	Fructus Hordei Germinatus Praeparata

2 doses

He was also given one bottle of *Hóu Zǎo Sǎn*—**Calculus Macacae Mulattae Powder**, 1/4 bottle twice daily.

Second visit: After 2 doses, the fever had subsided and the panting was relieved, but he still had a phlegmy cough, restlessness, lack of sleep, a dry mouth and thirst with a desire to drink. His tongue coating was yellow, and he had purple finger venules.

The signs and symptoms indicated that the patient's lung qì had been opening, but that the phlegm-heat had not been completely cleared. Therefore, the same formula continued with modifications.

Formula

炙麻黄	zhì má huáng	2 g	Herba Ephedrae Praeparata cum Melle
杏仁	xìng rén	10 g	Semen Armeniacae Amarum
薏苡仁	yì yǐ rén	10 g	Semen Coicis
生石膏	shēng shí gāo	25 g	Gypsum Fibrosum (decocted first)

生甘草	shēng gān cǎo	3 g	Radix et Rhizoma Glycyrrhizae
海浮石	hǎi fú shí	10 g	Pumex
蛤粉	gé jiè fēn	10 g	Gecko
胖大海	pàng dà hǎi	5 g	Semen Sterculiae Lychnophorae
天竺黄	tiān zhú huáng	5 g	Concretio Silicea Bambusae
炙枇杷叶	zhì pí pá yè	5 g	Folium Eriobotryae Praeparata cum Melle
黄芩	huáng qín	5 g	Radix Scutellariae Hypericifoliae
焦六曲	jiāo liù qū	12 g	Massa Medicata Fermentata Praeparata
焦山楂	jiāo shān zhā	12 g	Fructus Crataegi Praeparata
焦麦芽	jiāo mài yá	12 g	Fructus Hordei Germinatus Praeparata

3 doses

He was also given one bottle of *Hóu Zǎo Sǎn—Calculus Macacae Mulattae Powder*, 1/4 bottle twice daily.

After 3 doses, all symptoms disappeared.

Source: Liu BC, Editor. 刘弼臣临床经验辑要 [The Summary of Liu Bichen's Clinical Experiences] [M]. Beijing: Chinese Journal of Traditional Medical Science and Technology Press; 2002:462

► Case #2. Female, age 3. Initial Visit: 5/26/2003.

Her complaint was fever and cough for three days aggravated by shortness of breath for one day. She had been given antibiotic treatment for two days with no relief of symptoms.

She presented with high fever and temperature of 39°C, coughing, profuse difficult to expectorate phlegm, panting with shortness of breath, a red complexion and dry stools. Her tongue was red with a greasy yellow coating; her pulse was rapid.

Based on the symptoms and signs, the patient was diagnosed as having pneumonia with the pattern of phlegm-heat blocking the lung. Therefore, it was treated by the principles of clearing heat and opening the lung to resolve lung obstruction, dissolving phlegm and relieving panting.

Formula

炙麻黄	zhì má huáng	5 g	Herba Ephedrae Praeparata cum Melle
杏仁	xìng rén	10 g	Semen Armeniacae Amarum
生石膏	shēng shí gāo	30 g	Gypsum Fibrosum (decocted first)
葶苈子	tí lì zǐ	10 g	Semen Lepidii; Semen Descurainiae
桑白皮	sāng bái pí	10 g	Cortex Mori
前胡	qián hú	10 g	Radix Peucedani
僵蚕	jiāng cán	6 g	Bombyx Batryticatus
黄芩	huáng qín	5 g	Radix Scutellariae Hypericifoliae



草河车	<i>cǎo hé chē</i>	12 g	Rhizoma Paridis; Rhizoma Bistortae
半夏	<i>bàn xià</i>	5 g	Rhizoma Pinelliae Concisum
炙百部	<i>zhì bǎi bù</i>	10 g	dry-fried Radix Stemonae

3 doses

Second visit: After 3 doses, the child had been sweating and her fever subsided, the cough improved markedly, and the panting was relieved. There were occasional phlegm rales in her throat, her tongue was red with a thin yellow coating, and she had a rapid pulse.

Formula

炙麻黄	<i>zhì má huáng</i>	5 g	Herba Ephedrae Praeparata cum Melle
杏仁	<i>xìng rén</i>	10 g	Semen Armeniacae Amarum
莱菔子	<i>lái fú zǐ</i>	10 g	Semen Raphani
葶苈子	<i>tí lì zǐ</i>	10 g	Semen Lepidii; Semen Descurainiae
桑白皮	<i>sāng bái pí</i>	10 g	Cortex Mori
前胡	<i>qián hú</i>	10 g	Radix Peucedani
僵蚕	<i>jiāng cán</i>	6 g	Bombyx Batryticatus
丹参	<i>dān shēn</i>	10 g	Radix et Rhizoma Salviae Miltiorrhizae
黄芩	<i>huáng qín</i>	5 g	Radix Scutellariae Hypericifoliae
草河车	<i>cǎo hé chē</i>	12 g	Rhizoma Paridis; Rhizoma Bistortae
半夏	<i>bàn xià</i>	5 g	Rhizoma Pinelliae Concisum
炙百部	<i>zhì bǎi bù</i>	10 g	dry-fried Radix Stemonae

3 doses

Third visit: After 3 doses, the child had no fever or cough, but still had occasional phlegm rales. Her tongue was red with a thin white coating and her pulse was rapid. 2 more doses of the same formula were given after which all symptoms disappeared.

Analysis

In this case, the child presented with typical symptoms of pneumonia due to phlegm-heat blocking the lung such as fever, cough, phlegm and wheezing. Therefore, the treatment principles were to clear heat, open the lung, dissolve phlegm and relieve panting. At the later stages, the fever had subsided, so *shēng shí gāo* (Gypsum Fibrosum) was removed, and *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) was added to invigorate blood and unblock the collaterals.

Source: Wan LS, Editor. 汪受传儿科医论医案选 [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics] [M]. Beijing: Academy Press; 2008: 107.

[QUESTIONS]

1. A 5-month-old child is seen with fever and cough for 3 days, and wheezing for one day. Symptoms

include aversion to wind with fever, cough with shortness of breath, slight sweating, thirst and red throat. The tongue is red with a thin and yellow coating; there are superficial and purple finger venules.

What is the presenting pattern in this case?

- A. Wind-cold blocking lung.
- B. Wind-heat blocking lung.
- C. Phlegm-heat blocking lung.
- D. Toxic-heat blocking the lung.
- E. Yin deficiency with lung-heat.

2. A 2-year-old child is seen with a fever for 3 days and a cough for 2 days. Symptoms include continual fever, severe cough, shortness of breath with flared nostrils, no nasal discharge or tears, red complexion and lips, irritability, scanty yellow urine and constipation. The tongue is red with a yellow greasy coating and there are purple and dark finger venules.

What are the best treatment principles for this case?

- A. Disperse wind and clear heat, diffuse lung and relieve cough.
- B. Clear lung and dissolve phlegm, relieve cough and panting.
- C. Clear heat and clear up phlegm, open the lung and relieve panting.
- D. Diffuse lung with acrid-cool herbs, clear heat and dissolve phlegm.
- E. Clear heat and resolve toxin, purge lung and open blockage.

3. A 4-year-old child is seen with continual high fever for 3 days. He has a severe cough, shortness of breath, flaring ala nasi, irritability, sudden unconsciousness with delirious speech, convulsions of four limbs and upward staring eyes. His tongue is red and crimson; finger venules are extended to the life pass.

What are the best treatment principles for this case?

- A. Diffuse lung with acrid-cool medicinals, clear heat and dissolve phlegm.
- B. Clear heat and resolve toxins, purge the lung and open blockage.
- C. Clear heat and phlegm, open the lung and relieve panting.
- D. Warm and supplement heart yang, rescue collapse.
- E. Calm the liver and extinguish wind, clear the heart and open the orifices.

4. A 5-year-old child is seen with lingering pneumonia and coughing for one month. Present symptoms include low fever and night sweating, dry cough without phlegm, poor appetite and a flushed complexion. The tongue is red with a slightly moist and partly peeled coating; there is a thready and rapid pulse.

Which is the most appropriate formula?

- A. *Mài Mén Dōng Tāng*—Ophiopogon Decoction
- B. *Shā Shēn Mài Dōng Tāng*—Adenophora Root and Dwarf Lilyturf Tuber Decoction
- C. *Qīng Hāo Biē Jiǎ Tāng*—Sweet Wormwood and Turtle Shell Decoction
- D. *Bǔ Fèi Ē Jiāo Tāng*—Lung-Supplementing Donkey-Hide Gelatin Decoction
- E. *Zhī Bǎi Dì Huáng Tāng*—Anemarrhena, Phellodendron and Rehmannia Decoction

5. A 6-month-old child is seen with a fever and cough for 2 days. Symptoms include continual high fever, occasional irritability, severe cough, shortness of breath, with flaring nostrils and dyspnea. At 5 am the child suddenly appeared with a pale complexion, cyanotic mouth and lips, reversal cold of the four limbs and a mass in the right hypochondrium. The tongue was purple with a thin coating; there were purple and dark finger venules.

Which pneumonia pattern can be diagnosed here?



- A. Wind-heat blocking the lung.
- B. Phlegm-heat blocking the lung.
- C. Heart yang deficiency and failure.
- D. Pathogenic factors invading inwardly and sinking into the *jueyin*.
- E. Toxic-heat blocking the lung.

6. A 5-month-old child is seen with a fever for 5 days and cough with wheezing for 3 days. The child had a fever with temperature of 38.5°C for the previous 5 days. After being given *Shuāng Huáng Lián Kǒu Fú Yè*—Double Rhizoma Coptidis Oral Liquid, the fever did not subside. Since the previous 3 days, the child had presented with high fever, irritability, cough with phlegm, wheezing with shortness of breath, phlegm rales in the throat, dyspnea, thirst, dry stools, a red complexion and dry lips. The tongue was red with a yellow coating; the pulse was slippery and rapid.

Which pneumonia syndrome is this?

- A. Wind-heat blocking the lung.
- B. Toxic-heat blocking the lung.
- C. Yin-deficiency with lung-heat.
- D. Wind-cold blocking the lung.
- E. Phlegm-heat blocking the lung.

[REFERENCES]

- [1] Stephen Berman. Epidemiology of Acute Respiratory Infections in Children of Developing Countries. *Reviews of Infectious Diseases*, Vol. 13, Supplement 6. Bellagio Conference on the Pathogenesis and Prevention of Pneumonia in Children in Developing Regions (May-Jun. 1991), pp. S454-S462
- [2] Hu YM, Jiang ZF as Compilers-in Chief. *Zhu Fu-tang Practical Pediatrics*, 7th Ed. [M]. Beijing: People's Medical Publishing House, 2002; 1174
- [3] Black CP. Systematic Review of the Biology and Medical Management of Respiratory Syncytial Virus Infection [J]. *Respiratory Care*; 2003; 48 (3):209
- [4] Wang SC, Zhao X, Ren XZ, et al. Research on Healing Effects in Viral Pneumonia Based on Dynamic Changes of Major Symptoms. *China Journal of Traditional Chinese Medicine and Pharmacy*, 2008; 23(8): 675
- [5] Zhao X, Wang SC, Yang Y, et, al. Clinical Evaluation of Qingkailing Injection and *Ér Tóng Qīng Fèi* Liquid (Children Clearing Lung Liquid) in Treating Patterns of Phlegm-Heat Blocking Lung in Childhood Pneumonia due to Respiratory Syncytial Virus. *Journal of Traditional Chinese Medicine*, 2008; 49 (7): 602

Chapter 11

Asthma (*Xiào Chuǎn*)

Asthma is a common childhood lung system disease characterized by episodes of wheezing, cough and difficulty in breathing. In Chinese Medicine the condition is termed *xiao chuan*; “*xiao*” refers to the wheezing sound while “*chuan*” refers to shortness of breath, where *xiao* and *chuan* often occur at the same time.

Asthma is clinically characterized by a significant increase in resistance to air flow during an attack with wheezing and tachypnea, shortness of breath, gurgling phlegm in the throat, and prolonged expiration. In severe cases, the child cannot lie flat, and displays difficult breathing with an open mouth and raised-shoulders with a retracted abdomen and intercostals and cyanotic lips.

In Western medicine, this disease is also called bronchial asthma, an allergic disease in which chronic inflammation causes hypersensitivity reactions in the airways and involves a variety of cells, particularly mastocytes, eosinophiles granulocytes, and T-lymphocytes. The hyper-responsiveness causes widespread narrowing of the bronchial airways, leading to reversible airway obstruction frequently preceded by symptoms of mild upper respiratory tract infection. The disease includes both childhood asthma and cough variant asthma. Childhood asthma is generally characterized by dyspnea and wheezing, following the same concept as asthma in traditional Chinese medicine. The cough variant asthma also has anaphylactic coughing but often without significant wheezing; this condition is also covered in this section.

Involving a high genetic predisposition, asthma occurs during specific seasons, appearing more often in winter and spring as well as during sudden weather or temperature changes. It usually occurs or becomes serious in the early morning or during the night. The initial onset is between 1-6 years old with most patients being younger than 3 years. The prevalence of asthma in boys is twice that of girls, but there are no any gender differences as they reach adolescence. Most children can be cured or become almost completely free from symptoms after correct treatment and nursing, with a good prognosis as they mature. But if there is failure to prevent and treat asthma, it can occur repeatedly; this situation may persist into adulthood or last throughout the lifetime.

It is estimated that in 2002, 150 million people around the world suffered from asthma, making it one of the most common chronic diseases worldwide. In many countries the incidence of asthma is increasing in all age groups, especially among children. According to a recent report, nearly 40 million people in Central and South America have asthma. It is now estimated that as many as 300 million people of all ages and ethnic backgrounds suffer with asthma, the burden to governments, health care systems, families and patients is increasing worldwide^[1].

In recent years, the morbidity and the mortality of childhood asthma is on the rise. The morbidity of childhood asthma in China in 2000 increased to 1.50% from 0.91% in 1990, with an overall increase of 64.84%^[2]. The United States added more than 26000 cases of children with asthma each year^[3]. Asthma has become a serious public health problem which has aroused close attention all over the world. The World Health Organization (WHO) and National Heart, Lung and Blood Institute organized experts from 17 countries

to develop a “Global Initiative for Asthma” (GINA) program that provides scientific information for Western drug prevention, treatment and management of asthma. This program has also been widely adopted worldwide.

Traditional Chinese medicine has its own unique advantages and characteristics in the treatment of asthma, which in pattern differentiation and treatment is always divided into attack and remission stages.

Xing Xiang-hui et al. treated 200 cases of childhood asthma using methods to diffuse the lung, direct qi downward, dissolve phlegm and relieve wheezing combined with invigorating blood and clearing heat. *Píng Chuǎn Hé Jì*—Asthma-Eliminating Mixture was applied, consisting of *zhì má huáng* (Herba Ephedrae), *guì zhī* (Ramulus Cinnamomi), *chǎo xìng rén* (Semen Armeniacae Amarum), *xì xīn* (Herba Erigerontis), and *bàn xià* (Rhizoma Pinelliae praeparatum). Results showed that this formula could significantly improve the signs and symptoms of asthma, with a total effective rate of 97%^[4].

In the treatment of 596 children with asthma, Zhang Xiao-ping et al. applied *Xiào Chuǎn Gāo* (Asthma Plaster) to acupoints BL 13 (*fēi shù*) and BL 43 (*gāo huāng*); in severe cases, RN 17 (*dàn zhōng*) was added. The total effective rate was 94.96%^[5].

[ETIOLOGY & PATHOMECHANISM]

The etiology of asthma includes both extrinsic and intrinsic causes. The intrinsic causes lie in an insufficiency of lung, spleen and kidney functions which result in the retention of phlegm and rheum; this is the “obstinate root” of asthma. Extrinsic causes are external pathogenic factors, exposure to one or more of a wide range of stimuli such as odors, or indulgence in eating salty and sour foods. Among those causes, asthma is most commonly triggered by external pathogenic factors.

Lung, Spleen and Kidney Deficiency, Retention of Phlegm-Rheum

The child lung is delicate with the spleen often insufficient, the kidney often deficient, and qi, blood, yin and yang not completely sufficient. Various innate and acquired pathological factors will influence and develop in different physiques even with patterns such as lung and spleen qi deficiency, spleen and kidney yang deficiency or lung and kidney yin deficiency.

The diffusing and descending of lung qi, the transporting and transforming functions of spleen qi, and the warming of kidney qi together maintain normal qi transformation and fluid metabolism. When the lung, spleen and kidney are insufficient and in disharmony, this can give rise to abnormal qi transformation and fluid metabolism.

If external pathogenic factors invade the lung or if the lung qi is deficient, normal breathing is disturbed and the lung functions of management and regulation fail. With failure to distribute water and fluids, body fluids will accumulate and become internal phlegm.

If the spleen is deficient, it will fail to transport and transform which will cause lung qi deficiency (spleen-Earth fails generate lung-Metal), so water-dampness cannot be transformed and thus accumulates, turning into phlegm stored in the lung.

If kidney qi is deficient, it will fail to govern qi reception and fail to warm, evaporate and transform water and fluids. As a result, water-dampness suffuses into the upper *jiao* to become phlegm, and body fluids accumulate to become rheum. It is said that the

foundation of phlegm is water with its source from the kidney and that the development of phlegm is due to internal dampness as managed by the spleen; also the termination and storage of phlegm is in the lung.

Children with asthma often have a family history and possess certain genetic factors which form an insufficient constitution manifesting as deficiency of the lung, spleen or kidney. The retention of phlegm-rheum and dysfunctional governance of qi are the basic reasons for repeated asthmatic episodes.

Attack by External Pathogenic Factors and Exposure to Stimuli

Asthma onset is always the result of the external causes acting upon internal factors, i.e. external pathogenic factors interfere with the body's internal latent phlegm and trigger an asthma attack. The external pathogenic factor attack is mainly caused by the six external pathogenic factors, and among the six external pathogenic factors the most common are wind-cold and wind-heat.

When external pathogenic factors invade the lung channel, the lung will fail to diffuse and descend and cause lung qi dysfunction. They also activate latent phlegm, causing phlegm and qi to jointly obstruct the airways; the phlegm rises by following the rising qi, and the qi is obstructed by phlegm. They strike together giving rise to the dysfunction of qi in ascending and descending. This results in breathing difficulties, wheezing with shortness of breath, and phlegm gurgling in the throat to induce an asthmatic attack.

Asthma can also be triggered with exposure to pollen or odors from paint, dust mites, fine hairs, or overconsumption of stimulating foods such as seafood or salty and sour foods or even by heavy exercise or emotional disturbances. Those factors can also stimulate the body and activate latent phlegm, causing the phlegm to obstruct the airways and affect the lung functions of dispersing and descending, thus inducing an asthma attack.

Overall, the pathogenesis of asthma is that "there is internal qi obstruction with external invasion by inclement weather (which is out of season) along with thick and firm phlegm in the diaphragm". Interaction among these three conditions obstructs and blocks the airways, intermingling and disturbing each other while creating the sound of wheezing and asthma.

Cold-type asthma can develop from an external wind-cold attack and from internal damage by raw and cold foods. Internal retention of cold-phlegm is often accompanied by yang deficiency.

Heat-type asthma can result from an external wind-heat attack or when wind-cold transforms into heat; it is also usually associated with yin deficiency or internal retention of phlegm-heat. If the external cold has not been released and the interior heat has already risen, this can give rise to patterns of external cold with internal heat. If the accumulation of wind-phlegm has not been resolved and there is evidence of a kidney yang deficiency, this then develops into lung excess with kidney deficiency.

Children with asthma have insufficiency in the lung, spleen and kidney with internal retention of phlegm and rheum. With repeated asthmatic attacks there is damage to lung qi and yin, injury to spleen qi and yang, and depletion of kidney yin and yang. As a result, this brings about lung and spleen qi deficiency, spleen and kidney yang deficiency, or lung and kidney yin deficiency during remission.

When the internal causes are unable to be relieved and there are repeated external attacks, then internal wind may become stirred or it may remain stable; internal phlegm may also become stirred, or it may remain stable. This describes the typical clinical scenario

for ongoing intermittent asthma attacks.

The asthma attack stage usually presents with an excess pattern, while the remission stage often presents with a deficiency of healthy qi. However, there are also complicated patterns in which it is difficult to distinguish between attack and remission stages where asthmatic occurrences are prolonged with deficiency signs being mixed with those of excess.

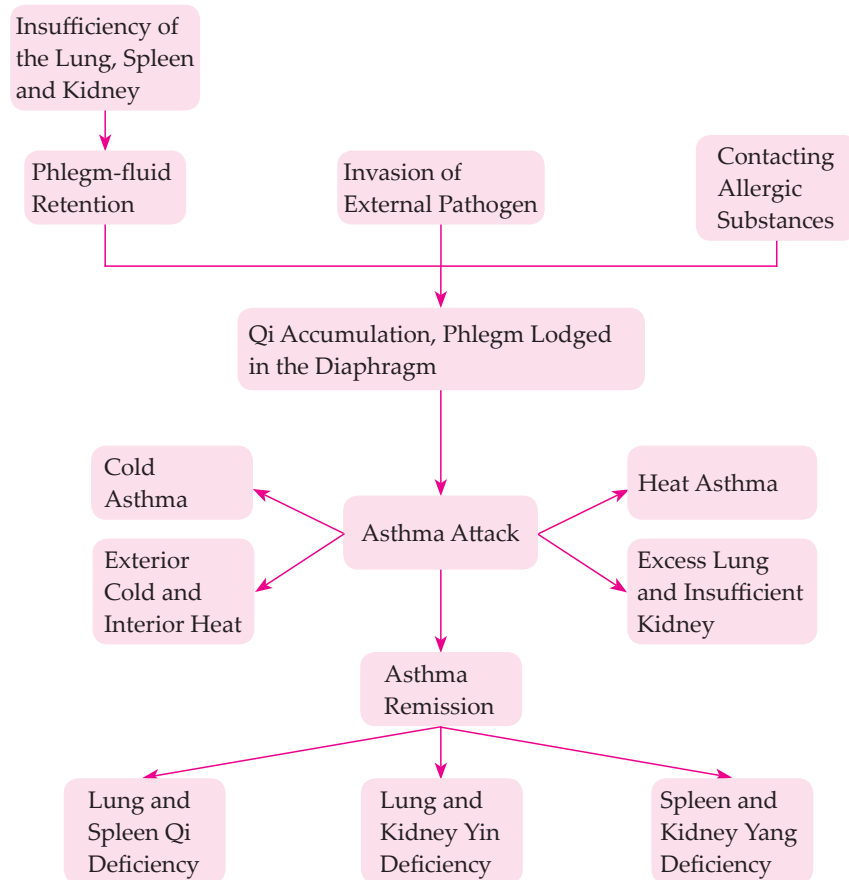


Fig.11-1 Etiology and Pathomechanisms of Asthma

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

- (1) The patient may have a history of infantile eczema, allergic rhinitis, or an asthmatic family history.
- (2) There is a history of repeated asthmatic attacks often induced by certain factors like sudden weather changes, external contraction, and foods or allergens.
- (3) There is often a sudden onset, where initially the patient usually experiences premonitory symptoms such as sneezing, coughing and a sense of suppression in the chest. Subsequently there is tightening of the chest, shortness of breath, wheezing, and increased

paroxysmal coughing. The child is most comfortable when sitting up and leaning forward. In severe attacks there is also dysphoria, restlessness and cyanotic lips.

(4) During the attack, dispersed or diffuse wheezing rales can be heard in both lungs, with wheezing rales mainly in the expiratory phase and a prolonged expiratory phase.

(5) There is often a good response to bronchodilator medications.

(6) Exclude other diseases associated with asthmatic wheezing, shortness of breath, chest distress and coughing.

► Differential Diagnosis

1. DIFFERENTIAL DIAGNOSIS OF CHILDHOOD ASTHMA AND COUGH VARIANT ASTHMA

A. Diagnostic Criteria of Childhood Asthma^[4]

(1) Childhood asthma occurs repeatedly with symptoms such as wheezing, cough, shortness of breath and chest distress. It is often related to and induced by exercise, exposure to allergic substances, cold air, physical and chemical stimulation, or respiratory tract infections. It often attacks or exacerbates at night and/or in the morning.

(2) During the attack, it is possible to hear dispersed or diffuse wheezing rales with auscultation of the lungs during the prolonged expiratory phase.

(3) Signs and symptoms will respond well to anti-asthma treatment or may resolve spontaneously.

(4) Other diseases that cause wheezing, cough, shortness of breath and chest distress must be first excluded.

(5) If the clinical manifestations are not typical (for example, there is no obvious dyspnea or wheezing), then at least one of the following conditions must be present:

1) Positive Bronchial Provocation Test (BPT) or Exercise Provocation Test.

2) Confirmation of the existence of reversible airflow limitation:

a. Bronchial dilation test is positive: inhaling quick-acting β_2 -receptor agonists (such as Salbutamol) after 15 minutes, the force expiration volume at 1st second (FEV1) increases or is equal to 12%.

b. Diagnostic treatment with anti-asthma drugs is effective: when taking bronchial dilation agonists and oral or inhaled glucocorticoids, after 1–2 weeks FEV1 increases or is equal to 12%.

3) The peak expirations flow (PEF) mutation daily rate (continuous monitoring 1–2 weeks) $\geq 20\%$.

Childhood asthma can be diagnosed if it meets the above criteria (1)–(4), or (4) and (5).

B. Cough Variant Asthma

Cough variant asthma (CVA) is one of the most common causes of chronic cough in children, with coughing as the only or major clinical manifestation, not accompanied by obvious asthmatic wheezing.

Diagnostic Criteria:

(1) A mainly dry cough lasts for more than 4 weeks and often occurs or exacerbated at night and/or in the morning.

(2) There are no signs of clinical infection, or long-term antibiotic therapy is ineffective.

(3) Diagnostic treatment with anti-asthma drugs is effective.

- (4) Other causes of chronic cough can be excluded.
- (5) The Bronchial Provocation Test is positive and/or the PEF daily mutation rate (continuous monitoring for 1–2 weeks) is $\geq 20\%$.
- (6) The patient or their first or second degree relatives may have a history of atopic diseases, or allergen test is positive.
- The above (1)–(4) criteria are the basic conditions for the diagnosis of cough variant asthma.

2. DIFFERENTIAL DIAGNOSIS OF ASTHMA AND PNEUMONIA

Table 11-1 Differential Diagnosis of Asthma and Pneumonia

Essentials for Differential Diagnosis	History	Main Symptoms	Lung Auscultation	X-ray Examination
Asthma	Atopy	Cough, wheezing	Wheezing rales	Increased or normal lung-marking emphysema
Pneumonia	Bronchitis	Fever, cough, phlegm obstruction, wheezing, shortness of breath	Fine & moist rales	Increased lung- marking, small patchy mottling

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Asthma is divided into attack and remission stages, and the presenting patterns are mainly differentiated according to cold, heat, deficiency and excess, and the involvement of the lung, spleen and kidney. At the attack stage there are usually excess pathogens, and it is important to distinguish whether the emphasis is on cold or heat.

Heat asthma presents with cough and wheezing with yellow phlegm, fever and a red complexion, dry mouth, and a red tongue. Cold asthma often manifests as cough and wheezing, fear of cold, and profuse clear thin phlegm. There is a white and slippery tongue coating.

There is generally a deficiency of healthy qi at the remission stage. Pattern differentiation should combine lung, spleen and kidney *zang-fu* pattern differentiations with qi, yin and yang pattern differentiations.

Lung and spleen qi deficiency often presents with shortness of breath, profuse sweating, and easily catching the common cold.

Spleen and kidney yang deficiency often presents with a cold body, cold limbs, a pale complexion and palpitations during even slight movement.

Lung and spleen yin deficiency often presents with emaciation, night sweating and a flushed complexion.

► Treatment Principles

Asthma should be treated according to the attack stage and/or remission stage. At the attack stage, the aim of treatment is to eliminate the pathogenic factors while also giving priority to treatment of the lung, distinguishing between cold and heat, and deficiency and excess situations. At the remission stage the aim of treatment is to reinforce healthy qi to treat the disease root, remove latent phlegm inside the body, and restore normal function of the *zang-fu* organs. Asthma is a stubborn illness which requires one to adopt a comprehensive treatment with a variety of therapies, often including Western medications and therapies.

► Classification of Patterns and Treatments

1. ATTACK STAGE

Cold Asthma

Signs and Symptoms

Manifestations include cough, wheezing, clear, thin or frothy phlegm, cold body and limbs, clear nasal discharge, pale complexion, aversion to cold and absence of sweating. The tongue is light red with white slippery coating. There is a floating slippery pulse, and the finger venules are red.

Pattern Differentiation

Cold asthma is often caused by external contraction of wind and cold, and the basic pathogenic mechanism involves exterior cold and interior rheum. Aside from the symptoms of asthmatic attack such as coughing with shortness of breath and wheezing, there are also symptoms of wind-cold fettering the exterior such as aversion to cold, absence of sweating, clear nasal discharge, and a tense floating pulse. The lung is obstructed by internal phlegm-dampness and yang qi fails to disperse, which manifests as a pale complexion, thin frothy phlegm and a pale tongue with a white coating. The pattern may also involve a barely noticeable exterior syndrome, but mainly with signs and symptoms of cold-rheum damaging the lung.

Treatment Principles

Warm the lung and dissipate cold, resolve phlegm and relieve panting.

Formula

Modified *Xiǎo Qīng Lóng Tāng*—Minor Green Dragon Decoction with *Sān Zǐ Yǎng Qīn Tāng*—Three-Seed Filial Devotion Decoction

麻黄	<i>má huáng</i>	Herba Ephedrae
桂枝	<i>guì zhī</i>	Ramulus Cinnamomi
细辛	<i>xì xīn</i>	Radix et Rhizoma Asari
干姜	<i>gān jiāng</i>	Rhizoma Zingiberis
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
白芥子	<i>bái jiè zǐ</i>	Semen Sinapis
紫苏子	<i>zǐ sū zǐ</i>	Fructus Perillae

莱菔子	<i>lái fú zǐ</i>	Semen Raphani
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
白芍	<i>bái sháo</i>	Radix Paeoniae Alba

Formula Analysis

Má huáng (Herba Ephedrae) and *guì zhī* (Ramulus Cinnamomi) disperse the lung and dissipate cold.

Xì xīn (Radix et Rhizoma Asari), *gān jiāng* (Rhizoma Zingiberis) and *bàn xià* (Rhizoma Pinelliae) warm the lung and resolve fluid retention.

Bái jiè zǐ (Semen Sinapis), *zǐ sū zǐ* (Fructus Perillae) and *lái fú zǐ* (Semen Raphani) resolve phlegm and descend lung qi.

Wǔ wèi zǐ (Fructus Schisandrae Chinensis) and *bái sháo* (Radix Paeoniae Alba) astringe the lung and eliminate panting.

Modifications

For severe cough, add *zǐ wǎn* (Radix et Rhizoma Asteris), *kuǎn dōng huā* (Flos Farfarae) and *xuán fù huā* (Flos Inulae) to resolve phlegm and relieve coughing.

For serious wheezing and rales, add *shè gān* (Rhizoma Belamcandae), *jiāng cán* (Bombyx Batryticatus) and *dì lóng* (Pheretima) to dispel phlegm and relieve spasms.

For serious dyspnea, add *dài zhě shí* (Haematitum) to descend counterflow qi and relieve panting.

If signs of exterior cold are not obvious and cold fluid retention obstructs the lung, replace the above formula with a modification of *Shè Gān Má Huáng Tāng*—Belamcanda and Ephedra Decoction.

Chinese Patent Medicines

Xiǎo Qīng Lǒng Kǒu Fú Yè—Minor Blue-Green Dragon Liquid

10 ml each bottle. Take 5-10 ml, 3 times daily.

Acupuncture

EX-B 1 (<i>dìng chuǎn</i>)	RN 22 (<i>tiān tū</i>)	PC 6 (<i>nèi guān</i>)
BL 12 (<i>fēng mén</i>)		

Needle all points with drainage. Moxibustion can also be applied.

Tuī na

Points	Repetitions	Methods
<i>Nèi bā guà</i> (内八卦)	100-200	Pushing Counter-clockwise
EX-UE 8 (<i>wài láo gōng</i>)	100-200	Kneading
<i>Sì héng wén</i> (四横纹)	100-200	Pushing
RN 22 (<i>tiān tū</i>)	50-100	Kneading
RN 17 (<i>dàn zhōng</i>)	50-100	Kneading
BL 13 (<i>fèi shù</i>)	50-100	Kneading

Push *nèi bā guà* counter-clockwise 100-200 times, knead EX-UE 8 (*wài láo gōng*) 100-200

times, push *sì héng wén* 100-200 times, knead RN 22 (*tiān tū*) 50-100 times, knead RN 17 (*dàn zhōng*) 50-100 times, and knead BL 13 (*fēi shù*) 50-100 times.

Apply once or twice daily, with 4 times as one course of treatment.

Heat Asthma

Signs and Symptoms

Manifestations include cough with wheezing, sonorous voice with shortness of breath, gurgling phlegm in the throat, yellow and sticky phlegm, chest distress and distention, fever, a red complexion, dry mouth, red throat, yellow urine and constipation. The tongue is red with a yellow coating; there is a slippery and rapid pulse and purple finger venules.

Pattern Differentiation

This pattern is often caused by latent phlegm intermingled with exterior wind-heat and phlegm-heat jointly obstructing the airways. It is marked by cough with wheezing, a sonorous voice with shortness of breath, yellow sticky phlegm, fever, a red throat, and a red tongue with a yellow coating. Excess internal phlegm-heat is the key point of differentiation in this pattern with mild or severe manifestations of an external wind-heat condition. It is easy to identify this pattern from cold asthma by whether or not there are manifestations of heat.

Treatment Principles

Clear lung-heat and resolve phlegm, relieve cough and panting.

Formula

Modified *Má Xìng Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction with *Sū Tíng Wán*—Perilla Fruit and Semen Lepidii Pill

麻黄	<i>má huáng</i>	Herba Ephedrae
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
前胡	<i>qián hú</i>	Radix Peucedani
生石膏	<i>shēng shí gāo</i>	Gypsum fibrosum
黄芩	<i>huáng qín</i>	Radix Scutellariae
草河车	<i>cǎo hé chē</i>	Rhizoma Paridis; Rhizoma Bistortae
葶苈子	<i>tí lì zǐ</i>	Semen Lepidii; Semen Descurainiae
苏子	<i>sū zǐ</i>	Fructus Perillae
桑白皮	<i>sāng bái pí</i>	Cortex Mori
射干	<i>shè gān</i>	Rhizoma Belamcandae
瓜蒌皮	<i>guā lóu pí</i>	Pericarpium Trichosanthis
枳壳	<i>zhǐ qiào</i>	Fructus Aurantii

Formula Analysis

Má huáng (Herba Ephedrae), *xìng rén* (Semen Armeniacae Amarum) and *qián hú* (Radix Peucedani) disperse the lung and relieve coughing.

Shēng shí gāo (Gypsum fibrosum), *huáng qín* (Radix Scutellariae) and *cǎo hé chē* (Rhizoma

Paridis; Rhizoma Bistortae) clear lung heat and abate fever.

Tíng lì zǐ (Semen Lepidii, Semen Descurainiae), *sū zǐ* (Fructus Perillae) and *sāng bái pí* (Cortex Mori) purge the lung and relieve panting.

Shè gān (Rhizoma Belamcandae), *guā lóu pí* (Pericarpium Trichosanthis) and *zhǐ qiào* (Fructus Aurantii) descend lung qi and resolve phlegm.

Modifications

For heavy wheezing, add *dì lóng* (Pheretima) and *jiāng cán* (Bombyx Batryticatus) to clear heat, relieve spasm, clear phlegm and relieve panting.

For profuse sputum, add *dǎn nán xīng* (Arisaema cum Bile) and *Zhú Lì* (Bamboo Juice) to resolve phlegm and descend qi.

For serious cough, add *zhì bǎi bù* (Radix Stemona praeparata cum Melle) and *zhì dōng huā* (Flos Farfarae praeparata cum Melle) to diffuse the lung and relieve coughing.

For preponderant heat, add *zhī zǐ* (Fructus Gardeniae praeparatus), *hǔ zhàng* (Rhizoma Polygoni Cuspidati) and *yú xīng cǎo* (Herba Houttuyniae) to clear heat and resolve toxins.

For sore throat with redness and swelling, add *shān dòu gēn* (Radix et Rhizoma Sophorae Tonkinensis) and *bǎn lán gēn* (Radix Isatidis) to resolve toxins and soothe the throat.

For constipation, add *guā lóu rén* (Semen Trichosanthis), *zhǐ shí* (Fructus Aurantii Immaturus) and *dà huáng* (Radix et Rhizoma Rhei) to descend adverse qi and unblock the bowels.

If the exterior syndrome is not obvious and manifestations include shortness of breath, cough, phlegm, wheezing, and slight yellow sputum, use a modification of *Dìng Chuǎn Tāng*—Check Wheezing Decoction in which *bái guǒ* (Semen Ginkgo) and *má huáng* (Herba Ephedrae) act to astringe the lung to eliminate asthma.

Chinese Patent Medicines

Xiào Chuǎn Níng Kē Lì—Asthma Relieving Granules

10 g each bag. Less than 5 years old take 5 g, 5-10 years old 10 g, 10-14 years old 20 g. Take twice daily with warm water.

Acupuncture

EX-B 1 (<i>dìng chuǎn</i>)	RN 22 (<i>tiān tǔ</i>)	PC 6 (<i>nèi guān</i>)
ST 40 (<i>fēng lóng</i>)		

Needle all points with drainage.

Tui na

Points	Repetitions	Methods
<i>Nèi bā guà</i> (内八卦)	100-200	Pushing Counter-clockwise
<i>Liù fǔ</i> (六腑)	100-200	Pushing
<i>Èr rén shàng mǎ</i> (二人上马)	100-150	Kneading
RN 22 (<i>tiān tǔ</i>)	100-150	Kneading
RN 17 (<i>dàn zhōng</i>)	100-150	Kneading
BL 13 (<i>fēi shù</i>)	100-150	Kneading

Push *nèi bā guà* counter-clockwise 100-200 times, push *liù fǔ* 100-200 times, knead *èr rén shàng mǎ* 100-150 times, knead RN 22 (*tiān tǔ*) 100-150 times, knead RN 17 (*dàn zhōng*) 100-

150 times, and knead BL 13 (*fèi shù*) 100-150 times.

Treat once or twice daily, with 4 times as one course of treatment.

Exterior Cold and Interior Heat

Signs and Symptoms

Manifestations include panting, shortness of breath, cough with wheezing, nasal congestion with clear discharge, sneezing, fever with aversion to cold, sticky yellow phlegm, thirst, dry stools and yellow urine. The tongue is red with a white coating; there is a slippery and rapid or floating and tight pulse.

Pattern Differentiation

This pattern of exterior cold is commonly due to external wind-cold attack, while the interior heat is often caused by exterior cold invading inward and transforming into heat. This pattern can also be induced by an accumulation of interior phlegm-heat intermingled with exterior pathogens. The clinical manifestations are characterized by co-existence of signs and symptoms of wind-cold fettering the exterior with signs and symptoms of phlegm-heat accumulating in the lung.

If exterior cold signs are obvious, there will be aversion to cold with a pale complexion, headache, a heavy body, sneezing and nasal congestion with a clear discharge; the clinical characteristics of interior heat preponderance are high fever, thirst with a desire to drink, sticky and yellow sputum, and constipation. This pattern is often seen when cold asthma is not being released and where pathogens invade the interior and transform into heat to become a complex pattern of cold combined with heat.

Treatment Principles

Release exterior cold, clear interior heat, relieve panting and coughing

Formula

Modified *Dà Qīng Lóng Tāng*—Major Blue-Green Dragon Decoction

炙麻黄	<i>zhì má huáng</i>	Herba Ephedrae (liquid-fried)
桂枝	<i>guì zhī</i>	Ramulus Cinnamomi
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
细辛	<i>xì xīn</i>	Radix et Rhizoma Asari
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
生姜	<i>shēng jiāng</i>	Rhizoma Zingiberis Recens
干姜	<i>gān jiāng</i>	Rhizoma Zingiberis
生石膏	<i>shēng shí gāo</i>	Gypsum fibrosum
黄芩	<i>huáng qín</i>	Radix Scutellariae
葶苈子	<i>tíng lì zǐ</i>	Semen Lepidii; Semen Descurainiae
苏子	<i>sū zǐ</i>	Fructus Perillae
射干	<i>shè gān</i>	Rhizoma Belamcandae
生甘草	<i>shēng gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Zhi Má huáng (liquid-fried *Herba Ephedrae*), *guì zhī* (*Ramulus Cinnamomi*) and *bái sháo* (*Radix Paeoniae Alba*) dissipate cold, release the exterior and harmonize the *yīng* level.

Xì xīn (*Radix et Rhizoma Asari*), *wǔ wèi zǐ* (*Fructus Schisandrae Chinensis*), *bàn xià* (*Rhizoma Pinelliae*) and *shēng jiāng* (*Rhizoma Zingiberis Recens*) resolve fluid retention and relieve panting.

Shēng shí gāo (*Gypsum fibrosum*) and *huáng qín* (*Radix Scutellariae*) clear and discharge lung heat.

Tíng lì zǐ (*Semen Lepidii*; *Semen Descurainiae*), *sū zǐ* (*Fructus Perillae*) and *shè gān* (*Rhizoma Belamcandae*) resolve phlegm and relieve panting.

Shēng gān cǎo (*Radix et Rhizoma Glycyrrhizae*) harmonizes the middle.

Modifications

For preponderant heat, add *zhī zǐ* (*Fructus Gardeniae*), *yú xīng cǎo* (*Herba Houttuyniae*) and *hǔ zhāng* (*Rhizoma Polygoni Cuspidati*) to clear lung heat.

For serious cough, add *sāng bái pí* (*Cortex Mori*), *qián hú* (*Radix Peucedani*) and *zǐ wǎn* (*Radix et Rhizoma Asteris*) to descend lung qi and relieve coughing.

For heavy wheezing, add *bái jiè zǐ* (*Semen Sinapis*) and *sāng bái pí* (*Cortex Mori*) to purge lung heat and relieve panting.

For phlegm heat preponderance, add *dì lóng* (*Pheretima*), *Dài Gé Sǎn*—Indigo and Gecko Powder and *Zhú Lì* (*Bamboo Juice*) to clear heat and resolve phlegm.

Chinese Patent Medicines

Guì Lóng Ké Chuǎn Níng Jiāo Nǎng—*Cinnamomi* and *Os Draconis* Releasing Cough and Asthma Capsules

0.3 g/capsule. Take 2 capsules 3 times daily.

Use for asthma with a cold-heat complex pattern and kidney qi insufficiency.

Acupuncture

EX-B 1 (<i>dìng chuǎn</i>)	RN 22 (<i>tiān tū</i>)	BL 13 (<i>fèi shù</i>)
RN 17 (<i>dàn zhōng</i>)	BL 12 (<i>fēng mén</i>)	

Needle all points with drainage.

Tui na

Points	Repetitions	Methods
<i>Nèi bā guà</i> (内八卦)	100-200	Pushing Counter-clockwise
<i>Liù fǔ</i> (六腑)	100-150	Pushing
EX-UE 8 (<i>wài láo gōng</i>)	100-200	Kneading
<i>Fèi jīng</i> (肺经)	100-200	Clearing
<i>Èr rén shàng mǎ</i> (二人上马)	100-150	Kneading
RN 22 (<i>tiān tū</i>)	100-150	Kneading
RN 17 (<i>dàn zhōng</i>)	100-150	Kneading
BL 13 (<i>fèi shù</i>)	100-150	Kneading

Push *nèi bā guà* counter-clockwise 100-200 times, push *liù fǔ* 100-200 times, knead EX-UE 8 (*wài láo gōng*) 100-200 times, clear *fèi jīng* 100-200 times, knead *èr rén shàng mǎ* 100-150 times, knead RN 22 (*tiān tū*) 100-150 times, knead RN 17 (*dàn zhōng*) 100-150 times, and knead BL 13 (*fèi shù*) 100-150 times.

Treat once or twice daily, with 4 times as one course of treatment.

Lung Excess with Kidney Deficiency

Signs and Symptoms

Manifestations include a relatively prolonged course, often presenting with panting, chest fullness, continual wheezing which worsens with movement, a pale complexion, fear of cold, cold limbs, mental fatigue, a poor appetite and profuse clear urine; often accompanied with coughing and profuse sputum and gurgling phlegm in the throat. The tongue is pale with thin greasy coating; the pulse is thready and weak.

Pattern Differentiation

This pattern is often seen in asthmatic children with a protracted course of illness. The wheezing exacerbates whenever there is movement, which demonstrates a deficiency of healthy qi and an excess of residual pathogens; this pattern involves upper excess and lower deficiency. Upper excess involving the lung usually presents with wheezing with chest fullness, coughing, and gurgling phlegm. Lower deficiency involving the kidney manifests with forceless wheezing that worsens with activity, and fear of cold with cold limbs.

Treatment Principles

Purge the lung, supplement the kidney, treat root and branch simultaneously

Formulas

For preponderant upper excess, use modified *Sū Zǐ Jiàng Qì Tāng*—Perilla Fruit Qi-Descending Decoction

苏子	<i>sū zǐ</i>	Fructus Perillae
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
前胡	<i>qián hú</i>	Radix Peucedani
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
厚朴	<i>hòu pò</i>	Cortex Magnoliae Officinalis
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
肉桂	<i>ròu guì</i>	Cortex Cinnamomi
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
紫菀	<i>zǐ wǎn</i>	Radix et Rhizoma Asteris
款冬花	<i>kuǎn dōng huā</i>	Flos Farfarae
人参	<i>rén shēn</i>	Radix et Rhizoma Ginseng
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis

Formula Analysis

Sū zǐ (Fructus Perillae), *xìng rén* (Semen Armeniacae Amarum), *qián hú* (Radix

Peucedani) and *bàn xià* (Rhizoma Pinelliae) direct qì downward and dissolve phlegm.

Hòu pò (Cortex Magnoliae Officinalis) and *chén pí* (Pericarpium Citri Reticulatae) rectify qì, dry dampness and dissolve phlegm.

Ròu guì (Cortex Cinnamomi) warms the kidney to produce qì and resolve fluid retention.

Dāng guī (Radix Angelicae Sinensis) invigorates blood and harmonizes the *yīng* level.

Zǐ wǎn (Radix et Rhizoma Asteris) and *dōng huā* (Flos Farfarae) warm and moisten the lung, dissolve phlegm and relieve panting.

Rén shēn (Radix et Rhizoma Ginseng) and *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) boost qì and astringe the lung.

For preponderant lower deficiency, use modified *Dū Qì Wán*—**Qi-Restraining Pill** with *Shè Gān Má Huáng Tāng*—**Belamcanda and Ephedra Decoction**

山茱萸	<i>shān zhū yú</i>	Fructus Corni
熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae praeparata
补骨脂	<i>bǔ gǔ zhī</i>	Fructus Psoraleae
怀山药	<i>huái shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
款冬花	<i>kuǎn dōng huā</i>	Flos Farfarae
紫菀	<i>zǐ wǎn</i>	Radix et Rhizoma Asteris
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
细辛	<i>xì xīn</i>	Radix et Rhizoma Asari
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
麻黄	<i>má huáng</i>	Herba Ephedrae
射干	<i>shè gān</i>	Rhizoma Belamcandae

Formula Analysis

Shān zhū yú (Fructus Corni), *shú dì huáng* (Radix Rehmanniae Praeparata) and *bǔ gǔ zhī* (Fructus Psoraleae) boost the kidney and supplement original qì.

Huái shān yào (Rhizoma Dioscoreae) and *fú líng* (Poria) fortify the spleen and boost qì.

Dōng huā (Flos Farfarae) and *zǐ wǎn* (Radix et Rhizoma Asteris) warm and moisten the lung and dissolve phlegm.

Bàn xià (Rhizoma Pinelliae) and *xì xīn* (Radix et Rhizoma Asari) resolve fluid retention and relieve panting.

Wǔ wèi zǐ (Fructus Schisandrae Chinensis) supplements the kidney and improves qì reception.

Má huáng (Herba Ephedrae) and *shè gān* (Rhizoma Belamcandae) diffuse the lung and relieve panting.

Modifications

For shortness of breath with any activity, add *zǐ shí yīng* (Fluoritum) and *hē zǐ* (Fructus Chebulae) to supplement the kidney and improve qì reception.

For fear of cold and cold limbs, add *fū zǐ* (Radix Aconiti Lateralis praeparata), and *xiān*

líng pí (Herba Epimedii) to warm the kidney and dissipate cold.

For fear of cold and abdominal fullness, add *jiāo mù* (Semen Zanthoxyli) and *hòu pò* (Cortex Magnoliae Officinalis) to warm the middle and eliminate fullness.

For profuse and white phlegm with continual sputum, add *bái guǒ* (Semen Ginkgo), and *qiàn shí* (Semen Euryales) to supplement the kidney, boost the spleen and dissolve phlegm.

For fever and sticky yellow phlegm, add *huáng qín* (Radix Scutellariae), *dōng guā zǐ* (Semen Benincasae) and *jīn qiáo mài* (Rhizoma Fagopyri Dibotryis) to clear lung heat.

Acupuncture

EX-B 1 (<i>dìng chuǎn</i>)	RN 22 (<i>tiān tū</i>)	PC 6 (<i>nèi guān</i>)
BL 13 (<i>fèi shù</i>)	BL 23 (<i>shèn shù</i>)	

Needle all points with drainage.

Tuī na

Points	Repetitions	Methods
<i>Nèi bā guà</i> (内八卦)	200-300	Pushing
EX-UE 8 (<i>wài láo gōng</i>)	200-300	Kneading
<i>Èr rén shàng mǎ</i> (二人上马)	200-300	Kneading
RN 22 (<i>tiān tū</i>)	100-200	Kneading
RN 17 (<i>dàn zhōng</i>)	100-200	Kneading
BL 13 (<i>fèi shù</i>)	100-200	Kneading

Push *nèi bā guà* counter-clockwise 200-300 times, knead *wài láo gōng* 200-300 times, knead *èr rén shàng mǎ* 200-300 times, knead RN 22 (*tiān tū*) 100-200 times, knead RN 17 (*dàn zhōng*) 100-200 times, and knead BL 13 (*fèi shù*) 100-200 times.

Treat once or twice daily, with 4 times as one course of treatment.

2. REMISSION STAGE

Lung and Spleen Qi Deficiency

Signs and Symptoms

Manifestations include a lusterless and pale complexion, shortness of breath and spontaneous sweating, forceless cough, mental fatigue with no desire to speak, emaciation, poor appetite, loose bowels and easily catching colds. The tongue is pale with a thin white coating; there is a thready weak pulse.

Pattern Differentiation

This pattern is a lung qi deficiency with *wei*-exterior defensive insecurity and spleen qi deficiency with impaired transportation and transformation. The key points of clinical differentiation involve signs and symptoms of lung and spleen qi deficiency. The lung governs the exterior; there is insecurity of the defensive exterior which presents with profuse sweating and easily catching cold. The lung also governs qi; there is lung deficiency which presents with shortness of breath and a forceless cough. Spleen deficiency results in impaired transportation and transformation that manifests with poor appetite, loose stools and emaciation.

**Treatment Principles**

Fortify the spleen and boost qi, supplement the lung and consolidate the exterior.

Formulas

Modified *Rén Shēn Wǔ Wèi Zǐ Tāng*—**Ginseng and Schisandra Decoction** with *Yù Píng Fēng Sǎn*—**Jade Wind-Barrier Powder**

人參	<i>rén shēn</i>	Radix et Rhizoma Ginseng
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
茯苓	<i>fú líng</i>	Poria
白朮	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
黃芪	<i>huáng qí</i>	Radix Astragali
防風	<i>fáng fēng</i>	Radix Saposhnikoviae
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
橘紅	<i>jú hóng</i>	Exocarpium Citri Rubrum

Formula Analysis

Rén shēn (Radix et Rhizoma Ginseng) and *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) supplement qi and astringe the lung.

Fú líng (Poria) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) fortify the spleen and supplement qi.

Huáng qí (Radix Astragali) and *fáng fēng* (Radix Saposhnikoviae) boost qi and consolidate the exterior.

Bǎi bù (Radix Stemona) and *jú hóng* (Exocarpium Citri Rubrum) dissolve phlegm and relieve coughing.

Modifications

For obvious sweating, add *duàn lóng gǔ* (Os Draconis; Fossilia Osis Mastodi praeparatum) and *duàn mǔ lì* (Concha Ostreae praeparatum) to consolidate the exterior and check sweating.

For frequent sneezing, add *xīn yí* (Flos Magnoliae) and *chán tuì* (Periostracum Cicadae) to expel wind and diffuse the orifices.

For profuse phlegm, add *jiāng cán* (Bombyx Batryticatus) and *yuǎn zhì* (Radix Polygalae) to dissolve phlegm and relieve cough.

For abdominal distention, add *zhǐ qiào* (Fructus Aurantii), *bīng láng* (Semen Arecae) and *lái fú zǐ* (Semen Raphani) to rectify qi and direct qi downwards.

For poor appetite, add *jiāo shén qū* (Massa Medicata Fermentata praeparata) and *jiāo shān zhā* (Fructus Crataegi praeparata) to promote digestion and improve transportation.

For loose stools, add *huái shān yào* (Rhizoma Dioscoreae) and *chǎo biǎn dòu* (Semen Lablab Album Praeparata) to fortify the spleen and remove dampness.

Chinese Patent Medicines

Yù Píng Fēng Kē Lì (Kǒu Fú Yè)—Jade Wind-Barrier Granules (or Liquid)

AcupunctureBL 13 (*fēi shù*)BL 43 (*gāo huāng*)ST 36 (*zú sǎn lǐ*)

Needle all points with supplementation. Moxibustion may be applied.

Tui na

Supplement *pí jīng* (脾经) for 40 minutes.

Treat once daily, with 10 times as one course of treatment.

Spleen-Kidney Yang Deficiency

Signs and Symptoms

Manifestations include a pale complexion, cold body and limbs, wheezing and coughing on exertion, shortness of breath, palpitations, limp legs, abdominal distention, poor appetite, and diarrhea or loose stools. The tongue is pale with a thin white coating; the pulse is thready and weak.

Pattern Differentiation

This pattern involves both spleen and kidney yang deficiency. Obvious kidney yang deficiency manifests with wheezing on exertion, a pale complexion and a cold body and limbs. Spleen yang deficiency manifests with abdominal distention, poor appetite and loose stools. Older children can present with the signs and symptoms of kidney qi deficiency such as soreness and weakness of the back and knees, cool limbs, and profuse urination at night.

Treatment Principles

Fortify the spleen and warm the kidney, consolidate and improve qi reception.

Formula

Modified *Jīn Guì Shèn Qì Wán*—Golden Cabinet Kidney Qi Pill

附子	<i>fù zǐ</i>	Radix Aconiti Lateralis praeparata
肉桂	<i>ròu guì</i>	Cortex Cinnamomi
鹿角	<i>lù jiǎo</i>	Cornu Cervi
山茱萸	<i>shān zhū yú</i>	Fructus Corni
熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae praeparata
仙灵脾	<i>xiān líng pí</i>	Herba Epimedii
怀山药	<i>huái shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
白果	<i>bái guǒ</i>	Semen Ginkgo

Formula Analysis

Fù zǐ (Radix Aconiti Lateralis Praeparata), *ròu guì* (Cortex Cinnamomi) and *lù jiǎo* (Cornu Cervi) warm and supplement kidney yang.

Shān zhū yú (Fructus Corni), *shú dì huáng* (Radix Rehmanniae praeparata) and *xiān líng pí* (Herba Epimedii) supplement and boost the liver and kidney.

Huái shān yào (Rhizoma Dioscoreae), *fú líng* (Poria) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) fortify the spleen and boost qi.

Wǔ wèi zǐ (Fructus Schisandrae Chinensis) and bái guǒ (Semen Ginkgo) astringe and consolidate qì.

Modifications

For deficiency with obvious dyspnea, add gé jiè (Gecko) and dōng chóng xià cǎo (Cordyceps) to supplement the kidney and improve qì reception.

For serious cough, add kuǎn dōng huā (Flos Farfarae) and zǐ wǎn (Radix et Rhizoma Asteris) to relieve cough and dissolve phlegm.

For profuse urination at night, add yì zhì rén (Fructus Alpiniae Oxyphyllae), tù sī zǐ (Semen Cuscutae) and bǔ gǔ zhī (Fructus Psoraleae) to supplement the kidney and consolidate qì.

Chinese Patent Medicines

Gù Běn Ké Chuǎn Piàn—Consolidate the Root Relieve Cough and Asthma Pill. 0.4 g each pill. Take 1-3 pills, 3 times daily.

Acupuncture

BL 23 (shèn shù)

BL 24 (qì hǎi)

KI 3 (tài xī)

Needle all points with supplementation. Moxibustion may be applied.

Tui na

Knead èr rén shàng mǎ (二人上马) for 40 minutes.

Apply once daily, with 10 times as one course of treatment.

Lung-Kidney Yin Deficiency

Signs and Symptoms

Manifestations include a flushed complexion, night sweats, emaciation, shortness of breath, hot palms and soles, occasional dry cough, wheezing with lack of strength, and profuse urine at night. The tongue is red with a partly peeled coating; the pulse is thready and rapid.

Pattern Differentiation

This pattern involves both lung and kidney yin deficiency. Obvious lung yin deficiency manifests as a dry cough with little phlegm, wheezing and a lack of strength. Obvious kidney yin deficiency manifests as emaciation, shortness of breath and profuse urination at night. Some patients may have interior heat due to yin deficiency and will present with a flushed complexion, night sweating and hot palms and soles.

Treatment Principles

Nourish yin and clear heat, supplement and boost the lung and kidney.

Formula

Modified Mài Wèi Dì Huáng Wán—Ophiopogon, Schisandra and Rehmannia Pill

麦冬	mài dōng	Radix Ophiopogonis
北沙参	běi shā shēn	Radix Glehniae
百合	bǎi hé	Bulbus Lili
五味子	wǔ wèi zǐ	Fructus Schisandrae Chinensis
山茱萸	shān zhū yú	Fructus Corni

熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
枸杞子	<i>gǒu qǐ zǐ</i>	Fructus Lycii
怀山药	<i>huái shān yào</i>	Rhizoma Dioscoreae
紫河车	<i>zǐ hé chē</i>	Placenta Hominis
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan

Formula Analysis

Mài dōng (Radix Ophiopogonis), *běi shā shēn* (Radix Glehniae) and *bǎi hé* (Bulbus Lilii) moisten the lung and nourish yin.

Wǔ wèi zǐ (Fructus Schisandrae Chinensis) boosts the kidney and astringes the lung.

Shān zhū yú (Fructus Corni), *shú dì huáng* (Radix Rehmanniae praeparata), *gǒu qǐ zǐ* (Fructus Lycii), *huái shān yào* (Rhizoma Dioscoreae) and *zǐ hé chē* (Placenta Hominis) supplement and boost kidney yin.

Mǔ dān pí (Cortex Moutan) clears heat.

Modifications:

For severe night sweats, add *zhī mǔ* (Rhizoma Anemarrhenae) and *huáng bǎi* (Cortex Phellodendri Chinensis) to nourish yin and clear heat.

For a rough choking cough, add *bǎi bù* (Radix Stemona) and *kuǎn dōng huā* (Flos Farfarae) to moisten the lung and relieve cough.

For tidal fever, add *biē jiǎ* (Carapax Trionycis) and *dì gǔ pí* (Cortex Lycii) to clear deficiency heat.

Chinese Patent Medicines

Hé Chē Dà Zào Wán — Placenta Hominis Pill.

Take 3-6 g, 3 times daily.

[OTHER THERAPIES]

EXTERNAL THERAPIES

Grind 21 g of *bái jiè zǐ* (Semen Sinapis), 21 g of *yán hú suǒ* (Rhizoma Corydalis), 12 g of *gān suì* (Radix Kansui) and 12 g of *xì xīn* (Herba Asari Caudigeri) into fine powder. The powder is divided into three portions; each portion is applied every ten days. Using one portion of powder mixed with *shēng jiāng zhī* (ginger juice, Succus Rhizomatis Zingiberis) to make a thick paste the size of a one cent coin (2 cm).

Apply to acupoints *fèi shù* (BL 13), *xīn shù* (BL 15), *gé shù* (BL 17) and *dàn zhōng* (RN 17). Keep the paste there for 2-4 hours and then remove. The paste can be removed ahead of time if the skin becomes red or if small blisters appear. Treatment is applied during the asthma remission stage on 3 ten-day periods during midsummer (初伏、中伏、末伏). Three treatments are given in total; application should continue for three consecutive years.

[WESTERN MEDICINE THERAPIES]

1. ACUTE ATTACK STAGE

Glucocorticoids, β_2 -adrenergic receptor agonists and anticholinergic agents can be

used via nebulised inhalations or orally, and intravenous infusion of aminophylline or glucocorticoid may be required during the acute attack stage.

2. STATUS ASTHMATICUS

Asthma with severe and prolonged attacks is referred to as status asthmaticus. If an attack of asthma does not respond to routine therapy, the patient is classified as status asthmaticus and will require hospitalization. Children in status asthmaticus are pale and restless with severe wheezing and are often cyanotic.

Western therapeutic measures include the following measures:

Children with status asthmaticus must be placed in a humidified environment with sufficient additional oxygen. The child needs to be kept calm or administered chloral hydrate via the rectum to decrease anxiety. Maintain intravenous fluids and correct acidosis. The airway inflammation can be controlled with intravenous methylprednisolone for 2-3 days. It is also possible to relieve the bronchospasms by aminophylline intravenous drip or inhaling or intravenously injecting β_2 -adrenergic receptor agonists. Mechanical respiration should be applied to those with severe and persistent breathing difficulties (if the cyanoderma is not improved through inhaling 40% oxygen, $\text{PaCO}_2 \geq 8.6 \text{ kPa}$).

3. REMISSION STAGE

Treatment may be given by inhaling glucocorticoids or with oral leukotriene receptor antagonists over a long period of time.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) Positively treat and clear the infection lesions, avoiding contact with allergy-inducing factors such as smoke, the smell of paint, dust mites, pollen, seafood and cold drinks.

(2) Avoid overactivity and emotional overexcitement or rage to prevent inducing an asthmatic episode during the seasons when the disease occurs.

(3) Encourage children with asthma to actively participate in their daily activities and do the physical exercises that strengthen their physique.

(4) Educate them to self-manage by teaching knowledge of prevention and control, and arouse their enthusiasm to fight the disease and also to accept long-term treatment.

2. NURSING CARE

(1) The living environment should be sunny and airy if possible. Keep warm in winter and ventilate to cool in summer. Avoid contact with allergens.

(2) The diet should be light and nutritious, avoiding foods that are raw, cold, greasy, hot/spicy, or sweet and sour; also avoid shrimp and seafoods which may cause allergic reactions.

(3) Pay attention to psychological care and provide nurturing and comfort to reduce psychological stress and enhance their confidence to overcome the disease.

(4) Note any changes in breathing, heart rate and pulses to prevent the onset of status

asthmaticus.

[CASE STUDIES]

► Case #1

Male, age 6. Initial Visit: 7/9/2001

The child had suffered recurrent asthma with coughing for 2 years, with a recent attack within the past 3 days. 2 years prior, the boy presented with a cough with phlegm, shortness of breath and dyspnea after catching a cold. The symptoms were remissive after responding to treatment. The condition occurred repeatedly afterwards. 3 days ago, he coughed with wheezing after catching a cold, which failed to respond to treatment in other hospitals.

At that time the boy presented with paroxysmal cough, difficult sputum expectoration, wheezing which was more serious at night and accompanied by a lack of strength, dry mouth, poor appetite and dry stools. Physical examination showed slight shortness of breath, red lips and a red throat. Auscultation revealed wheeze rales in both lungs. His tongue was red with dark edges and petechia on the tip with a thin yellow greasy coating; his pulse was wiry and rapid.

Symptoms were differentiated as being heat-type asthma with phlegm stasis and qi stagnation; the therapeutic methods were to unblock the bowels, expel stasis, clear heat and dissolve phlegm.

Formula

炙麻黄	<i>má huáng</i>	3 g	Herba Ephedrae (liquid-fried)
杏仁	<i>xìng rén</i>	10 g	Semen Armeniacae Amarum
黄芩	<i>huáng qín</i>	10 g	Radix Scutellariae
前胡	<i>qián hú</i>	10 g	Radix Peucedani
葶苈子	<i>tí lì zǐ</i>	10 g	Semen Lepidii; Semen Descurainiae
苏子	<i>zǐ sū zǐ</i>	10 g	Fructus Perillae
胆南星	<i>dǎn nán xīng</i>	6 g	Arisaema cum Bile
天竺黄	<i>tiān zhú huáng</i>	5 g	Concretio Silicea Bambusae
丹参	<i>dān shēn</i>	10 g	Radix et Rhizoma Salviae Miltiorrhizae
虎杖	<i>hǔ zhàng</i>	12 g	Rhizoma Polygoni Cuspidati
制大黄	<i>dà huáng</i>	5 g	Radix et Rhizoma Rhei (processed)

5 doses

Second Visit: after 5 doses there was an obvious reduction of cough and panting, and he was no longer wheezing; therefore the original formula was continued for another 5 doses.

Third Visit: all symptoms were resolved. *Yù Píng Fēng Kǒu Fú Yè*—Jade Wind-Barrier Liquid 10 ml was prescribed, three times daily for one month as ongoing care.

With regular follow-up for one year, no repeated asthma attacks were reported.

Analysis

This case is chronic asthma with phlegm constraint transforming into heat that obstructs the airways with qi stagnation, blood stasis, and binding of phlegm and stasis. This causes impaired lung diffusing and descending leading to repeated asthmatic attacks and coughing.

In the above formula, *má huáng* (Herba Ephedrae), *xìng rén* (Semen Armeniacae Amarum), *huáng qín* (Radix Scutellariae), *qián hú* (Radix Peucedani) *tíng lì zǐ* (Semen Lepidii; Semen Descurainiae), *dǎn nán xīng* (Arisaema cum Bile) and *tiān zhú huáng* (Concretio Silicea Bambusae) clear the lung and dissolve phlegm.

Dān shēn (Radix et Rhizoma Salviae Miltiorrhizae), *hǔ zhàng* (Rhizoma Polygoni Cuspidati) and *dà huáng* (Radix et Rhizoma Rhei) unblock the bowels, discharge heat and invigorate blood. The combination of these medicinals acted to resolve phlegm-heat and clear qi and blood obstruction, thus relieving all symptoms.

Source: Wang LS, Compiler-in-Chief. [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics]. Beijing: Academy Press; 2008:118

► Case #2

Male, age 9. Initial Visit: 12/14/2002

Asthmatic attacks for 3 days.

Three days previously the patient had a fever, and asthma attacked after using antibiotics; asthma attacked after each use of antibiotics. At the time of visiting he presented with fever, obvious wheezing with little phlegm, a poor appetite, dry stools, and with no obvious cough. He caught colds easily and there were slightly dry stools soon after meals.

Physical examination revealed emaciation, throat not red, and lung auscultation revealed wheeze rales in both lungs. His tongue was light red with a thin white coating; the pulse was thready.

The diagnosis was lung and spleen qi deficiency with wind-phlegm internal accumulation. The treatment principle here is to supplement the lung to consolidate defensive qi while expelling wind and dissolving phlegm.

Formula

炙黄芪	<i>huáng qí</i>	20 g	Radix Astragali (liquid-fried)
白术	<i>bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae
防风	<i>fáng fēng</i>	5 g	Radix Saposhnikoviae
煅龙骨	<i>lóng gǔ</i>	20 g	Fossilia Ossis Mastodi (calcined)
煅牡蛎	<i>mǔ lì</i>	20 g	Concha Ostreae (calcined)
辛夷	<i>xīn yí</i>	10 g	Flos Magnoliae
黄精	<i>huáng jīng</i>	10 g	Rhizoma Polygonati
茯苓	<i>fú líng</i>	10 g	Poria

橘红	<i>jú hóng</i>	5 g	Exocarpium Citri Rubrum
五味子	<i>wǔ wèi zǐ</i>	8 g	Fructus Schisandrae Chinensis
决明子	<i>jué míng zǐ</i>	10 g	Semen Cassiae
蝉蜕	<i>chán tuì</i>	5 g	Periostracum Cicadae
焦山楂	<i>shān zhā</i>	10 g	Fructus Crataegi (scorch-fried)
焦神曲	<i>shén qū</i>	10 g	Massa Medicata Fermentata (scorch-fried)

14 doses.

The second visit showed no wheezing, minimal coughing after waking in the morning, phlegm in the throat, occasional sneezing, tendency to sweat with activity, dry stools, a preference to drink and normal appetite. His tongue was light red with a thin white coating and he had a weak pulse. The diagnosis was deficiency of both qi and yin with internal accumulation of wind-phlegm. The treatment principle here is to boost qi, nourish yin, expel wind, and dissolve phlegm.

Formula

炙黄芪	<i>huáng qí</i>	15 g	Radix Astragali (liquid-fried)
白术	<i>bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae
防风	<i>fáng fēng</i>	2 g	Radix Saposhnikoviae
煅龙骨	<i>lóng gǔ</i>	15 g	Fossilia Ossis Mastodi (calcined)
煅牡蛎	<i>mǔ lì</i>	15 g	Concha Ostreae (calcined)
百合	<i>bǎi hé</i>	10 g	Bulbus Lilii
胖大海	<i>pàng dà hǎi</i>	10 g	Semen Sterculiae Lychnophorae
桑白皮	<i>sāng bái pí</i>	10 g	Cortex Mori
黄芩	<i>huáng qín</i>	5 g	Radix Scutellariae
天门冬	<i>tiān mén dōng</i>	10 g	Radix Asparagi
麦冬	<i>mài dōng</i>	10 g	Radix Ophiopogonis
炙款冬花	<i>kuǎn dōng huā</i>	10 g	Flos Farfarae (liquid-fried)
蝉蜕	<i>chán tuì</i>	5 g	Periostracum Cicadae
天花粉	<i>tiān huā fěn</i>	10 g	Radix Trichosanthis

14 doses.

The third visit showed no cough or wheezing, reduced sweating, normal appetite and normal elimination.

He was treated continually with the former formula for one month to consolidate the therapeutic effect, resulting in remission of all symptoms. Follow-up visits for 3 months revealed no attacks of the common cold or asthma.

Analysis

Internal accumulation of wind-phlegm is the underlying cause of asthma, as well as

the result. The pathogenic state of internal accumulation of wind-phlegm runs through the whole course of the disease which includes the attack stage, the remission stage, and the stabilization stage. The treatment should give consideration to both treating the wind and dissolving the phlegm. At the attack stage, it is primary to treat the symptoms by expelling wind and dissolving phlegm; at the remission stage, it is primary to firm the root by boosting qi and warding off wind.

Source: Wang LS, Compiler-in Chief. [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics]. Beijing: Academy Press; 2008:116

[QUESTIONS]

1. A 6-year-old child has had frequent onsets of coughing and wheezing for the past few years. He presented with nasal congestion, thin nasal discharge, no fever, aversion to cold without sweating, cold body with cold limbs, pale complexion, coughing, wheezing with shortness of breath at night, and phlegm sounds in the throat. His tongue was light red with a white slippery coating; the pulse was floating and slippery.

What is the correct diagnosis?

- A. Cold-type asthma.
- B. Common cold with phlegm.
- C. Cough due to wind-cold.
- D. Asthma due to exterior cold and interior heat.
- E. Pneumonia due to wind-cold blocking the lung.

2. A 7-year-old child has been coughing with wheezing for 3 hours. Symptoms include fever with aversion to cold, cough, wheezing with shortness of breath, phlegm sounds in the throat, nasal congestion with a clear thin nasal discharge, cough with thick yellow phlegm, irritability, thirst and dry stools. The tongue is red with a white coating; the pulse is floating and tight.

What is the first choice of formula for treatment?

- A. *Má Huáng Tāng*—Ephedra Decoction
- B. *Huá Gài Sǎn*—Florid Canopy Powder
- C. *Má Xīng Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction
- D. *Dà Qīng Lóng Tāng*—Major Blue-Green Dragon Decoction
- E. *Xiǎo Qīng Lóng Tāng*—Minor Blue-Green Dragon Decoction

3. A 10-year-old child presents with a repeated coughing and asthma for more than four years. Symptoms include a forceless cough, talking in a low voice, shallow breathing, spontaneous sweating, fear of wind, a pale lusterless complexion, low spirits with little desire to speak, emaciation, and loose stools. The tongue is light red with a thin white coating; the pulse is thready and soft.

What is the presenting pattern here?

- A. Cold-type asthma.
- B. Lung excess and kidney deficiency.
- C. Lung and kidney yin deficiency.
- D. Lung and spleen qi deficiency.
- E. Spleen and kidney yang deficiency.

4. A 5-year-old child coughs with wheezing for half a day. Symptoms include cough with wheezing, phlegm sounds in the throat, aversion to cold, cold feeling body and limbs, and a lusterless complexion. The tongue is light red with a white and slippery coating; the pulse is slow.

What is the correct treatment principle?

- A. Warm the lung and dissipate cold to dissolve phlegm and relieve panting.
- B. Clear the lung, clear phlegm, relieve cough and panting.
- C. Release the exterior, clear the interior, relieve cough and panting.
- D. Purge the lung and supplement the kidney to treat root and branch simultaneously.
- E. Boost the spleen and warm the kidney to consolidate and improve qi reception.

5. A 5-year-old child has a history of asthma for 2 years. The child often catches cold repeatedly. In the recent two weeks he is seen with shortness of breath, spontaneous sweating, forceless cough, pale and lusterless complexion, low spirits, reticence, and loose stools. His tongue is pale with a thin white coating; the pulse is thready and soft.

What is the first choice of formula?

- A. *Sān Zǐ Yǎng Qīn Tāng*—Three-Seed Filial Devotion Decoction
- B. *Dà Qīng Lóng Tāng*—Major Blue-Green Dragon Decoction
- C. *Rén Shēn Wù Wèi Zǐ Tāng* with *Yù Píng Fēng Sǎn*—Ginseng and Fructus Schisandrae Chinensis Decoction with Jade Wind-Barrier Powder
- D. *Jīn Guì Shèn Qì Wán*—Golden Cabinet Kidney Qi Pill
- E. *Liù Jūn Zǐ Tāng*—Six Gentlemen Decoction

[REFERENCES]

- [1] <http://www.ginasthma.org/PressReleaseItem.aspintId>
- [2] Xing X H, Cao H, Pan Y L et al. Clinical Observations of 208 Cases of Childhood Asthma Treated by *Píng Chuān Mixture*—Relieving Asthma Mixture. [J]. Shandong Journal of Traditional Chinese Medicine, 2005; 25 (1): 712.
- [3] The National Pediatric Asthma Collaborative Group. Investigations on Morbidity of Childhood Asthma in 1990 Compared with Those of 2000. [J]. Chinese Journal of Tuberculosis and Respiratory Diseases, 2004; 27 (2): 112-116.
- [4] Arshad M, Hamm R M, Mold J W. Does Secondary Smoke Exposure Increase the Incidence and/or Severity of Asthma in Children? [J]. JOK la State Med Assoc, 2006; 99 (2): 76-77.
- [5] Zang X P, Li S L, Yang H, et al. Observations on Therapeutic Effects of Childhood Asthma Treated with Asthma Pastes on Acupoints. [J]. Chinese Journal of Information on Traditional Chinese Medicine, 2003; 10 (9): 49.
- [6] Breath Group Society of Pediatrics in CMA. Guidelines for Diagnosis, Prevention and Treatment of Bronchial Asthma in Children. Chinese Journal of Pediatrics, 2008; 46 (10): 745-753.



Chapter 12

Recurrent Respiratory Infections

Recurrent respiratory infections (RRI) are commonly seen in the pediatric clinic. Recurrent upper or lower respiratory infections in children that occur over a particular period of time constitutes the diagnosis.

According to a survey by the World Health Organization (WHO), children in urban areas suffer from acute respiratory infections at an average of 4-8 times each year in both developed and developing countries, with the incidence of RRI showing an upward yearly trend. It is reported that 80% of the outpatients in pediatric clinics in China suffer from respiratory infections, and 30% of those are recurrent respiratory infections (RRI). They mainly occur in winter and spring during rapid weather changes, and often recur continuously. Some patients recover spontaneously in the summertime.

The age of onset is common from 6 months to 6 years old, but generally 1-3 year olds are mostly affected. The recurrence of respiratory infections may cause cough and asthma, edema, *bi* syndrome, and in severe cases it may affect a child's growth and development, as well as his general physical and mental health status.

TCM exhibits many advantages in improving children's resistance to disease by reinforcing healthy qi and dispelling pathogens through pattern differentiation and treatment. For this reason, the use of traditional Chinese is recently drawing more attention; the focus also includes preventive medicine as well as the integration of internal and external treatments for RRI.

Ji Yin-sheng applied *Huáng Qí Guì Zhī Tāng*—Radix Astragali Ramulus Cinnamomi Decoction in 28 children with RRI. The total effective rate was 86%, significantly superior to the control group^[1].

Jiang Yu-ren applied *Guì Zhī Jiā Lóng Gǔ Mǔ Lì Tāng*—Ramulus Cinnamomi Decoction Plus Os Draconis and Concha Ostreae with added *huáng qí* (Astragali Praeparata cum Melle) to treat children with RRI. The efficacy of the test group was superior to the control group in which Levamisole was applied^[2].

Ma Rong et al. applied *Fáng Gǎn Hé Jì*—Common Cold Prevention Liquid (made from the above prescription) to treat the children with RRI. The effective rate in the test group was 97.2%, superior to the control group with statistically significant effect ($P < 0.05$)^[3].

Huang Jun-yong applied the Dog Days Plaster (三伏贴) to treat 40 children with RRI; acupoints included BL 13 (*fēi shù*), BL 43 (*gāo huāng*), EX-B1 (*dìng chuān*) and RN 22 (*tiān tū*). The total effective rate was 88%^[4].

[ETIOLOGY & PATHOMECHANISM]

Recurrent respiratory infection in children usually results from a deficiency of healthy qi combined with an insecurity of defensive qi. It is therefore easy for exogenous pathogenic factors to repeatedly attack the body; there is also a tendency for the pathogens to linger within the body, resulting in recurring respiratory infection.

The pathogenesis includes the following:

Congenital Insufficiency and Weak Constitution

Children born to sickly pregnant mothers, twins, those of premature birth, or with frail fetal or postnatal qi, and those with flaccid muscles and loose interstitial striae; all may lack resistance to pathogenic qi invasion.

Improper Feeding and Inappropriate Care

Artificial feeding, insufficient breast milk supply, premature ceasing of lactation, dietary irregularities, or pediatric anorexia may all result in malnutrition, weakened spleen-stomach transformation and transportation, and reduced intake of grain-essence, leading to *zang-fu* dysfunction including deficiencies of lung and spleen qi. Such children will be more easily attacked by exogenous pathogenic factors.

Lack of Exposure to Sunlight and Intolerance to Wind and Cold

A lack of outdoor activity and exposure to sunlight result in a delicate skin, insecurity of defensive qi, and poor adaptability to cold. These children are susceptible to attacks by exogenous pathogens and are easily infected by other people with influenza. Their condition may quickly deteriorate and develop into transmuted patterns.

Improper Medication and Healthy Qi Injured

Overdoses of diaphoretics may injure defensive-yang, resulting in a deficiency of defensive-qi, *ying-wei* disharmony, profuse sweating due to *ying-yin* failing to concentrate internally, and a susceptibility to illness due to defensive yang failing to defend the exterior. Improper medicinal application can impair healthy qi in children and lower their resistance, also causing disease recurrence.

Healthy Qi Weak, Pathogens Lurking, Triggered by an External Attack

After external pathogenic factors invade the body, due to weakened healthy qi they remain concealed interiorly. Once these children catch cold or become fatigued, new external pathogenic factors may easily invade the body and the latent pathogens then burst out from the interior. Without externally contracted pathogenic factors, these latent pathogens may still cause a relapse with reappearing symptoms.

The locations of this disease mainly involve the lung, spleen and kidney based on insufficiency and injury to these organs caused by exogenous pathogenic factors, also leading to *ying-wei* disharmony and *zang-fu* disorders.

The main pathomechanisms can be generalized as follows:

- a. Congenital insufficiency, insufficiency of kidney qi with constitutional debilitation.
- b. Inappropriate nursing care and improper feeding impair the spleen and stomach resulting in deficiency and abnormal intake and transportation, also causing a shortage in the source of qi and blood. Thus, Earth fails to generate Metal; as lung qi is deficient, *ying* and *wei* become insufficient. Spleen-stomach deficiency can lead to liver yang hyperactivity with indigestion and greater vulnerability to exogenous attack.

In addition, because children have delicate *zang-fu* organs, tender muscles and skin, and underdeveloped physiques, their defensive qi is not yet consolidated; therefore, exogenous pathogenic factors may invade the body and cause the onset of disease. Deficiencies of lung, spleen and kidney cause healthy qi to become insufficient, resulting in increased vulnerability to exogenous attack; this is the key pathomechanism.

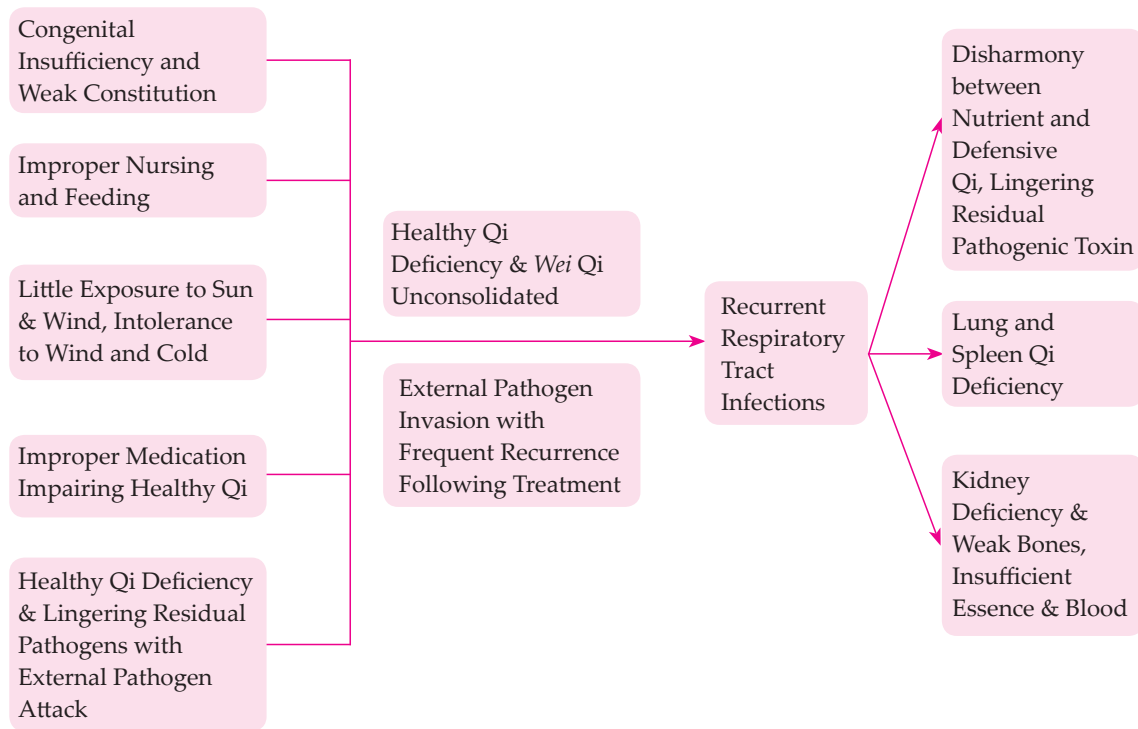


Fig. 12-1 Etiology and Pathomechanism of RRI

[DIAGNOSIS]

► Essentials of Diagnosis

Refer to “Clinical Guide to Common Diseases in the Traditional Chinese Medicine Pediatric Department” issued by the China Association of Chinese Medicine (CACM) in 2008.

A. Diagnosis According to Yearly Frequency of RI in Different Age Groups.

Age (Years)	Upper Respiratory Infections (Times/Year)	Lower Respiratory Infections (Times/Year)	
		Tracheobronchitis	Pneumonia
0-2	7	3	2
2 ⁺ -5	6	2	2
5 ⁺ -14	5	2	2

Notes:

- (1) There is at least a seven day interval between the two infections.
- (2) The frequencies of upper and lower RI each year may be summed up if the upper RI frequency is less than the criteria, but not contradictory. If RRI occurs mainly in the lower respiratory tract, it is defined as a recurrent lower respiratory infection.
- (3) To determine the frequency, it is necessary to observe the number of RI onsets over one continual year.
- (4) Pneumonia must be confirmed by a physical examination and lung imaging which need to completely disappear between two episodes.

B. Diagnosis According to RI Frequency within Six Months.

If there are at least 6 episodes of RI in which lower respiratory infections occur 3 times or more (and at least one occurrence is pneumonia), then it is possible to diagnose RI within a 6 month period. This can apply to any age.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Pattern differentiation of RRI focuses on distinguishing the relative growth and decline of pathogenic qi and healthy qi. At the infection stage, the excess pathogenic qi is the major factor. At the remission stage, there is a deficiency of healthy qi with lingering pathogens. At the recovery stage, the deficiency of healthy qi is the major factor.

There are generally signs and symptoms of external contraction at the early stages; the diagnosis should distinguish between wind-cold, wind-heat, external cold, and internal heat syndromes. It is important to notice the differences between patterns combined with food stagnation or phlegm, also differentiate the pathogenesis of original debility and superficial asthenia.

At the remission stage, the pathogenic factors are gradually subsiding and the manifestation of healthy qi insufficiency become obvious; there is residual heat, phlegm and stagnation, and signs of lung, spleen and kidney deficiency appear.

At the recovery stage, healthy qi becomes predominant and pathogenic qi temporarily becomes inferior. The key to the pathogenesis is the healthy qi insufficiency, not the excess of pathogenic qi. Therefore, the key point of differentiation is to distinguish whether the lung, spleen or kidney is the main affected organ.

Lung deficiency manifests as qi insufficiency, spleen deficiency manifests as difficult transformation and transportation, and kidney deficiency manifests as bone weakness.

► Treatment Principles

During the respiratory infection attack, treatment depends upon the differing patterns of the disease. The infant's physical characteristics of insufficient healthy qi should be considered as well. At the remission stage, the treatment is mainly to reinforce healthy qi combined with dispelling pathogens. As the healthy qi recovers, the pathogen will spontaneously subside. At the recovery stage, it is important to reinforce healthy qi, while the treatment is to supplement qi and consolidate the exterior, or to harmonize *ying* and *wei*, or to supplement kidney and strengthen bones.

As described in this section, in treating RRI the recovery stage is crucial, which is an important opportunity for invigoration. "When there is sufficient healthy qi inside, pathogenic factors have no way to invade the body", so it is possible to mitigate or reduce the onset of this disease with this method.

► Classifications of Patterns and Treatment

Disharmony between *ying* and *wei*, lingering residual pathogenic toxins

Signs and Symptoms

Manifestations include repeated common colds, aversion to cold and heat, intolerance



to cold, profuse spontaneous sweating, sweating without fever and flaccid muscles or accompanied by a low fever, a lingering red throat, swollen tonsils, or lingering pneumonia. The pulse is floating, rapid and weak, the tongue is light red with a thin white coating, and there are purple stagnated finger venules.

Pattern Differentiation

This is seen in cases with *wei*-yang insufficiency and *ying*-yin leaking outward, or with common cold without proper treatment, or with profuse sweating due to overdosing of diaphoretic medicinals. Though there is profuse sweating, the residual toxins are not eliminated completely, resulting in flaccid muscles, loose striae, and disharmony between the collaterals and vessels. Therefore, exterior pathogens can easily invade the body again.

The key point of pattern differentiation is the body's qi deficiency, not the excess pathogens. The insufficiency of *wei*-yang cannot hold the *ying*-yin interiorly, so it leaks out and manifests as profuse sweating without fever. This is a main clinical characteristic of this pattern. The manifestation of lingering residual pathogenic toxins is a lingering red throat and swollen tonsils or stubborn cough and wheezing following pneumonia.

Treatment Principles

Reinforce healthy qi and consolidate exterior, harmonize *ying* and *wei*.

Formula

Modified *Huáng Qí Guì Zhī Wǔ Wù Tāng*—**Astragalus and Cinnamon Twig Five Substances Decoction**

黄芪	<i>huáng qí</i>	Radix Astragali
桂枝	<i>guì zhī</i>	Ramulus Cinnamomi
生姜	<i>shēng jiāng</i>	Rhizoma Zingiberis Recens
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
大枣	<i>dà zǎo</i>	Fructus Jujubae
煅龙骨	<i>duàn lóng gǔ</i>	Os Draconis; Fossilia Osis Mastodi Praeparatum
煅牡蛎	<i>duàn mǔ lì</i>	Concha Ostreae Praeparatum

Formula Analysis

Huáng qí (Radix Astragali) replenishes qi and consolidates the exterior.

Guì zhī (Ramulus Cinnamomi) and *shēng jiāng* (Rhizoma Zingiberis Recens) warm yang and dissipate cold.

Bái sháo (Radix Paeoniae Alba) harmonize *ying* and astringe yin.

Zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) and *dà zǎo* (Fructus Jujubae) regulate the middle *jiao*.

Duàn lóng gǔ (Os Draconis; Fossilia Osis Mastodi Praeparatum) and *duàn mǔ lì* (Concha Ostreae Praeparatum) consolidate the exterior and check sweating.

Modifications

For profuse sweating, add *bì táo gān* (Fructus Persicae Immaturus) and *fú xiǎo mài* (Fructus Triticum) to replenish qi and consolidate the exterior.

For emaciation and infirmity, add *dǎng shēn* (Radix Codonopsis), *fú líng* (Poria) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) to invigorate the spleen and replenish qi.

For cough, add *bǎi bù* (Radix Stemonae), *xìng rén* (Semen Armeniacae Amarum) and *zhì dōng huā* (Flos Farfarae Praeparata cum Melle) to ventilate the lung and relieve cough.

For residual heat, add *qīng hāo* (Herba Artemisiae Annuae), *lián qiào* (Fructus Forsythiae) and *yín chái hú* (Radix Stellariae) to clear and disperse lung heat.

For red throat and swollen tonsils, add *bǎn lán gēn* (Radix Isatidis), *pú gōng yīng* (Herba Taraxaci), *xuán shēn* (Radix Scrophulariae) and *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii) to benefit the throat, resolve phlegm, and relieve swelling.

For swollen throat and constipation, add *guā lóu rén* (Semen Trichosanthis), *zhǐ qiào* (Fructus Aurantii) and *shēng dà huáng* (Radix et Rhizoma Rhei) to dissolve phlegm, resolve toxins, and unblock the bowels.

Chinese Patent Medicines

Bǎi Ling Jiāo Náng—Hundred Orders Capsules.

1/2-1 capsule, once daily for 3-6 months.

Lung and spleen deficiency, insufficiency of qi and blood

Signs and Symptoms

Sallow lusterless complexion, frequent spontaneous sweating, pale lips, flaccid muscles, poor appetite, loose stools, repeated invasion by exterior pathogens, lingering or recurrent cough and panting. The tongue is light red, the pulse is rapid and weak, and there are pale finger venules.

Pattern Differentiation

This syndrome mainly occurs in children who lack proper care after birth, experience improper feeding, insufficient breast milk or premature ceasing of lactation, or those with poor general health. This pattern develops due to lingering lung and spleen deficiency which results in a shortage of the source of qi and blood, leading to insufficiency of pectoral qi and insecurity of *wei* qi. If lung deficiency is preponderant, this allows for repeated invasion by exterior pathogens with frequent spontaneous sweating, lingering cough and panting; spleen deficiency is marked by a sallow complexion, flaccid muscles, poor appetite, and loose stools.

Treatment Principles

Fortify spleen and boost qi, supplement lung to consolidate the exterior.

Formula

Modified *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder

黄芪	<i>huáng qí</i>	Radix Astragali
党参	<i>dǎng shēn</i>	Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
山药	<i>shān yào</i>	Rhizoma Dioscoreae
煅牡蛎	<i>duàn mǔ lì</i>	Concha Ostreae Praeparatum
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
防风	<i>fáng fēng</i>	Radix Saposhnikoviae

Formula Analysis

Huáng qí (Radix Astragali) supplements qi and consolidates the exterior.

Dǎng shēn (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae) and *shān yào* (Rhizoma Dioscoreae) fortify the spleen and boost qi.

Duàn mǔ lì (Concha Ostreae Praeparatum) astringes the exterior and checks sweating.

Chén pí (Pericarpium Citri Reticulatae) invigorates the spleen and resolves phlegm.

Fáng fēng (Radix Saposhnikoviae) dispels wind from the exterior.

Modifications

For profuse sweating, add *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) to consolidate the exterior and check sweating.

For pale lips and tongue, add *dāng guī* (Radix Angelicae Sinensis) and *jī xuè téng* (Caulis Spatholobi) to supplement blood and regulate ying.

For poor appetite, add *jī nèi jīn* (Endothelium Corneum Gigeriae Galli), *jiāo shān zhā* (Fructus Crataegi Praeparata) and *jiāo liù qū* (Massa Medicata Fermentata Praeparata) to promote appetite and digestion.

For loose stools, add *chǎo yì yǐ rén* (Semen Coicis Praeparata cum Melle) and *fú líng* (Poria) to fortify the spleen and resolve dampness.

For constipation and stagnation, add *guā lóu* (Fructus Trichosanthis) and *zhǐ qiào* (Fructus Aurantii) to resolve accumulation and remove stagnation.

For residual pathogens, add *dà qīng yè* (Folium Isatidis), *huáng qín* (Radix Scutellariae) and *lián qiào* (Fructus Forsythiae) to clear residual heat.

Chinese Patent Medicines

Yù Píng Fēng Kē Lì—Jade Wind-Barrier Granules.

1 bag, 3 times daily.

Yù Píng Fēng Kǒu Fú Yè—Jade Wind-Barrier Oral Liquid.

10 ml, 3 times daily.

Shēn Líng Bái Zhú Wán—Ginseng, Poria and Atractylodes Macrocephalae Pill.

3 g, twice daily for 3-6 months.

Deficient kidney and weak bones, insufficient essence and blood**Signs and Symptoms**

A pale lusterless complexion, flaccid muscles, spontaneous sweating while moving, night sweating, restlessness, vexing heat in chest, palms and soles, and retarded development of teeth, hair, walking, standing and speaking. Or pigeon chest, turtle back (kyphoscoliosis), retarded growth and development, continually catching colds, even cough and panting. The tongue has a thin white coating; the pulse is rapid and weak.

Pattern Differentiation

The main causes are congenital deficiency, improper nursing and lack of sun exposure after birth leading to weak, retarded skeletal growth, kidney deficiency, insecurity of defensive qi, and intolerance to wind and cold. It is marked by retarded growth and development and manifests as the “five retardations” (*wǔ chí*).

Treatment Principles

Supplement the kidney and strengthen bone, replenish yin and warm yang.

Formula

Modified *Bǔ Shèn Dì Huáng Wán*—Kidney-Supplementing Rehmannia Pill

熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
山药	<i>shān yào</i>	Rhizoma Dioscoreae
山茱萸	<i>shān zhū yú</i>	Fructus Corni
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
麦冬	<i>mài dōng</i>	Radix Ophiopogonis
菟丝子	<i>tù sī zǐ</i>	Semen Cuscutae
巴戟天	<i>bā jǐ tiān</i>	Radix Morindae Officinalis
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
茯苓	<i>fú líng</i>	Poria
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan

Formula Analysis

Shú dì huáng (Radix Rehmanniae Praeparata), *shān yào* (Rhizoma Dioscoreae) and *shān zhū yú* (Fructus Corni) powerfully supplement yin.

Wǔ wèi zǐ (Fructus Schisandrae Chinensis) astringes yin and replenishes qi.

Mài dōng (Radix Ophiopogonis) nourishes yin and moistens the lung.

Tù sī zǐ (Semen Cuscutae) and *bā jǐ tiān* (Radix Morindae Officinalis) warm and supplement kidney qi.

Zé xiè (Rhizoma Alismatis), *fú líng* (Poria) and *mǔ dān pí* (Cortex Moutan) descend the turbid and clear heat.

Modifications

For the five retardations, add *lù jiǎo shuāng* (Cornu Cervi Degelatinatum), *bǔ gǔ zhī* (Fructus Psoraleae) and *mǔ lì* (Concha Ostreae) to supplement the kidney and strengthen bone.

For profuse sweating, add *huáng qí* (Radix Astragali) and *duàn lóng gǔ* (Os Draconis; Fossilia Ovis Mastodi Praeparatum) to boost qi and consolidate the exterior.

For low fever, add *biē jiǎ* (Carapax Trionycis) and *dì gǔ pí* (Cortex Lycii) to clear deficiency heat.

For yang deficiency, add *lù róng* (Cornu Cervi Pantotrichum), *zǐ hé chē* (Placenta Hominis) and *ròu cōng róng* (Herba Cistanches) to supplement the kidney and assist yang.

Chinese Patent Medicines

Huán Ēr Jīn (*Huái Qǐ Huáng*) *Kē Lì*—Flos Sophorae, Fructus Lycii and Rhizoma Polygonati Granules.

1-3 years old, 5 g. 3-12 years old, 10 g. Take with warm water, twice daily.

[OTHER THERAPIES]

1. TUI NA

Points	Methods
EX-HN 5 (<i>tài yáng</i>)	Kneading
Bone prominence in post aurem (<i>ěr hòu gāo gǔ</i>)	Kneading
BL 2 (<i>cuán zhú</i>)	Pushing
<i>kǎn gōng</i> (坎宫)	Pushing
<i>sān guān</i> (三关)	Pushing
<i>pí jīng</i> (脾经)	Supplementing
<i>shèn jīng</i> (肾经)	Supplementing or kneading

Using conventional massage manipulation, knead EX-HN 5 (*tài yáng*), knead the bone prominence in the post aurem (*ěr hòu gāo gǔ*), push BL 2 (*cuán zhú*), and push *sān guān* (三关). Or supplement *pí jīng* (脾经) and *shèn jīng* (肾经), and knead *shèn jīng* (肾经). Also massage the relevant acupoints. Treat once daily for 1 month. Used to treat RRI in children with profuse sweating.

2. ACUPUNCTURE

DU 14 (<i>dà zhuī</i>)	ST 36 (<i>zú sān lǐ</i>)	BL 23 (<i>shèn shù</i>)
BL 26 (<i>guān yuán</i>)	BL 20 (<i>pí shù</i>)	

Use light acupuncture and moxibustion on 3-4 acupoints each time on alternate days. Preventive treatments should be given before the prevalent season.

3. EXTERNAL POINT APPLICATIONS

Use 3 parts *bái jiè zǐ* (Semen Sinapis), 2 parts *xì xīn* (Herba Asari Caudigeri), 1 part *gān suì* (Radix Kansui), 1 part *zào jiá* (Fructus Gleditsiae), 3 parts *wǔ bèi zǐ* (Galla Chinensis) and 0.05 part *bīng piàn* (Borneolum Syntheticum).

Mix and grind into fine powder; mix with ginger juice to make a paste. Apply 1-2 g per dose to *fèi shù* (BL 13), fix with adhesive tape. Treat once every hot summer's day for 4-6 hours each time. This method can be used for all patterns of recurrent respiratory infections, especially for those recurring in autumn and winter.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) Have children vaccinated at the correct ages, maintain environmental sanitation, avoid contamination and keep the indoor air fresh. Make sure that there are sufficient outdoor activities and adequate exposure to the sun.

(2) Dress properly according to the weather changes and prevent exposure to the public

during influenza epidemics.

(3) Treat other chronic diseases such as rickets due to vitamin D deficiency, malnutrition, nutritional iron deficiency anemia and so on.

2. NURSING CARE

(1) Maintain a varied and nutritious diet; discourage picky food preferences and cold drinks.

(2) Immediately wipe off sweat when profuse, or use a dry towel or pad on the chest and back to absorb sweat and replace when necessary. Prevent catching colds, especially during bathing.

(3) Use a mouthwash of decocted *yín huā* (Herba Lonicerae Delavayi) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) 2-3 times daily.

[CASE STUDIES]

► Case #1. Male, age 5. Initial Visit: 12/9/86

The boy presented with a thin weak body, a pale lusterless complexion, frequent spontaneous sweating, cold limbs after sweating, no thirst, poor appetite, and frequent nose bleeding with dark red blood. He tended to have a common cold up to several times a month and had highly mobile, painful joints that were not red or swollen. The tongue was moist with a thin white coating. Blood sedimentation rate (ESR) and antistreptolysin O (ASO) examinations were normal.

Signs and symptoms were differentiated as insufficient innate physique, weak *yīng* and *wēi* aspects, and deficiency of yin and yang resulting in insecurity of the exterior and unconsolidated striae and interstices. The therapeutic methods included warming yang, astringing yin, and harmonizing *yīng* and *wēi* aspects.

A modification of *Guì Zhī Jiā Lóng Gǔ Mǔ Lì Tāng*—Ramulus Cinnamomi Decoction Plus Os Draconis and Concha Ostreae was selected.

Formula

炙桂枝	<i>zhì guì zhī</i>	3 g	Radix Ramulus Cinnamomi
炒白芍	<i>chǎo bái sháo</i>	10 g	Radix Paeoniae Alba
炙甘草	<i>zhì gān cǎo</i>	5 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
煅龙骨	<i>duàn lóng gǔ</i>	20 g	Os Draconis; Fossilia Osis Mastodi
煅牡蛎	<i>mǔ lì</i>	20 g	Concha Ostreae
桔梗	<i>jié gěng</i>	6 g	Radix Platycodonis
玄参	<i>xuán shēn</i>	10 g	Radix Scrophulariae
碧桃干	<i>bì táo gān</i>	10 g	fructus persicae immaturus
糯稻根	<i>nuò dào gēn</i>	12 g	Radix Oryzae Glutinosae
生姜	<i>shēng jiāng</i>	2 pieces	Rhizoma Zingiberis Recens
大枣	<i>dà zǎo</i>	5 pieces	Fructus Jujubae

After 5 doses, sweating was obviously reduced, arthralgia relieved, and no nose bleed; his spirit was refreshed and appetite increased. There was a thin normal tongue coating. The formula was modified and used once again.

Formula

炙黄芪	zhì huáng qí	10 g	Radix Astragali Praeparata cum Melle (liquid-fried)
炙桂枝	zhì guì zhī	2 g	Radix Ramulus Cinnamomi (liquid-fried)
炒白芍	chǎo bái sháo	10 g	Radix Paeoniae Alba (dry-fried)
煅龙骨	duàn lóng gǔ	20 g	Os Draconis; Fossilia Ossis Mastodi
煅牡蛎	duàn mǔ lì	20 g	Concha Ostreae
桔梗	jié gěng	6 g	Radix Platycodonis
玄参	xuán shēn	10 g	Radix Scrophulariae
生姜	shēng jiāng	2 pieces	Rhizoma Zingiberis Recens
大枣	dà zǎo	5 pieces	Fructus Jujubae

After 10 doses, all symptoms disappeared, and he suffered very few episodes of common cold thereafter.

Analysis

Cold limbs after sweating is the main sign for the pattern of *ying* and *wei* disharmony.

In this prescription, *guì zhī* (Ramulus Cinnamomi), *bái sháo* (Radix Paeoniae Alba), *shēng jiāng* (Rhizoma Zingiberis Recens) and *dà zǎo* (Fructus Jujubae) act to harmonize the *ying* and *wei* aspects.

Duàn lóng gǔ (Os Draconis; Fossilia Ossis Mastodi), *duàn mǔ lì* (Concha Ostreae), *nuò dào gēn* (Radix Oryzae Glutinosae) and *bì táo gān* (fructus persicae immaturus) astringe yin and check sweating.

Jié gěng (Radix Platycodonis) and *xuán shēn* (Radix Scrophulariae) benefit the throat and clear residual pathogens.

By the second visit, the child's sweating had obviously reduced, so *nuò dào gēn* and *bì táo gān* were removed.

Source: Wang SC. [The Modern Experience of Jiang Yuren with *Guì Zhī Jiā Lóng Gǔ Mǔ Lì Tāng*]. Journal of Traditional Medicine of Nei Meng Gu. 1987; 6(3): 1.

► Case #2. Male, age 4. Initial Visit: 5/21/2001.

The boy had suffered from recurrent respiratory infections for over one year. After starting kindergarten in September 2001, he had repeated fevers with nasal obstruction and discharge. Since 2001, he had been hospitalized twice for bronchial asthma complicated with a lung infection. On average, he had a fever once or twice a month, also accompanied by cough and panting.

At the first visit he presented with a thin weak body stature, a pale lusterless complexion, spontaneous sweating and night sweating, cold skin after sweating, slightly cold limbs, a poor appetite and normal urine and stools. His tongue was light red with a thin white coating and there was a thready rapid pulse.

The pattern was differentiated as unconsolidation of lung-*wei* with spleen and kidney deficiency. The therapeutic principle here is to replenish qi, consolidate the exterior, and warm and supplement spleen and kidney.

Formula

黄芪	<i>huáng qí</i>	15 g	Radix Astragali
白术	<i>bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae
防风	<i>fáng fēng</i>	3 g	Radix Ligustici Brachylobi
五味子	<i>wǔ wèi zǐ</i>	5 g	Fructus Schisandrae Sphenantherae
紫河车	<i>zǐ hé chē</i>	3 g	Placenta Hominis
补骨脂	<i>bǔ gǔ zhī</i>	10 g	Fructus Psoraleae

7 doses

All ingredients were decocted to 900 ml with 100 ml honey and 100 mg sugar added. The decoction was stored in the refrigerator, and 20 ml was taken 3 times daily.

By the second visit, his spirit had improved, the complexion was improved, sweating was reduced (now mainly night sweating), and the appetite slightly improved; urine and stools remained normal. His tongue was light red with a thin white coating and there was a thready rapid pulse. The formula was given for another 30 doses.

During the treatment period, the child came back several times. He had no coughing nor did he catch colds, his appetite increased, and sweating was obviously reduced. This case was followed for more than half a year, during which time the child had a fever and cough only once, without asthmatic symptoms. He was well enough to return to kindergarten.

Analysis

The key point of the pathomechanism of RRI is not the pathogens, but the insufficiency of healthy qi. The therapeutic principle here is mainly to supplement the lung, fortify the spleen, and supplement the kidney.

This formula consists of six medicinals; *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder fortifies the spleen and supplements the lung, where *bǔ gǔ zhī* (Fructus Psoraleae) and *zǐ hé chē* (Placenta Hominis) warm the spleen and supplement the kidney. All medicinals act together to supplement deficiency and consolidate the exterior.

Wang LS, Chief Compiler. [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics]. Beijing: Academy Press, 2008; 86.

[QUESTIONS]

1. A 1 and a half years old child, born prematurely, is the second son of twins. His mother has had a history of recurrent common colds. The child has had a cold 6 times, coughing 5 times, and cough and wheezing due to pneumonia twice since 3 months after his birth until the present time. What is the main cause?

- Congenital deficiency and constitutional weakness.
- Improper feeding and inappropriate nursing care.
- Lack of exposure to sunlight, intolerance to cold and heat.



- D. Inappropriate treatment injuring healthy qi.
- E. Weak body resistance with residual pathogens and acute onset after external pathogenic attack.

2. A 2-year-old child has had recurrent common colds and coughs more than 10 times over the recent year. The child generally has profuse sweating and intolerance to cold. Now the child presents with low fever, swollen throat without congestion, mild forceless cough, loose stools, a light red tongue with thin white coating and purple finger venules. Which pattern is this?

- A. Common cold due to wind-cold and lung-*wei* failing to disperse.
- B. Common cold due to wind-heat and lung-*wei* failing to disperse.
- C. Disharmony between *ying* and *wei* with lingering residual pathogenic toxins.
- D. Deficiency of lung and spleen with qi and blood insufficiency.
- E. Kidney deficiency and weak bones with essence and blood insufficiency.

3. A 2 and a half years old child has had recurrent respiratory infections over 10 times in the recent year. The child presents with aversion to wind, profuse sweating without fever, a light red tongue with thin white coating and purple finger venules. Which is the correct prescription?

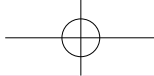
- A. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder
- B. *Sāng Jú Yǐn*—Mulberry Leaf and Chrysanthemum Beverage
- C. *Jīng Fáng Bǎi Dú Sǎn*—Schizonepeta and Saposhnikovia Toxin-Resolving Powder
- D. *Huáng Qí Guì Zhī Wǔ Wù Tāng*—Astragalus and Cinnamon Twig Five Substances Decoction
- E. *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder

4. An 8-year-old child is repeatedly invaded by exogenous pathogens and has a lingering cough. Over the past year the child has had a common cold with coughing and pneumonia more than 10 times. The child appears with a sallow lusterless complexion, a poor appetite, muscular flaccidity, loose stools, cough, and profuse sweating. The tongue is light red and the pulse is rapid and weak. Which are the correct treatment principles?

- A. Reinforce healthy qi and consolidate exterior, harmonize *ying* and *wei*.
- B. Nourish yin and clear heat, supplement lung and kidney.
- C. Invigorate the spleen and replenish qi, supplement the lung, consolidate the exterior.
- D. Supplement the kidney and strengthen the skeleton, replenish yin and warm yang.
- E. Warm the lung and dissipate cold, resolve phlegm and relieve dyspnea.

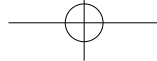
5. A 4-year-old child has had a common cold with cough or pneumonia repeatedly for more than 2 years, more than 10 times each year. The child presents with a sallow lusterless complexion, spontaneous sweating, muscular flaccidity, poor appetite, and loose stools. The physical examination shows a normal throat, pink lips, a light red tongue and a weak rapid pulse. Which is the correct formula?

- A. *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder
- B. *Bǎo Hé Wán*—Harmony-Preserving Pill
- C. *Bǔ Shèn Dì Huáng Wán*—Supplement the Kidney Rehmannia Pill
- D. *Rén Shēn Wǔ Wèi Zǐ Tāng*—Ginseng and Chinese Magnoliavine Fruit Decoction
- E. *Liù Jūn Zǐ Tāng*—Six Gentlemen Decoction



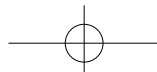
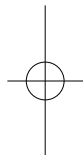
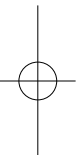
[REFERENCES]

- [1] Jin YS. Effective Observation on *Huáng Qí Guì Zhī Tāng* (Radix Astragali Ramulus Cinnamomi Decoction). Treating Children with Recurrent Respiratory Infections [J]. Modern Journal of Integrated Traditional Chinese and Western Medicine, 2009; 18 (2): 146.
- [2] Jiang YR. Clinical Observations and Pharmacology Research on *Fáng Gǎn Kǒu Fú Yè*—Common Cold Prevention Liquid [J]. Journal of Traditional Chinese Medicine, 1990; (12): 8-9.
- [3] Ma R, Wang PF, Ji FM, et al. Clinical Research on Repeated Infantile Respiratory Tract Infections Treated by Fang Gan Mixture [J]. Chinese Journal of Integrated Traditional and Western Medicine, 1991;11(10):592.
- [4] Hang JY. Clinical Observations on Dog Days Plaster Treating 40 Cases of Children with Recurrent Respiratory Infections [J]. Modern Journal of Integrated Traditional Chinese and Western Medicine, 2004; 13(14): 1875.



Part III

Spleen Diseases



Chapter 13

Oral Thrush (*É Kǒu Chuāng*)

Oral Thrush (*é kǒu chuāng*) is characterized by the appearance of small white flakes or patches on the membranes of the oral mucosa, usually on the tongue or inside the cheeks. Western medicine also refers to this condition as mycotic stomatitis, known to be caused by the fungus *Candida albicans*.

Thrush may occur all year round. It primarily occurs in newborn infants, but is also occasionally seen in weaker young infants and children, and those suffering from chronic illness, or as a result of overusing broad-spectrum antibiotics. The incidence of species *C. albicans* (isolated from the oral cavity) has been reported as high as 45 percent among newborn infants ^[1]. If appropriate treatment is provided in time, the disorder is usually a mild condition with a favorable prognosis. In severe pediatric cases with a deficiency of healthy qi, the white patches may spread to the nasal cavities, throat, airway or gastrointestinal tract, which can affect the ability to suckle, breathe and digest; in these cases, thrush can become a life-threatening condition.

In recent years, with the wide application of broad-spectrum antibiotics, corticosteroids and antineoplastic drugs, as well as the use of radiotherapy and catheter intubation, the incidence of oral thrush has been increasing. The prevalence of oral candidiasis has been reported to be almost 90% in patients with acute leukemia undergoing chemotherapy ^[2]. The numbers of *Candida* spp. were significantly greater in asthmatic patients taking inhaled steroids compared to those who were not ^[3]. Oral pseudo-membranous candidiasis was evaluated in 61 patients receiving head and neck radiotherapy, and half of these were diagnosed with oral candidiasis ^[4].

Because the criteria for determining oral candida infections have not been standardized, the morbidity of oral thrush in infants is difficult to estimate. Many researchers only take the oral species *C. albicans* carrying rate or its detection rate as the oral thrush infection referee index or rough statistic; different reports with different sampling and detection methods has resulted in inconsistent morbidity rates for infant thrush.

Most research shows that the prevalence of oral candidiasis in newborns and infants who are fed only breast milk was significantly lower than that in infants who were fed bottled milk or both breast milk and bottled milk ^[5]. The reason may be that human breast-milk is uncontaminated and also contains nonspecific antimicrobial substances such as lysozymes, leukocytes, lactoferrin and secretory IgA. In regards to the use of pacifiers, almost all research suggests a high association between pacifier with the acquired rate and the quantity of oral *C. albicans*, as well as the increased chance of oral candidiasis infection ^[6]. Therefore, the use of pacifiers should be well-controlled.

There are many current reports on improved and effective treatments for thrush that cover a variety of therapies and clinical applications.

Lin Han-mei treated 50 cases of infant oral thrush with *Guilin Xī Guā Shuāng Pēn Jì*—Mirabilitum Praeparatum Spray on the local lesions, also combined with *wú zhū yú* (*Fructus Evodiae*) powder applied to KI 1 (*yǒng quán*).

Guilin Xī Guā Shuāng Pēn Jì—Mirabilitum Praeparatum Spray is comprised of *xī guā shuāng* (Mirabilitum Praeparatum), *huáng bǎi* (Cortex Phellodendri Chinensis), *huáng lián* (Rhizoma Coptidis), *shān dòu gēn* (Radix et Rhizoma Sophorae Tonkinensis), *shè gān* (Rhizoma Belamcandae), *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii), *qīng dài* (Indigo Naturalis) and *dà huáng* (Radix et Rhizoma Rhei).

The results in 50 cases showed 42 cases cured, 7 cases with marked improvement, and one case showing no improvement. The total effective rate was 98%^[7].

Xiao Zhi-xue treated 20 cases of infant thrush with *É Kǒu Sǎn*—Thrush Powder, containing *pú huáng* (Pollen Typhae), *duàn shí gāo* (Gypsum Fibrosum Praeparatum), *bīng piàn* (Borneolum Syntheticum). The three medicinals were ground into a fine powder and applied externally.

The results showed 12 cases cured with all the white flakes clearing within one day, 6 cases cured with flakes cleared within two days, and 2 cases cured with flakes cleared within three days.

[ETIOLOGY & PATHOMECHANISM]

Embedded thrush can be due to a pattern of fetal heat internal accumulation. In this case, maternal vulvo-vaginal candidiasis appears to be the primary source of neonatal thrush; other causes include utero infection of the fetus, lack of oral hygiene, or contaminated hands, bedding, or feeding equipment. All can enable an invasion of toxic turbidity that contributes to the morbidity. The pathological changes mainly involve the heart and spleen, because the tongue reflects the heart, the mouth is the orifice of the spleen and the spleen channel connects to the tongue. If toxic and turbid pathogens invade the body and lead to internal heat of the heart and spleen, heat and fire will attack upwardly along the channels, leading to thrush of the mouth and tongue.

Accumulated Heat in the Heart and Spleen

Overconsumption of fried or spicy foods during pregnancy may cause internal heat that transfers to the fetus to cause internal heat accumulation in the fetus. After birth, if an infant is fed improperly with too many fatty, sweet, pungent, spicy or fried foods, this can result in heat accumulation in the spleen and stomach. Neonates may also contract oral thrush from maternal candidiasis in the birth canal during labor. Also, if there is a lack of oral hygiene care, the mouth may be easily invaded by the thrush pathogen. External and internal factors combining together may transform into fire-toxins accumulating in the heart and spleen (also involving the mouth and tongue). The fire-heat attacks upwardly along the channels, leading to thrush in the mouth and tongue.

Deficiency-Fire Flaming and Attacking Upward

This pattern is common in infants suffering from constitutional deficiency or kidney yin deficiency. When there is a pattern of yin consumption following recovery from an illness, or a deficiency of both qi and yin resulting from chronic diarrhea with fluid damage, further yin deficiency results where water cannot control fire. Deficiency fire then attacks and flames upward along the channels to affect the mouth and tongue.

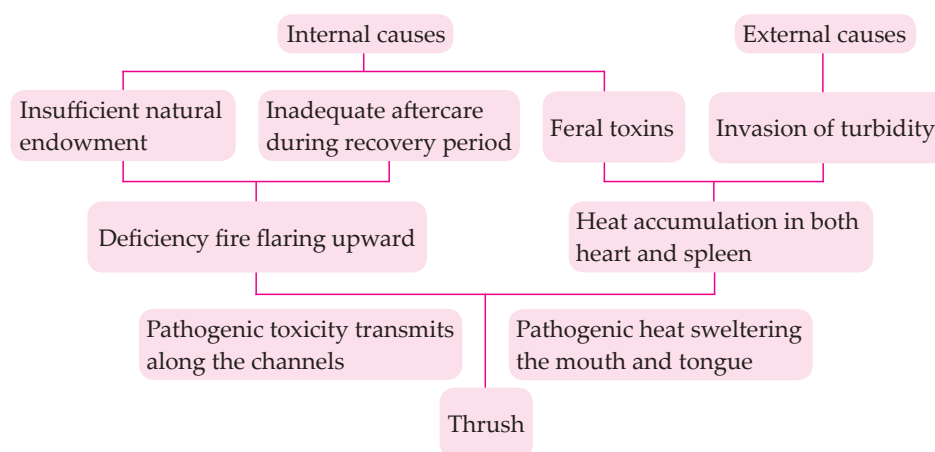


Fig. 13-1 Etiology and Pathomechanism of Thrush

[DIAGNOSIS]

► Essentials of Diagnosis

(1) Thrush is common in newborns, malnourished and weak infants, and in children who have suffered chronic disease or received prolonged antibiotic or glucocorticoid therapies.

(2) Typical features of thrush are the development of small white flakes or patches on the gingiva, tongue, inner surface of the cheeks, oral mucosa, and pharynx. The white flakes can expand and meld; in severe cases, the infection may cover the throat, which can occasionally cause difficulty in swallowing and breathing. Occasionally it will spread to the trachea, esophagus and intestinal tract.

(3) Laboratory examination: the etiology can be established from microscopic examination of scrapings suspended in a 10% sodium hydroxide solution. The large, rounded or oval spores of the fungus are easily recognizable in cultured mediums.

► Differential Diagnosis

Thrush should be differentiated from diphtheria and milk curds. See Table 13-1.

Table 13-1 Differential Diagnosis of Thrush, Diphtheria, and Milk Clots

Essentials of Diagnosis	Thrush	Diphtheria	Milk Clots
Infectivity	Negative	Positive	Negative
Predisposing Age	Neonates, immunocompromised patients	Toddlers, children	Infants
Oral Mucosal Lesions	Friable white or gray plaques, snowflake-like, easily removed without or only minor errhysis	Gray pseudomembrane, difficult to remove, scratching will induce bleeding or errhysis	Friable white clots, easily removed without mucosal lesions

Continued

Essentials of Diagnosis	Thrush	Diphtheria	Milk Clots
Location	Predominantly on gingiva, tongue, and oral mucosa, occasionally in the throat	Predominantly on throat and tonsils, occasionally on the palate & nasal mucosa	Tongue & oral mucosa
Concomitant Symptoms	Slight systemic symptoms, discomfort & crying when eating	Fever, sore throat, progressive laryngemphraxis, dyspnea and exhaustion	Negative
Laboratory Examination	Gemma and hypha of Candida positive	Diphtheria bacillus	Negative

Patients diagnosed with diphtheria should immediately be referred to a hospital that manages contagious infections and an infectious disease report should be sent to the appropriate authorities.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

Thrush with a pattern of fire flaming upward is most common; it is important to differentiate whether the fire is associated with deficiency or excess, which depends upon the onset and course of disease, and the characteristics of the mucosal lesions. An excess fire pattern is more common in strong infants, characterized by sudden onset, short disease duration, abundant white flakes or massive white patches in the mouth together with redness around the mucous membranes. This syndrome commonly presents with fever, a red face, irritability, thirst, dark urine, and constipation.

A deficiency pattern appears more often in premature infants and weak children, or in those suffering from chronic diseases or after serious illness. The onset is gradual and often has a prolonged and repetitive course. The characteristic symptoms of a deficiency pattern are marked by few scattered white patches in the mouth and surrounding areas, with a light-colored mucosa. There is often emaciation, weakness, and a pale face with flushed cheeks, or a low-grade fever.

In mild cases, there are less white flakes in the oral mucosa, minimal or no systemic symptoms, and no effect on appetite or sleep. In serious cases, the white patches build up or may spread from the oral mucosa to the nasal cavities, throat, trachea, esophagus and intestinal tract. This syndrome commonly presents with high fever, irritability, progressive weakness, vomiting, diarrhea, and difficulty in breathing and suckling milk. The case can become life-threatening in very severe systemic candidiasis infections, and emergency treatment must be sought.

► Treatment Principles

Thrush is often caused by heat and fire, and the main therapeutic principles are to clear heat and drain pathogenic fire. The main treatment methods for an excess fire pattern are to clear and release the accumulated heat in the heart and spleen. For a deficiency fire pattern, the treatment is to enrich the kidney and nourish yin by reducing pathogenic fire. Patients

with mild conditions may only need external treatment. For relatively severe cases, internal and external treatment should be used in conjunction. For serious cases with difficulty in breathing and suckling, or when associated with systemic symptoms, Western medicine emergency treatment should be applied.

► Classification of Patterns and Treatments

Accumulated Heat in the Heart and Spleen

Signs and Symptoms

Manifestations include white patches covering the oral cavity and tongue. The mucous membranes are obviously red with a flushed face, red lips, and irritability; there can be fever, crying while suckling or feeding, dry mouth or thirst, dark yellow urine, and dry stools. The tongue is red with a thick yellow coating; the pulse is slippery and rapid. The finger venules may be purple and stagnant.

Pattern Differentiation

This excess pattern of oral thrush is characterized by heavy white patches on the mouth and tongue surrounded by red congested mucosa, also accompanied by other signs and symptoms of exuberant blazing heat. With exuberant heat in the heart channel, the child will be irritable and crying frequently with scant dark urine. To contrast, with exuberant heat in the spleen channel, the child will have a dry mouth, foul breath, and dry stools.

Treatment Principles

Clear heart-heat and drain the spleen

Formula

Modified *Qīng Rè Xiè Pí Sǎn*—Heat-Clearing Spleen-Draining Powder

黄芩	<i>huáng qín</i>	Radix Scutellariae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
生石膏	<i>shēng shí gāo</i>	Gypsum Fibrosum
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
竹叶	<i>zhú yè</i>	Folium Phyllostachydis Henonis
灯心草	<i>dēng xīn cǎo</i>	Medulla Junci
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Huáng qín (Radix Scutellariae) and *zhī zǐ* (Fructus Gardeniae) clear excess fire from the heart channel.

Huáng lián (Rhizoma Coptidis) and *shēng shí gāo* (Gypsum Fibrosum) drain accumulated heat from the spleen channel.

Shēng dì huáng (Radix Rehmanniae) clears heat, nourishes yin and cools blood.

Zhú yè (Folium Phyllostachydis Henonis) and *dēng xīn cǎo* (Medulla Junci) clear heat, subdue fire and guide heat out of the lower body.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For constipation and foul-smelling breath, add *dà huáng* (Radix et Rhizoma Rhei) and *xuán míng fēn* (Natrii Sulfas Exsiccatus) which drain heat and have a laxative effect, or replace the formula with a modified *Liáng Gé Sǎn*—Diaphragm-Cooling Powder to relax the bowels and discharge heat.

For irritability, shouting and crying, replace the formula with *Dǎo Chì Sǎn*—Redness-Removing Powder add *huáng lián* (Rhizoma Coptidis) and *dēng xīn cǎo* (Medulla Junci) to drain heat and clear heart-heat specifically.

For severe damp-heat presenting as a red tongue with a thick greasy yellow coating, add *huò xiāng* (Herba Agastachis), *pèi lán* (Herba Eupatorii) and *huá shí* (Talcum) to clear heat and resolve dampness.

For dry mouth, add *shí hú* (Caulis Dendrobii) and *yù zhú* (Rhizoma Polygonati Odorati) to nourish yin and promote fluid movement.

For abdominal distention and poor appetite, add *jiāo shān zhā* (Fructus Crataegi), *chǎo mài yá* (Fructus Hordei Germinatus Praeparata) and *bīng láng* (Semen Arecae) to promote digestion and assist transportation.

Chinese Patent Medicines

Xiǎo Ér Qīng Rè Jiě Dú Kǒu Fú Yè—Infant Heat-Clearing Toxin-Removing Oral Liquid

Take 2-10 ml, 2 or 3 times daily.

External Therapy

a.

生石膏	<i>shēng shí gāo</i>	2.5 g	Gypsum Fibrosum
青黛	<i>qīng dài</i>	1 g	Indigo Naturalis
黄连	<i>huáng lián</i>	1 g	Rhizoma Coptidis
乳香	<i>rǔ xiāng</i>	1 g	Olibanum
没药	<i>mò yào</i>	1 g	Myrrha
冰片	<i>bīng piàn</i>	0.3 g	Borneolum Syntheticum

Grind all ingredients to a fine powder and store in a bottle. Apply to the affected area 4-5 times daily.

b. Apply either *Bīng Péng Sǎn*—Borneol and Borax Powder or *Qīng Dài Sǎn*—Indigo Powder or *Zhū Huáng Sǎn*—Yellow Pearl powder, or *Xī Guā Shuāng Pēn Jì*—Watermelon Frost Spray to the affected area 2-3 times daily.

Tuī na

Points	Repetitions	Methods
<i>Fèi jīng</i> (肺经)	300	Clearing
<i>Nèi bā guà</i> (内八卦)	300	Pushing Clockwise
<i>Xiǎo cháng</i> (小肠)	300	Clearing
<i>Wèi jīng</i> (胃经)	300	Clearing

Clear *fèi jīng* 300 times, push clockwise *nèi bā guà* 300 times, clear *xiǎo cháng* 300 times, and clear *wèi jīng* 300 times. Apply once daily, with three times as one treatment course.

Deficiency Fire Flaming and Attacking Upwards

Signs and Symptoms

Manifestations include mild white patches or a few scattered patches in the oral cavity, surrounded with minimal mucosal redness (if any). There is emaciation, weakness, a pale face with red cheeks, hot palms and soles and a dry mouth without thirst. The tongue is red with a scant coating. The pulse is thready; finger venules may be purple.

Pattern Differentiation

This deficiency pattern of oral thrush often appears in patients after chronic or heat-type diseases with a relatively prolonged course or repeated episodes. It occurs gradually, typically with a few scattered white patches, little (if any) or no mucosal redness, recurrent attacks, and a red tongue with minimal coating. With kidney yin deficiency, there is a pale face with red cheeks and hot palms and soles. With spleen yin deficiency, there is fatigue, poor appetite and possible constipation.

Treatment Principles

Enrich yin and subdue fire

Formula

Modified *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill

知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
黄柏	<i>huáng bǎi</i>	Cortex Phellodendri Chinensis
熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
山茱萸	<i>shān zhū yú</i>	Fructus Corni
山药	<i>shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
泽泻	<i>zé xiè</i>	Rhizoma Alismatis

Formula Analysis

Zhī mǔ (Rhizoma Anemarrhenae) and *huáng bǎi* (Cortex Phellodendri Chinensis) nourish yin and subdue fire.

Shú dì huáng (Radix Rehmanniae Praeparata) and *shān zhū yú* (Fructus Corni) enrich yin and supplement the kidney.

Shān yào (Rhizoma Dioscoreae) and *fú líng* (Poria) fortify the spleen and nourish yin.

Mǔ dān pí (Cortex Moutan) and *zé xiè* (Rhizoma Alismatis) clear liver and kidney deficiency fire.

Modifications

For dry mouth and tongue due to yin deficiency, add *běi shā shēn* (Radix Glehniae), *mài dōng* (Radix Ophiopogonis) and *shí hú* (Caulis Dendrobii) to enrich stomach yin and promote fluid production.

For a low-grade fever, add *yín chái hú* (Radix Stellariae) and *dì gǔ pí* (Cortex Lycii) to clear deficiency heat.

For a poor appetite, add *wū méi* (Fructus Mume), *chǎo mài yá* (Fructus Hordei Germinatus Praeparata) and *fó shǒu* (Fructus Citri Sarcodactylis) to nourish the stomach

and improve transportation.

For constipation, add *guā lóu rén* (Semen Trichosanthis) and *huǒ má rén* (Fructus Cannabis) to increase intestinal fluid production and relieve constipation.

For chronic diseases or recurrent attacks induced by deficiency fire, add a small amount of *ròu guì* (Cortex Cinnamomi) to return fire to the origin.

Chinese Patent Medicines

Zhī Bǎi Dì Huáng Wán—Anemarrhena, Phellodendron and Rehmannia Pill

Take 1-1.5 g, 3 times daily.

External Therapy

- Apply either *Xī Lèi Sǎn*—Tin-Like Powder or *Yǎng Yīn Shēng Jī Sǎn*—Yin-Nourishing Granulation-Promoting Powder to the affected area, 2-3 times daily.
-

肉桂	<i>ròu guì</i>	Cortex Cinnamomi
制附子	<i>zhì fù zǐ</i>	Radix Aconiti Lateralis Praeparata

Grind equal parts to a fine powder and store in a bottle. Mix 10-20 g with flour and water to make a paste and apply to KI 1 (*yǒng quán*). Fix with gauze and adhesive plaster, remove after one hour. Apply once daily.

Tui na

Points	Repetitions	Methods
ST 36 (<i>zú sān lǐ</i>)	3 min	Pressing & Kneading
<i>Èr rén shàng mǎ</i> (二人上马)	200	Kneading
<i>Xiǎo cháng</i> (小肠)	300	Clearing

Press and knead ST 36 (*zú sān lǐ*) for 3 min, knead *èr rén shàng mǎ* 200 times, and clear *xiǎo cháng* 300 times. Apply once daily, with 3 times as one treatment course.

[WESTERN MEDICINE THERAPIES]

Clean the mouth with 2-5% bicarbonate solution before and after suckling. In severe cases, a freshly prepared solution of 100,000 to 200,000 units/ml Nystatin or Nystatin and glycerol mixture may be applied locally, 3-4 times daily. Vitamin B2 and C supplements may also be helpful.

[PREVENTION AND NURSING]

1. PREVENTION

(1) Pregnant women should pay great attention to hygiene and nutrition while avoiding highly pungent or greasy foods. If the mother has a vaginal thrush infection, immediate treatment is required.

(2) Keep the infant's mouth clean. Carefully clean and sterilize rubber nipples, bottles, pacifiers, tableware and other objects that come into direct or indirect contact with the

mouth.

(3) To prevent mucosal lesions, avoid hot or hard foods and unnecessary scratching on the mouth.

(4) Breastfeeding is recommended with introduction to solid nutrients when appropriate. Thrush morbidity may be prevented by actively avoiding the prolonged use of broad-spectrum antibiotics or glucocorticoids, and by treating the primary disease.

2. NURSING CARE

(1) Provide well-balanced meals and sufficient fluids; overly stimulating foods should be avoided.

(2) The breasts should always be cleaned before feeding, and additional warm water should also be provided after suckling. Pay strict attention to oral hygiene.

(3) Closely observe any changes in the condition, especially if the infant's mouth and pharynx are heavily covered by white flakes that affect swallowing or cause difficult breathing. Any life-threatening situation must be treated urgently with both traditional Chinese and Western medicines.

[CASE STUDIES]

► Case #1

Male, age 6 months. Initial Visit: 4/6/1990

The infant presented with a fever, occasional coughing, and a runny nose during the previous 6 days. After 4 days of antibiotic treatment, his fever was relieved, although he still had difficulty suckling milk. He then presented with white patches on the oral mucosa and tongue. His stools were mixed with undigested food and the urine was scanty and yellow. The child was irritable with a flushed face, dry lips and excessive salivation with white patches covering the inside of the mouth and on the sides of the tongue, which was thickly coated and red in color.

The disease pattern was determined as accumulated heat in the heart and spleen, so the treatment principle was to clear and drain heat from the heart and spleen.

Formula

黄芩	<i>huáng qín</i>	4 g	Radix Scutellariae
黄连	<i>huáng lián</i>	1 g	Rhizoma Coptidis
生地黄	<i>Shēng dì huáng</i>	5 g	Radix Rehmanniae
竹叶	<i>zhú yè</i>	5 g	Herba Lophatheri
灯心草	<i>dēng xīn cǎo</i>	3 g	Medulla Junci
白芍	<i>bái sháo</i>	4 g	Radix Paeoniae Alba
蝉蜕	<i>chán tuì</i>	4 g	Periostracum Cicadae

3 doses

Combined with gentian violet solution (1%) applied to the mucosal lesions, 1-2 times daily.

After 3 days of treatment, the white patches disappeared and the child was recovered.

Analysis

This case was associated with an accumulation of heat in the heart and spleen, with the pathogenic toxins transforming into heat with fire flaming upwards which introduced the thrush into the mouth and tongue, causing lesions and white patches. Therefore, the treatment followed the principles of clearing heart-heat and purging the spleen of unnecessary heat. An oral decoction combined with external therapies proved highly effective in this case.

Source: Wang L, Editor. 婴童病案 [Case Histories on Infants and Children]. Changchun: Jilin Science and Technology Publishing House; 2000: 124

► Case #2

Male, age 3 months. Initial Visit: 8/16/1999

One day prior to the first visit, the parents had discovered white patches scattered in the child's mouth. There was no fever, no coughing, and no bad breath or discomfort except for a slight lack of appetite.

Physical examination: Large white patches on the tongue and the inner surface of the cheeks; they appeared superficial and loose, resembling scattered drops of cream. No excess salivation was found. The tongue was red and covered with a greasy coating.

The disease pattern was diagnosed as an accumulation of heat in the heart and spleen accompanied by damp-heat flaming upwards. The treatment principle was therefore to clear heat and fortify the spleen to eliminate dampness and putridity.

Formula

淡竹叶	dàn zhú yè	5 g	Herba Lophatheri
鲜芦根	xiān lú gēn	10 g	Rhizoma Phragmitis
金银花	jīn yín huā	5 g	Flos Lonicerae Japonicae
茯苓	fú líng	10 g	Poria
白术	bái zhú	5 g	Rhizoma Atractylodis Macrocephalae
鸡内金	jī nèi jīn	5 g	Endothelium Corneum Gigeriae Galli
生甘草	shēng gān cǎo	2 g	Radix et Rhizoma Glycyrrhizae

2 doses

After 2 doses, the white patches disappeared and the infant's appetite returned to normal.

Analysis

This case was caused by fetal heat accumulating in the heart and spleen and damp-heat flaming upwards. Improper nursing and a contaminated oral environment probably led to a toxic-pathogen invasion. Because pathogenic dampness is heavy, turbid, sticky and stagnant, it is hard to be eliminated. This type of thrush has white patches that may be easily removed, but they also grow back easily. Because the spleen was disturbed by dampness and there was insufficient fluid production, the mouth was dry with less saliva. A spleen affected by damp-heat ineffectively governs transportation and transformation,

which induced the poor appetite. The main treatment principles included clearing heat and eliminating dampness. As the heat was cleared and the damp and putridity were eliminated, the disease was also resolved.

Source: Wan LS, Editor. 汪受传儿科医论医案选 [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics]. Beijing: Academy Press; 2008: 124-125

[QUESTIONS]

1. A 5-month old infant has white patches scattered on his mouth and tongue for the past two days and the surrounding oral mucosa are very red. The child has a flushed face and red lips, restlessness, dark yellow urine and dry stools. The red tongue is thickly covered with a yellow coating; stasis has turned the finger venules purple.

Which is the first choice of formula?

- A. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill
- B. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill
- C. *Xiè Xīn Dǎo Chì Sǎn*—Heart-Draining and Redness-Removing Powder
- D. *Qīng Rè Xiè Pí Sǎn*—Heat-Clearing and Spleen-Draining Powder
- E. *Shā Shēn Mài Dōng Tāng*—Radix Adenophorae and Radix Ophiopogonis Decoction

2. A 3-year old child presented with a prolonged case of recurrent white oral patches. Manifestations included white patches scattered in the oral cavity with no redness in the surrounding mucosa, a pale face with red cheeks, hot palms and soles, a red tongue covered with a little coating, and a thready pulse.

Which medicinal herb can be added in small amounts to the formula to conduct fire back to its source?

- A. *Huáng lián* (Rhizoma Coptidis)
- B. *Huáng qín* (Radix Scutellariae)
- C. *Shí gāo* (Gypsum Fibrosum)
- D. *Zhī zǐ* (Fructus Gardeniae)
- E. *Ròu guì* (Cortex Cinnamomi)

3. A one year old infant has prolonged and persistent white oral patches. Manifestations include scattered white patches in the oral cavity with no redness in the surrounding mucosa, a pale face with red cheeks, hot palms and soles, a red tongue covered with a little coating, and light purple venules.

What is the disease pattern for this case?

- A. Accumulated heat in the heart and spleen.
- B. Accumulated heat in the spleen channel.
- C. Fire (due to deficiency) flaming and attacking the channels upwardly.
- D. Excessive fire in the heart channel.
- E. Internal accumulation of damp-heat.

[REFERENCES]

- [1] Manning DJ, Coughlin RP, Poskitt EM. Candida in Mouth or on Dummy. Arch Dis Child 1985;60:381-382.
- [2] Manning DJ, Carpenter JT, Jones MR. The Pathogenesis and Clinical Significance of Cytologically Detectable Oral Candida in Acute Leukemia. Cancer 1988, 62:2042-2046.
- [3] Fukushima C, Matsuse H, Tomari S, et al. Oral Candidiasis Associated with Inhaled Corticosteroid

- Use: Comparison of Fluticasone and Beclomethasone, *Ann Allergy Asthma Immunol*, 2003, 90 (6):646-651.
- [4] Nicolatou, Galiris O, Dardoufas K, Markoulatos P, et al. Oral Pseudomembranous Candidiasis, Herpes Simplex Virus Infection, and Oral Mucositis in the Head and Neck of Cancer Patients Receiving Radiotherapy and Granulocyte Macrophage Colony Stimulating Factor (GM-CSF) Mouthwash. *J Oral Pathol Med*, 2001, 30 (8):471-480
- [5] Kadir T, Uygun B, Akyuz S. Prevalence of Candida Species in Turkish Children: Relationships Between Dietary Intake and Carriage *Arch. Oral Biol*, 2005, 50 (1):33-37.
- [6] Mattos Graner RO, de Moraes AB, Rontani RM, et al. Relationships of Oral Yeast Infections in Brazilian Infants and Pacifier Use. *ASDC J Dent Child*, 2001. 68 (1):33-36.
- [7] Lin HM. 50 Oral Thrush Cases Treated by Chinese Medicine Using External Therapy [J]. *New Journal of Traditional Chinese Medicine*; 2001; 33(11): 53-54.
- [8] Xiao ZX. 20 Thrush Powder-Treated Oral Thrush Cases, Clinical Reports [J]. *Chinese Journal of Health Care*; 2007, 15(2): 76-77.

Chapter 14

Aphthae (*Kǒu Chuāng*)

Aphthae is a disease of the mouth characterized by painful yellowish-white ulcerations of the oral mucosa. Lesions may appear on the buccal, labial, gingival, and palate areas of the mouth accompanied by a burning sensation and excess salivation. If the ulcers are only on the bilateral angles of the lips, it is termed or perleche or “swallow mouth sores” (*yàn kǒu chuāng*). If there is painful red erosion distributed on the oral cavity, it is called aphthous stomatitis or “mouth erosion” (*kǒu mí*). In Western medicine, this condition is associated with stomatitis and also includes such mouth diseases as ulcerative stomatitis, herpetic gingivostomatitis, catarrhal gingivostomatitis, angular stomatitis, etc.

The origin of the lesions is debatable, but the most common causes are related to infectious factors such as the bacteria leptospira and viruses. Typical causes are disinfected tableware, poor oral hygiene, decreased bodily resistance caused by disease, and deficiencies of Vitamins B and C.

Aphthae may appear at any age, but are most common in infants and young children. They occur year-round with no significant differences among the seasons, and may occur alone or as associated with other acute infectious diseases or diarrhea; they also affect those debilitated by prolonged illness or those with Vitamin B and C deficiency.

In mild cases, the child may only present with excess salivation, food refusal, irritation and crying. In addition to obvious ulcerations, more severe cases can present with fever, listlessness and cold limbs. The prognosis is usually favorable with most cases recovering quickly and healing without scarring. However, recurrent aphthous ulcerations may have a long duration and become intractable.

Recurrent aphthous ulceration is one of the most common types of oral lesions occurring at all ages. The incidence in the general population is up to 25%, with a 3 month recurrence rate as high as 50% ^[1]. A survey was conducted in 1388 children whose parents had recurrent aphthous ulceration. The results showed that the morbidity rate of recurrent aphthous ulceration among those children was 47.9%, with 47.6% in males and 48.3% in females with no significant difference in gender. Analysis of 318 patients from 4 generations in 6 families showed a morbidity rate of 23.3% in the first generation, 39.9% in the second generation, 40% in the third, and 39.4% in the fourth, thus suggesting a familial disposition ^[2].

In recent years, the majority of studies into the etiology of recurrent aphthae were focused on immunological imbalances where occurrence of recurrent aphthous ulceration relates to immunological function imbalance. Many studies showed that children with recurrent aphthous ulcerations have T-lymphocyte subgroup imbalances and disturbances in humoral immunity. In addition, recurrent aphthous ulceration has been shown to be related to deficiencies of the trace minerals zinc and ferrum.

In Chinese medical theory, recurrent aphthae can be associated with patterns of spleen and stomach qi deficiency that lead to blood deficiency with deficiency fire flaming upwards.

TCM treatment methods include Chinese medicinals, tui na, and external therapies. Mild cases may be treated by Chinese medicinal sprays or other external applications. For

severe cases, curative effects may be significantly improved by administering decoctions prescribed according to pattern differentiation.

Xie Ning-xiang et al. applied a modification of *Qīng Wèi Sǎn*—Stomach Heat Clearing Powder, consisting of *huáng lián* (Rhizoma Coptidis), *shēng má* (Rhizoma Cimicifugae), *huá shí* (Talcum), *cāng zhú* (Rhizoma Atractylodis), *bīng láng* (Semen Arecae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *shēng dì* (Radix Rehmanniae), *mǔ dān pí* (Cortex Moutan), *dāng guī* (Radix Angelicae Sinensis), *xuán shēn* (Radix Scrophulariae), *fú líng* (Poria), *bái zhǐ* (Radix Angelicae Dahuricae) and *lái fú zǐ* (Semen Raphani) in the treatment of 48 children with aphthae. A control group was treated with a compound Vitamin B oral liquid.

Results: The cure rate was 93.75% in the treatment group and 72.92% in the control group, with efficacy in the treatment group superior to the control [3].

Zhang Ming-Su applied *Kǒu Chuāng Sǎn*—Aphthae Powder containing *bīng piàn* (Borneolum Syntheticum), *péng shā* (Borax), *xuán míng fēn* (Natrii Sulfas Exsiccatus), *zhū shā* (Cinnabaris), and *qīng dài* (Indigo Naturalis) in the treatment of 76 children with aphthae. The results showed 69 cases cured (cure rate 90.78%), 6 with a marked curative effect (7.89%), and 1 case with no improvement (1.3%). The total effective rate was 98.7% [4].

[ETIOLOGY & PATHOMECHANISM]

The causes of aphthae include both exogenous and endogenous factors. For children, endogenous factors include qi and blood deficiency that causes membranes to become more delicate and susceptible to steaming by pathogenic heat; this can also result from debility caused by prolonged illness. Exogenous factors include improper diet or improper nursing in which the child is usually too warm and subsequently invaded by external pathogens or turbid toxins.

Aphthae mainly affect the *zang-fu* and channels of the heart, spleen, stomach and kidney. The heart opens to the tongue, and the heart channel is linked to the tongue. The mouth is the orifice of the spleen, and the collaterals of the spleen are connected with the mouth. The kidney channel ascends to the throat and connects to the root of the tongue, and the stomach channel passes through the cheek and connects to the gingival area. Whether exogenous or endogenous factors are involved, internal heat and fire tend to ascend upwards through the channels and lead to ulceration of the mouth and tongue.

External Wind-Heat Attacking the Spleen and Stomach

Because children's organs are delicate and their superficial resistance is not fully consolidated, if cared for improperly, they will become more susceptible to external pathogens. When external pathogens attack the *lung-wei* and transform into heat or fire, they further attack the spleen and stomach; as heat and fire ascend through the channels, the mouth and tongue become scorched, resulting in aphthae.

Improper Feeding and Heat Accumulation in the Heart and Spleen

If a pregnant woman overconsumes greasy foods, fetal heat accumulation may result, or with improper care and feeding, a rich fatty diet can result in spleen and stomach heat accumulation; unhygienic mouth conditions may also cause fetid toxins. The exogenous and endogenous fire mentioned above may combine together resulting in toxic-heat in the heart and spleen that flames upwards along the channels, subsequently causing ulceration of the mouth and tongue.

Constitutional Debility with Deficiency Fire Flaming Upwards

If the child suffers from congenital debility and poor health, or a febrile and prolonged disease consuming yin-fluids with kidney yin deficiency (water failing to control fire), deficiency fire can flame upwards to scorch the mouth and tongue.

It should be noted that the clinical treatment methods for aphthae usually involve clearing heat, purging pathogenic fire, clearing heart-fire, clearing heat and draining the spleen, unblocking the bowels and discharging heat, or enriching yin and clearing heat, etc.

Because the prescribed medicinals are often cold and cool in nature, and have usually been used repeatedly for the treatment of recurrent aphthous stomatitis, these children often display impaired function of the spleen and stomach. The resulting damage can cause splenic failure of transportation and transformation, resulting in damp-turbidity collecting internally. Gradually, damp-turbidity may steam upwards resulting in repeated occurrences of aphthae, often becoming lingering and intractable. In these cases, there may be repeated occurrences of slightly painful gray ulcers surrounded by a light red areola. The patient may have a sallow complexion, physical fatigue and loose stools. Therefore, for recurrent aphthous stomatitis, the pathogenesis of spleen deficiency leading to damp encumbrance should be taken into account.

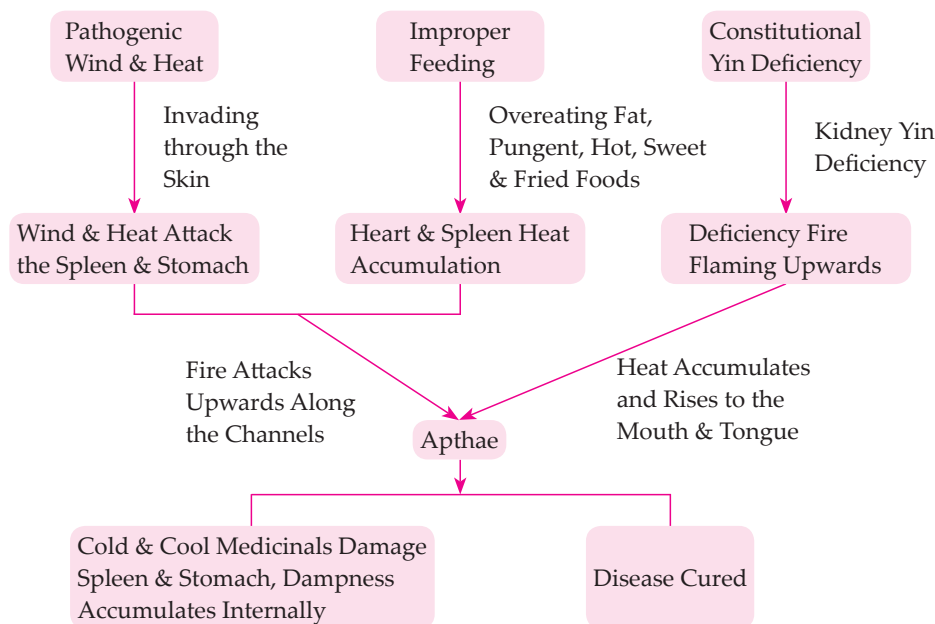


Fig. 14-1 Etiology and Pathomechanism of Aphthae

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

- A history of improper feeding of rich fatty foods, or fever from external contraction.
- Manifestations show lesions preceded by well-circumscribed, shallow yellow-white ulcers surrounded by red areolae on the oral or lingual mucous membranes, or erosion in the mouth cavity that remains painful with excess salivation. There may also be fever and painful submandibular lymph node enlargement.

c. Blood examination: in cases of bacterial infection, total white blood cell and neutrophil counts are increased; for viral infection, white blood cell counts are normal or decreased.

► Differential Diagnosis

Aphthae should be differentiated from oral thrush and hand-foot-mouth disease. See Table 14-1.

Table 14-1 Differential Diagnosis of Aphthae, Oral Thrush and Hand-Foot-Mouth Disease

Essentials of Diagnosis	Aphthae	Oral Thrush	Hand-Foot-Mouth Disease
Age	Infants & children	Newborns or infants under 1 year old with debilitated constitution	Children under five years old
Pain	Severe	Less	Severe
Ulcer Characteristics	Yellow-white ulcers surrounded by red areola, cannot be wiped away	Soft, white scales or snowflake-like patches which can be scraped off, with slight bleeding	Yellow or white ulcers surrounded by red areola, cannot be wiped away
Location	Oral & lingual mucous membrane	Oral & lingual mucous membrane, may spread to throat, soft palate & nasal cavity	Oral mucous membrane, with herpes on the hands, feet and buttocks
History of Epidemics	Without	Without	Often Summer & Autumn
Pathogens	Bacteria, virus, spirochete	Fungus	Coxsackie virus, EV ₇₁ virus, etc.

When treating children with oral thrush, use pattern differentiation and treatment with external therapies, or apply 5% sodium bicarbonate solution and nystatin to the affected oral mucosa. Patients diagnosed with hand-foot-mouth disease should be isolated, and an infectious disease report needs to be made to the department concerned. See *Chapter 36* for more detail.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

1. DIFFERENTIATE EXCESS OR DEFICIENCY

Aphthae are often caused by internal heat and fire as identified by eight-principle pattern differentiation. For most cases, differentiation should focus on whether there is deficiency fire or excess fire based on the onset, course, severity of the erosions or ulcerations, and other symptoms.

Cases with excess fire are mainly caused by externally contracted wind-heat or internal damage caused by improper feeding; the condition is marked by sudden onset, short duration, and relatively more ulcers surrounded by a red areola with local pain and burning. There will be foul breath and salivation, or fever, agitation and food refusal with crying.

Cases associated with deficiency fire are mainly caused by a congenital yin deficient constitution, yin-fluids consumed by heat, or yang consumed by prolonged illness. This pattern is marked by chronic onset, longer duration, less ulcers, repeated outbreaks, and less pain; also associated with low grade fever, flushed cheeks, night sweating, mental fatigue or a white complexion, anorexia, and loose stools.

2. ZANG- Fu IDENTIFICATION

Excess patterns are often linked to the heart and spleen, and deficiency patterns are often linked to the liver and kidney. When the disease is located in the heart, the patient will present with erosions or ulcers on the tip or edges of the tongue accompanied by irritation, crying, uneasy sleep, and scanty yellow urine. When the disease is in the spleen and stomach, the patient will show aphthae on the labial and buccal surfaces and gums with possible foul breath, excess salivation, and constipation.

► Treatment Principles

The basic principles of aphthae treatment are to clear heat and subdue fire.

For excess syndromes, treatment mainly aims to clear heat, resolve toxins and drain fire, combined with treatment to dispel wind, resolve food-stagnation, drain dampness or unblock the bowels according to different causes and locations.

For deficiency syndromes, treatment mainly aims to supplement deficiency by enriching yin and clearing heat, warming and supplementing spleen or kidney, or returning fire to its source.

For patients with mild conditions, external treatment may suffice. For severe conditions, a combination of medicinal decoctions and external therapy may be required. Traditional Chinese medicine combined with Western medication may be required in some cases.

Common patterns and treatment methods:

Wind-heat attacking the spleen: scatter wind, dissipate fire, clear heat, resolve toxins.

Accumulated heat in the spleen and stomach: clear heat, resolve toxins, unblock the bowels, drain fire.

Heart-fire flaming upwards: clear heart-fire, cool the blood, resolve toxins.

Deficiency fire flaming upwards: enrich yin and subdue fire, return fire to its source.

Moreover, there are cases of recurrent aphthae with manifestations of spleen deficiency with damp encumbrance or spleen and stomach qi deficiency. Most are marked by a congenital deficiency and manifest with recurrent attacks and poor response to treatment when clearing fire and resolving toxins. For cases with refractory and recurrent oral ulcerations surrounded by light red areola, physical fatigue, poor appetite, and a pale tongue with a thin white or greasy white coating, medicinals that boost qi, fortify the spleen, and resolve dampness are recommended, while formulas such as *Bǔ Zhōng Yì Qì Tāng*—Center-Supplementing and Qi-Boosting Decoction can be used. The treatment efficacy is usually satisfactory.

► Classification of Patterns and Treatments

Wind- Heat Attacking the Spleen

Signs and Symptoms

Manifestations include vesicles and ulcers appearing on the oral labia, buccae, gingivae

and palate surrounded by red areola with a burning painful sensation. There may be excess salivation, troublesome food intake, fever, aversion to wind, and painful swelling of the throat. The tongue is red with a thin yellow coating; the pulse is floating, or floating and rapid, and there are purple finger venules.

Pattern Differentiation

This pattern of aphthae has a sudden onset, and at the initial phase the affected areas are red with a painful burning sensation and no formed patches of ulcerations or confluence. Because wind-heat has invaded the exterior, there is fever, aversion to wind and a red swollen painful throat. If wind-heat attacks the spleen and stomach leading to fire-heat exuberance, there is foul breath, salivation, constipation and dark urine. If wind-heat is accompanied by dampness, there is a thick greasy tongue coating and yellow exudate or erosion on the affected areas.

Treatment Principles

Scatter wind, drain fire, clear heat and resolve toxins.

Formula

Modified *Yín Qiào Sǎn*—Lonicera and Forsythia Powder

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
板蓝根	<i>bǎn lán gēn</i>	Radix Isatidis
薄荷	<i>bò he</i>	Herba Menthae
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
荆芥	<i>jīng jiè</i>	Herba Schizonepetae
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
芦根	<i>lú gēn</i>	Rhizoma Phragmitis
竹叶	<i>zhú yè</i>	Folium Phyllostachydis Henonis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae) and *bǎn lán gēn* (Radix Isatidis) clear heat and resolve toxins.

Bò he (Herba Menthae), *niú bàng zǐ* (Fructus Arctii) and *jīng jiè* (Herba Schizonepetae) disperse wind and dissipate fire.

Zhī mǔ (Rhizoma Anemarrhenae), *lú gēn* (Rhizoma Phragmitis) and *zhú yè* (Folium Phyllostachydis Henonis) clear heart heat and relieve irritation.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) resolves toxins and harmonizes the actions of all formula medicinals.

Modifications

For high fever, add *shēng shí gāo* (Gypsum Fibrosum), *chái hú* (Radix Bupleuri) and *gé gēn* (Radix Puerariae Lobatae) to release the flesh and clear heat.

For wind-heat associated with dampness manifesting with a thick greasy tongue coating and erosion with a greasy yellow exudate, add *huá shí* (Talcum) and *huò xiāng* (Herba

Agastachis), or replace the formula with a modification of *Gān Lù Xiāo Dú Dān*—Sweet Dew Toxin-Removing Elixir to clear heat, resolve toxins and dispel dampness.

For constipation, add *dà huáng* (Radix et Rhizoma Rhei) to clear heat, unblock the bowels and drain fire.

For red swollen painful throat, add *shān dòu gēn* (Radix et Rhizoma Sophorae Tonkinensis) and *mǎ bó* (Lasiosphaera seu Calvatia) to clear heat, resolve toxins and benefit the throat.

For dry mouth, add *tiān huā fēn* (Radix Trichosanthis) to clear heat and produce fluids.

Chinese Patent Medicines

Gōng Láo Qù Huǒ Piàn—Folium Mahoniae Fire-Reducing Tablets

1 tablet, 3 times daily.

External Therapy

a. *Bīng Péng Sǎn*—Borneol and Borax Powder or *Qīng Dài Sǎn*—Indigo Naturalis Powder, or *Xī Guā Shuāng*—Watermelon Frost Spray, or *Zhū Huáng Sǎn*—Yellow Pearl Powder.

Apply one of the above to the affected area, 2 or 3 times daily.

b.

冰片	<i>bīng piàn</i>	3 g	Borneolum Syntheticum
硼砂	<i>péng shā</i>	6 g	Borax
玄明粉	<i>xuán míng fěn</i>	12 g	Natrii Sulfas Exsiccatus
青黛	<i>qīng dài</i>	6 g	Indigo Naturalis

Mix all medicinals together and grind into fine powder.

Apply to the affected area, 3 times daily.

Tuī na

Points	Repetitions	Methods
GB 20 (<i>fēng chí</i>)	100	Kneading
<i>Wèi jīng</i> (胃经)	100-200	Clearing
<i>Bǎn mén</i> (板门)	100	Clearing

Knead *fēng chí* 100 times, clear *wèi jīng* 100-200 times, and clear *bǎn mén* 100 times. Treat once daily with 3 days as one treatment course.

Accumulated Heat in the Spleen and Stomach

Signs and Symptoms

Manifestations include multiple ulcerations on the labial, buccal, palatal or gingival mucosa, or erosions spreading throughout the mouth cavity surrounded by red mucosa with a hot and severe burning sensation. Patients also have food refusal due to the severe pain, irritability, salivation, and red face and lips; there may be fever, foul breath, scanty dark urine and constipation. The tongue is red with a thick yellow coating; the pulse is slippery and rapid. The finger venules are purple.

Pattern Differentiation

This pattern is caused by accumulated spleen and stomach heat with fire-heat flaming

upwards. It is mainly characterized by sudden onset, multiple ulcers surrounded by red mucosa, severe burning pain, foul breath, salivation, red lips, and constipation.

Treatment Principles

Clear heat, remove toxins, unblock bowels and drain fire.

Formula

Modified *Liáng Gé Sǎn*—**Diaphragm-Cooling Powder**

黄芩	<i>huáng qín</i>	Radix Scutellariae
连翘	<i>lián qiào</i>	Fructus Forsythiae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
大黄	<i>dà huáng</i>	Radix et Rhizoma Rhei
玄明粉	<i>xuán míng fěn</i>	Natrii Sulfas Exsiccatus
竹叶	<i>zhú yè</i>	Folium Phyllostachydis Henonis
薄荷	<i>bò he</i>	Herba Menthae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Huáng qín (Radix Scutellariae), *lián qiào* (Fructus Forsythiae) and *zhī zǐ* (Fructus Gardeniae) clear heat and remove toxins.

Dà huáng (Radix et Rhizoma Rhei) and *xuán míng fěn* (Natrii Sulfas Exsiccatus) unblock the bowels and drain fire.

Zhú yè (Folium Phyllostachydis Henonis) clears heart-heat and eliminates irritation.

Bò he (Herba Menthae) disperses stagnant fire.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) resolves toxins.

Modifications

For irritation and dry mouth, add *shēng shí gāo* (Gypsum Fibrosum) and *tiān huā fěn* (Radix Trichosanthis) to clear heat and produce fluids.

With scanty dark urine, add *shēng dì huáng* (Radix Rehmanniae) and *chē qián zǐ* (Semen Plantaginis) to clear small intestine heat.

With a thick greasy tongue coating and excess salivation, add *shí chāng pú* (Rhizoma Acori Tatarinowii), *huá shí* (Talcum) and *huò xiāng* (Herba Agastachis) to clear heat and drain dampness.

For ulcers covered with yellow exudate, add *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae) and *pú gōng yīng* (Herba Taraxaci) to clear heat and remove toxins.

For food accumulation and abdominal distention, add *jiāo shān zhā* (charred Fructus Crataegi), *chǎo mài yá* (dry-fried Fructus Hordei Germinatus) and *zhǐ shí* (Fructus Aurantii Immaturus) to promote digestion and remove food stagnation.

For prolonged refractory ulcerations, add *ér chá* (Catechu) and *wǔ bèi zǐ* (Galla Chinensis) to engender flesh and heal ulcers.

With red mucous membranes with severe pain, add *shēng dì huáng* (Radix Rehmanniae) and *mǔ dān pí* (Cortex Moutan) to clear heat, remove toxins and cool the blood.

Chinese Patent Medicines

Huáng Zhī Huā Kǒu Fú Yè—Scutellaria, Gardenia and Lonicera Oral Liquid
5-10 ml, 3 times daily.

External Therapy

a. *Xī Guā Shuāng*—**Watermelon Frost Spray**, or *Bīng Péng Sǎn*—**Borneol and Borax Powder**, or *Qīng Dài Sǎn*—**Indigo Naturalis Powder**, or *Zhū Huáng Sǎn*—**Yellow Pearl Powder**.

Apply one of the above to the affected area, 2 or 3 times daily.

b.

冰片	<i>bīng piàn</i>	3 g	Borneolum Syntheticum
硼砂	<i>péng shā</i>	6 g	Borax
玄明粉	<i>xuán míng fěn</i>	12 g	Natrii Sulfas Exsiccatus
青黛	<i>qīng dài</i>	6 g	Indigo Naturalis

Mix all medicinals together and grind into fine powder.

Apply to the affected area, 3 times daily.

Tuī na

Points	Repetitions	Methods
<i>Dà cháng jīng</i> (大肠经)	200	Clearing
<i>Wèi jīng</i> (胃经)	300	Clearing
<i>Xiǎo héng wén</i> (小横纹)	100	Pushing

Clear *dà cháng jīng* 200 times, clear *wèi jīng* 300 times, and push *xiǎo héng wén* 100 times. Apply once daily, with 3 days as one course of treatment.

Heart Fire Flaming Upwards

Signs and Symptoms

Manifestations include red erosions or ulcers on the tongue tip and edges with a hot burning painful sensation, restlessness, a red face, an dry mouth with a desire to drink; there may also be fever and scanty yellow urine. The tongue tip is red with a thin yellow coating; the pulse is rapid and thready. There are purple finger venules.

Pattern Differentiation

The pattern is caused by hyperactive heart fire flaming upwards marked by a red tongue, ulcers on the tip and edges of the tongue with severe pain, irritation, and scanty yellow urine.

Treatment Principles

Clear heart, drain fire, cool the blood and resolve toxins.

Formula

Modified *Xiè Xīn Dǎo Chì Sǎn*—**Heart-Draining and Redness-Removing Powder**

黄连	<i>huáng lián</i>	Rhizoma Coptidis
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
竹叶	<i>zhú yè</i>	Folium Phyllostachydis Henonis
通草	<i>tōng cǎo</i>	Medulla Tetrapanacis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Huáng lián (Rhizoma Coptidis) clears heart-fire.

Shēng dì huáng (Radix Rehmanniae) clears heat and cools the blood.

Zhú yè (Folium Phyllostachydis Henonis) clears heart and relieves heat.

Tōng cǎo (Medulla Tetrapanacis) guides heat downward and outward through the urine.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) resolves toxins and harmonizes the actions of all formula medicinals.

Modifications

For serious heat-toxin, add *huáng qín* (Radix Scutellariae) and *zhī zǐ* (Fructus Gardeniae) to clear heat and remove toxins.

For severe thirst, add *lú gēn* (Rhizoma Phragmitis) and *tiān huā fēn* (Radix Trichosanthis) to clear heat and promote fluid production.

For severe irritation and dark urine, add *chì fú líng* (Poria Rubra) and *huá shí* (Talcum) to clear heart-fire.

Chinese Patent Medicines

Xiǎo Ér Huà Dú Sǎn—Children's Toxin Eliminating Powder

0.6 g, twice daily. Reduce the dosage for children under 3 years old.

External Therapy

a. *Zhū Huáng Sǎn*—**Yellow Pearl Powder** or *Xī Guā Shuāng*—**Watermelon Frost Spray** or *Bīng Péng Sǎn*—**Borneol and Borax Powder** or *Qīng Dài Sǎn*—**Indigo Naturalis Powder**.

Apply one of the above to the affected area, 2 or 3 times daily.

b.

冰片	<i>bīng piàn</i>	3 g	Borneolum Syntheticum
硼砂	<i>péng shā</i>	6 g	Borax
玄明粉	<i>xuán míng fēn</i>	12 g	Natrii Sulfas Exsiccatus
青黛	<i>qīng dài</i>	6 g	Indigo Naturalis

Mix all medicinals together and grind into fine powder.

Apply to the affected area, 3 times daily.

Tuī na

Points	Repetitions	Methods
<i>Tiān hé shuǐ</i> (天河水)	50	Clearing
<i>Xiǎo cháng</i> (小肠)	200	Clearing
<i>Xiǎo tiān xīn</i> (小天心)	100	Pounding

Clear *tiān hé shuǐ* 50 times; clear *xiǎo cháng* 200 times; pound *xiǎo tiān xīn* 100 times. Treat once daily, with 3 days as one treatment course.

Deficiency Fire Flaring Upwards**Signs and Symptoms**

Manifestations include recurrent or prolonged refractory and sparsely scattered oral erosions or ulcers surrounded by a light red areola with mild pain, listlessness, malar flush, dry mouth, heat in the palms and soles, and dry stools. The tongue is red with an absent or

peeled coating; the pulse is thready and rapid. There are light purple finger venules.

Pattern Differentiation

This pattern is often seen in children with congenital deficiency, prolonged illness, chronic diarrhea, or after febrile diseases resulting in kidney yin deficiency, yin deficiency and effulgent fire with deficiency fire flaming upwards. It is characterized by prolonged and refractory light-colored mildly painful and sparsely scattered oral and lingual ulcerations with associated symptoms of yin deficiency with internal heat.

Treatment Principles

Enrich yin, subdue fire and return fire to its source.

Formula

Modified *Liù Wèi Dì Huáng Wán*—**Six Ingredients Rehmannia Pill** with *ròu guì* (Cortex Cinnamomi)

熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
山茱萸	<i>shān zhū yú</i>	Fructus Corni
山药	<i>shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
肉桂	<i>ròu guì</i>	Cortex Cinnamomi

Formula Analysis

Shú dì huáng (Radix Rehmanniae Praeparata) and *shān zhū yú* (Fructus Corni) enrich and nourish kidney yin.

Shān yào (Rhizoma Dioscoreae) and *fú líng* (Poria) fortify the spleen.

Mǔ dān pí (Cortex Moutan) and *zé xiè* (Rhizoma Alismatis) drain the liver and kidney deficiency fire.

A small amount of *ròu guì* (Cortex Cinnamomi) acts to return fire to its origin.

Modifications

For yin damage in the aftermath of febrile disease, add *xuán shēn* (Radix Scrophulariae), *mài dōng* (Radix Ophiopogonis) and *wū méi* (Fructus Mume) to enrich yin and promote fluid production.

For low fever or vexing heat in chest, palms and soles, add *dì gǔ pí* (Cortex Lycii) and *bái wēi* (Radix et Rhizoma Cynanchi Atrati) to clear deficiency heat.

For hyperactive fire due to yin deficiency, add *zhī mǔ* (Rhizoma Anemarrhenae) and *huáng bǎi* (Cortex Phellodendri Chinensis) to enrich yin and subdue fire.

For constipation, add *fēng mì* (Honey) and *huǒ má rén* (Fructus Cannabis) to moisten the intestines and relieve constipation.

Chinese Patent Medicines

Zhī Bǎi Dì Huáng Wán—Anemarrhena, Phellodendron and Rehmannia Pill

1.5 g, 2 or 3 times daily.

External Therapy

a. *Xī Lèi Sǎn*—Tin-Like Powder, or *Yǎng Yīn Shēng Jī Sǎn*—Yin-Nourishing and Flesh-

Engendering Powder.

Apply one of the above to the affected area, 2 or 3 times daily.

b. *Wú zhū yú* (Fructus Evodiae) 15-30 g, ground into fine powder; add a small amount of vinegar to make a paste. Apply once nightly to KI 1 (*yǒng quán*) at bedtime, fix externally with gauze and adhesive plaster. Remove in the morning.

Tui na

Points	Repetitions	Methods
<i>Pí jīng</i> (脾经)	500	Supplementing
<i>Nèi láo gōng</i> (内劳宫)	200	Kneading
<i>Nèi bā guà</i> (内八卦)	300	Pushing clockwise
KI 1 (<i>yǒng quán</i>)	200	Kneading

Supplement *pí jīng* 500 times, knead *nèi láo gōng* 200 times, push *nèi bā guà* 300 times, and knead *yǒng quán* 200 times.

Treat once daily, with 3 days as one treatment course.

[WESTERN MEDICINE THERAPIES]

For associated high fever, antipyretics can be used. With serious systemic symptoms caused by a viral infection, administer acyclovir or ribavirin injections or intravenous drip infusion.

For those caused by bacterial infections, use antibiotics.

For angular stomatitis caused by nutritional deficiency, give Vitamin B₂, and for oral cavity ulcers caused by zinc deficiency, give zinc gluconate oral liquid.

Moreover, provide plenty of fluids in general.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) Maintain good oral hygiene; rinse the mouth with warm water after lunch and before going to bed; educate the child to brush their teeth as soon as possible after eating and before bed. Disinfect tableware frequently.

(2) Pay attention to the diet. Foods should be fresh and clean with abundant fresh vegetables and fruits. Control the diet properly by preventing overeating or indulgence in fatty or spicy foods.

(3) Food and drinks should be served at a moderate temperature. To prevent injury to the oral membranes, also avoid unnecessary wiping of the oral cavity.

(4) Children should have regular physical activities in order to stimulate good health and avoid infectious disease.

2. NURSING CARE

(1) Maintain oral hygiene by wiping off any dribbling saliva as soon as possible.

(2) During sickness, children should be encouraged to have reasonable rest, drink

plenty of water, eat a variety of vegetables and fruits, and defecate regularly.

[CASE STUDIES]

► Case #1. Female, age 4. Initial Visit: 5/12/1993

The patient suffered with a painful mouth and fever for 5 days. The mouth pain was worse when eating, so she could only have porridge. During consultation and examination there was fever, fidgeting and crying. There were several ulcers and erosions on the buccal mucosa and tongue, constipation without a bowel movement for several days, and scanty dark urine. Her tongue was red with dry thick yellow coating; the pulse was slippery and rapid.

The pattern here is accumulated heat in the heart and spleen; the treatment principle is to clear the heat from the heart and spleen.

Formula

升麻	<i>shēng má</i>	5 g	Rhizoma Cimicifugae
黄连	<i>huáng lián</i>	5 g	Rhizoma Coptidis
甘草	<i>gān cǎo</i>	5 g	Radix et Rhizoma Glycyrrhizae
黄芩	<i>huáng qín</i>	5 g	Radix Scutellariae
肉桂	<i>ròu guì</i>	3 g	Cortex Cinnamomi
当归	<i>dāng guī</i>	10 g	Radix Angelicae Sinensis
生地黄	<i>shēng dì huáng</i>	10 g	Radix Rehmanniae
麦冬	<i>mài dōng</i>	10 g	dwarf lilyturf tuber
紫花地丁	<i>zǐ huā dì dīng</i>	10 g	Tokyo violet herb
牡丹皮	<i>mǔ dān pí</i>	8 g	Cortex Moutan
淡竹叶	<i>dàn zhú yè</i>	8 g	Herba Lophatheri
大黄	<i>dà huáng</i>	5 g	Radix et Rhizoma Rhei (added later)
赤小豆	<i>chì xiǎo dòu</i>	20 g	Semen Phaseoli (decocted first)

One divided daily dose. Decoct and divide into a several portions, to be taken warm.

Second visit on the next day: After taking the decoction she had two bowel movements and her fever and irritation were relieved. The above formula minus *dà huáng* (Radix et Rhizoma Rhei) was prescribed for 2 more days.

After two daily doses the ulcerated surfaces reduced, so another two doses were given. After 5 doses in total, all symptoms disappeared. Afterwards, formulas were given to nourish yin and promote fluids for rehabilitation.

Analysis

Aphthae is often caused by accumulated heat in the heart and spleen with deficiency fire flaming upwards. The treatment principle is to clear the heart and drain the spleen. Following the principle of “when treating disease, seek and treat the root”, this case was treated by clearing stomach fire, cooling the blood, unblocking the bowels and draining heat while also clearing heart and nourishing yin. *Ròu guì* (Cortex Cinnamomi) was added

in order to return fire to its source. The treatment in this case resulted in a satisfactory cure.

Source: Shi JM. Clinical Observations on Empirical *Qing Huo Gui Yuan* Decoction to Treat Children's Aphthae [J]. New Journal of Traditional Chinese Medicine, 1997(11):7

► Case #2. Male, age 5. Initial Visit: 3/24/2001

Mouth ulcerations for 2 months. The boy was thin and of weak constitution; two months previous he had a high fever caused by influenza. After treatment, the fever was relieved and he had recurrent aphthae treated with *Bīng Péng Sǎn*—Borneol and Borax Powder and *Sān Huáng Piàn*—Three Yellow Tablets, without obvious effect.

Present manifestations include thirst with a desire to drink, red face and lips, heat in the palms and soles, and scanty dark urine.

Examination: several visible ulcers in the oral cavity. The tongue was red with a peeled coating; his pulse was thready and weak.

The pattern was diagnosed as aphthae due to yin deficiency and effulgent fire; the treatment principle was to enrich yin and subdue fire.

Formula

生地黃	<i>shēng dì huáng</i>	10 g	Radix Rehmanniae
山茱萸	<i>shān zhū yú</i>	10 g	Fructus Corni
山药	<i>shān yào</i>	10 g	Rhizoma Dioscoreae
白芍	<i>bái sháo</i>	10 g	Radix Paeoniae Alba
麦冬	<i>mài dōng</i>	10 g	Radix Ophiopogonis
石斛	<i>shí hú</i>	10 g	Caulis Dendrobii
玉竹	<i>yù zhú</i>	10 g	Rhizoma Polygonati Odorati
桂枝	<i>guì zhī</i>	5 g	Ramulus Cinnamomi
黄连	<i>huáng lián</i>	3 g	Rhizoma Coptidis
茯苓	<i>fú líng</i>	10 g	Poria

5 bags for 5 days. After 5 doses, the condition resolved.

Analysis

The aphthae were caused by yin deficiency and upward floating of solitary yang. According to the principle, “strengthen the governor of water to restrain hyperactive yang”, he was treated by nourishing yin, subduing fire, and returning fire to its source. When yin and yang were in balance, the disease was cured.

Source: Wan LS, Editor. 汪受传儿科医论医案选 [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics]. Beijing: Academy Press; 2008: 127-128

[QUESTIONS]

1. A 5-year-old child has a painful mouth with difficulty eating for 2 days. There was also a fever, excess salivation and aversion to wind. Examination findings: ulcers on the buccal and palate areas. His tongue is red with a thin yellow coating; the pulse is floating and rapid.

Which formula should be chosen?

- A. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder
- B. *Xiè Xīn Dǎo Chì Sǎn*—Heart-Draining Redness-Removing Powder
- C. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill with *ròu guì* (Cortex Cinnamomi)
- D. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill
- E. *Shā Shēn Mài Dōng Tāng*—Radix Adenophorae and Radix Ophiopogonis Decoction

2. A 2-year-old child has erosion and ulcers mainly distributed on the tip and edges of the tongue. The sores are red with a burning pain. The child is irritable, crying, and has a red face, scanty yellow urine and a dry mouth with the desire to drink. The tongue tip is red with a thin and yellow coating; the pulse is rapid and thready.

Which pattern should be considered?

- A. Wind-heat attacking the spleen
- B. Heart-fire flaming upwards
- C. Deficiency fire flaming upwards
- D. Accumulated heat in the spleen and stomach
- E. Stomach yin deficiency

3. A 1 year 4 month old child has ulcers surrounded by red membranes distributed on the buccal and labial angles of the mouth. The child refuses to eat due to the pain. There is irritability, excessive salivation, foul breath, scanty dark urine and dry stools. The tongue is red with a thick yellow coating; there are purple finger venules.

Which tui na method is most appropriate?

- A. Grasp *fēng chí* 100 times, clear *wèi jīng* 100 times, clear *bǎn mén* 100 times.
- B. Clear *tiān hé shuǐ* 50 times, pound *xiǎo tiān xīn* 100 times.
- C. Clear *dà cháng jīng* 200 times, clear *wèi jīng* 300 times, push *xiǎo héng wén* 100 times.
- D. Supplement *pí jīng* 500 times, knead *nèi láo gōng* 200 times, push *nèi bā guà* 300 times and knead *yǒng quán* 200 times.
- E. Knead *fēng chí* 100 times, clear *xiǎo cháng* 100 times, clear *bǎn mén* 100 times.

4. A one-year-old child has food refusal and crying while eating for two days. The parents found 2 yellow and white ulcers on the buccal and palate areas. The child has a fever; the submandibular lymph nodes are also enlarged and painful. No white scales can be seen on the surface of the oral cavity, tongue or gums. No herpes are visible on the hands, feet or buttocks.

Which diagnosis should be considered for this condition?

- A. Thrush
- B. Aphthae
- C. Hand-foot-mouth disease
- D. Perleche
- E. Anorexia

[REFERENCES]

- [1] Barrons RW. Treatment Strategies for Recurrent Oral Aphthous Ulcers. *Am J Health Syst Pharm* 2001; 58:41-50.
- [2] Li YJ, Luan WM, Sun Q, Editor. 实用口腔内科学[*Practical Oral Medicine*]. Beijing: China Press of Traditional Chinese Medicine; 2001:350.
- [3] Xie NX, Zhang XH, Zhang WH, et al. Treating 48 Children's Aphthous Ulcer Cases with Modified Stomach—Clearing Powder [J]. *Shanxi Journal of Traditional Chinese Medicine*; 2007, 23(4):8.
- [4] Zhang MS. Treating 76 Aphthous Ulcer Cases in Children with Aphtha Powder [J]. *Journal of Henan College of Traditional Chinese Medicine*; 2002, 17(3):4-55.



Chapter 15

Stomach-Epigastric Pain (Wèi Wǎn Tòng)

Stomach-epigastric pain refers to abdominal pain also located in the epigastric region, often accompanied by symptoms of abdominal distention, nausea, vomiting, lack of appetite and acid regurgitation. Such pain is usually caused by an improper diet, but in some older children it can be related to an emotional disturbance. Younger children often cannot locate the pain or express themselves accurately, only able to express the problem as an atypical pain in the epigastric or periumbilical regions. In Western medicine, stomach-epigastric pain is related to acute or chronic gastritis, duodenitis, gastroduodenal ulcer, and functional dyspepsia.

Helicobacter pylori infection is the major cause of chronic gastritis and peptic ulcers. *H. pylori* infection is acquired primarily during childhood and carries a significant lifetime risk for morbidity. In developing countries, approximately 70% of children are infected with the bacterium by their 15th birthday. In the United States, the rate of *H. pylori* infection among children varies widely: approximately 10% of all 10 year olds are infected; however, this figure is substantially higher among populations of immigrant children and children born of recent immigrants to the United States.

As the incidence of stomach-epigastric pain has risen in most large pediatric centers in recent years, there is now increasing medical research focusing on pediatric stomach-epigastric pain, especially the cases caused by *H. pylori* infections.

H. pylori infection is the most major cause of chronic gastritis and peptic ulcers. In cases of chronic gastritis in children, more than 60% are found to be infected with the bacterium; when eliminated, the symptoms are also relieved. *H. pylori* infection is closely related to recurrence and relapses of pediatric peptic ulcer, especially duodenal ulcers. Eradication of *H. pylori* can promote healing of the ulcer and reduce relapse rates. At present, childhood *H. pylori* infection rate has increased noticeably. In developing countries, approximately 70% of children under 15 years old are infected with this bacterium. In the United States, the *H. pylori* infection rate in children under 10 years old is 10%. This figure is substantially higher among populations of immigrant children^[1-2].

H. pylori infection is an orally transmitted disease, and the morbidity of *H. pylori* infection is significantly higher in some regions where mothers follow a traditional custom of feeding babies mouth to mouth. Therefore, in order to eliminate the routes of transmission, a scientific and healthy feeding pattern should be recommended.

This disease may occur among children of any age between infancy and late adolescence, is more common in school age children, and can also occur in any season of the year. The prognosis of mild cases with appropriate treatment is favorable, and most children respond well to treatment. The prognosis is poor in those who have hemorrhagic shock caused by heavy bleeding in the digestive tract due to inappropriate treatment.

There is an abundance of well-documented clinical experience and research showing that Chinese medicine treats stomach-epigastric pain effectively.

Yan Hui-min et al. applied Wèi Píng Chōng Jì—Stomach-Calming Granules composed of qīng dài (Indigo Naturalis), zǐ cǎo (Radix Arnebiae), huí xiāng (Fructus Foeniculi), rǔ

xiāng (Olibanum), *huáng lián* (Rhizoma Coptidis), *huò xiāng* (Agastache Rugosa) and *shén qū* (Massa Medicata Fermentata) in the treatment of 30 children with damp-heat pattern chronic gastritis; 30 cases were treated by Marzulene-S in the control group. After four weeks of treatment there was no significant difference of effectiveness between the two groups, (90% for the Chinese medicinal treatment vs. 86.67% for Marzulene-S treatment). However, Chinese medicinal treatment was superior to Marzulene-S in relief of symptoms such as stomachache, abdominal distention, a lack of appetite, constipation and acid regurgitation ($P < 0.05$)^[3].

Wang Xu-lin studied the in vitro anti-Helicobacter pylori activity of 200 Chinese medicinals and found that there were 38 Chinese medicinals having various degrees of antibiosis functions.

Among those medicinals that clear heat and resolve toxins, *huáng qín* (Radix Scutellariae) and *huáng lián* (Rhizoma Coptidis) show the most effective bacteriostatic effect, with a bacterial inhibition zone of 25 mm.

Among those medicinals that boost qi and fortify the spleen, *shēng huáng qí* (Radix Astragali) shows the most effective bacteriostatic effect, with a bacterial inhibition zone 15 mm.

Other medicinals such as *dà huáng* (Radix et Rhizoma Rhei), *huáng bǎi* (Cortex Phellodendri Chinensis), *guì zhī* (Ramulus Cinnamomi), *zǐ huā dì dīng* (Herba Violae), *méi guī huā* (Flos Rosae Rugosae), *tǔ fú líng* (Rhizoma Smilacis Glabrae), *gāo liáng jiāng* (Rhizoma Alpiniae Officinarum), *wū méi* (Fructus Mume) and *shān zhā* (Fructus Crataegi) also display a specific bacterial inhibition action^[4].

[ETIOLOGY & PATHOMECHANISM]

The etiologies of stomach-epigastric pain include both external and internal causes. Infection by external pathogens, improper diet, and excessive intake of raw and cold foods are the main external causes. The internal causes are mainly attributed to the physiological insufficiency of the child spleen, where the spleen and stomach become susceptible to patterns of cold and deficiency. The liver is however often in excess, which creates a tendency for liver-wood to restrict spleen-earth. The pathological location of this disease is the spleen and stomach.

The stomach is a *fu*-organ with the function of receiving and transporting; it is only by maintaining its descending free-flow properties that it can guarantee normal functions of food intake and digestion. If pathogens invade the stomach, the stomach will lose its harmonizing and descending properties and the spleen will also be unable to transport and transform properly. Once the qi mechanism becomes constrained and stagnated, water accumulates as pathogenic dampness, and food accumulates; this can lead to qi stagnation, food accumulation, dampness obstruction, or even phlegm coagulation and blood stasis. The failure of transportation and transformation also leads to obstruction and pain. With a prolonged or chronic course or when any disease is recurrent, the spleen and stomach also become weak. This causes transportation and transformation failure and disharmony in ascending and descending often with associated stomach-epigastric pain.

Qi Stagnation due to Congealing Cold

Children cannot adapt themselves easily to climate changes, so if there is inappropriate



nursing or dressing, this can result in a cold pathogen easily invading the stomach and residing in the stomach and intestines. The cold pathogen has a contraction character, and easily causes disturbance of the qi movement. Overeating raw or cold food can also cause cold pathogens to congeal in the stomach. Cold is a yin pathogen that tends to damage yang qi; prolonged internal cold weakens middle *jiao* yang leading to congealing cold, stagnation of the qi mechanism, and disharmony of stomach qi that results in stomach-epigastric pain.

Food Retention

Children often have a physiological spleen insufficiency. Improper feeding or improper diet and indulgence in cold, raw, fatty, pungent, fried and greasy foods can cause damp-heat to obstruct the middle *jiao* and harasses the stomach; overeating also impairs the spleen and stomach causing food stagnation that blocks the stomach collaterals and disturbs qi movement. Food retention and qi stagnation result in stomach-epigastric pain.

Damp-Heat Obstructing the Middle *Jiao*

With increased living standards, it is now very common for children to have an excess intake of calories and proteins. Because children have immature spleen and stomach digestion functions and a relative weakness of transportation and transformation, the excessive intake of calories and protein is beyond their digestive ability and may cause stagnation in the middle *jiao*. Stagnated food transforms into damp-heat, obstructs the stomach collaterals and results in stomach-epigastric pain.

Liver and Stomach Disharmony

A child's physiological makeup is characterized by liver excess with a timid spirit, so they are easily disturbed by fright. If sudden fright makes liver qi stagnate, the liver fails to govern free activity, this confining the spleen and restraining the stomach. The liver and stomach then become disharmonized. Emotional disturbances can make the liver fail to govern the free flow of qi; liver qi transverse invasion causes the stomach qi fail to descend. This encumbers the spleen and stomach function which leads to constraint and stagnation of the qi mechanism and resulting stomach-epigastric pain.

Spleen and Stomach Deficiency Cold

This pattern is mainly seen in children with a weak spleen and stomach, *zang-fu* deficiency cold patterns, enduring internal damp-cold impairing spleen yang, or yang qi impaired by excessive medical treatment such as the overuse of drainage methods. Due to these situations, the spleen and stomach cannot maintain warmth and nourishment, which then leads to dull stomach-epigastric pain.

Stomach Yin Insufficiency

The spleen and stomach are both located in the middle *jiao* where the spleen pertains to yin and the stomach pertains to yang; the spleen governs ascending of the clear and the stomach governs descending of the turbid; the spleen like dryness and is averse to dampness, while the stomach likes moisture and is averse to dryness. A child's body is relatively pure yang in nature, with yang often in excess and yin often insufficient.

Children with impaired yin in the aftermath of a febrile disease, those with deficient stomach yin due to frequently eating of hot or greasy foods can all develop stomach yin deficiency. This becomes stomach-dryness; as the stomach loses nourishment and its descending function, the stomach collaterals fail to be nourished, the channels become rigid and tight, resulting in pain.

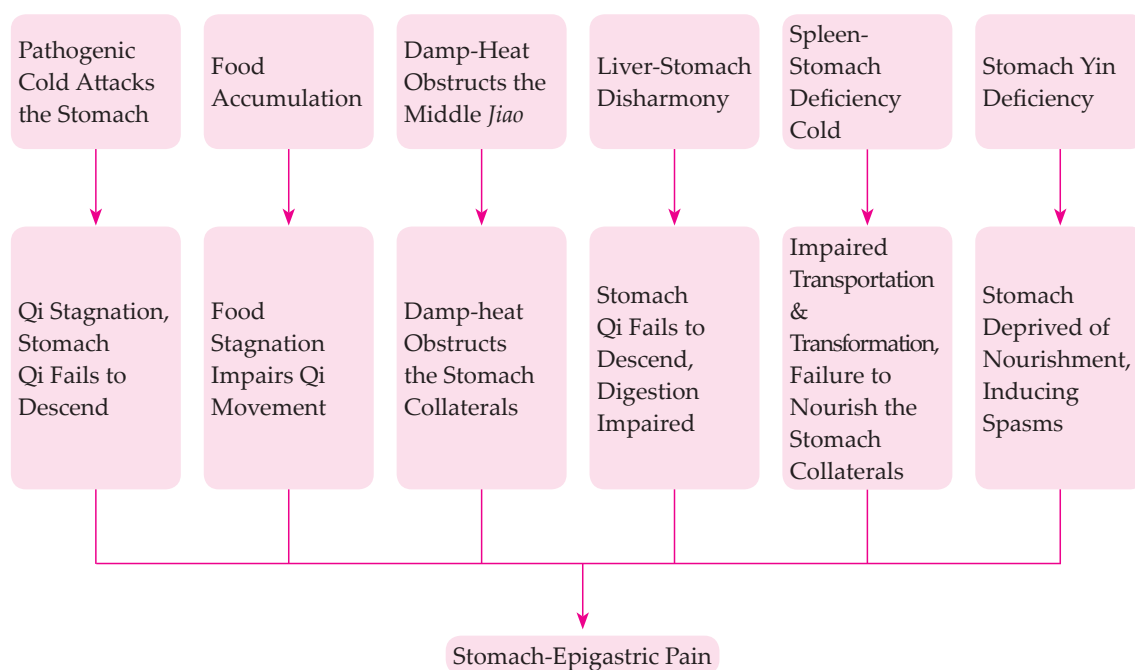


Fig. 15-1 Etiology and Pathomechanism of Stomach-Epigastric Pain

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

- (1) The chief symptom is pain in the stomach-epigastric area.
- (2) Often accompanied by stuffiness, fullness or distention, eructation, acid regurgitation, gastric upset, nausea, or vomiting, etc.
- (3) The onset of the disease is usually related to improper diet, emotional distress, overstrain, and can be affected by the cold.
- (4) Auxiliary examinations: Barium meal radiographic examination of the upper digestive tract, fiber gastroscopy and biopsy may reveal gastroduodenal mucositis or ulceration. Urea labeled with isotope carbon 13 breath test (UBT) is a rapid diagnostic procedure used to detect infections by *Helicobacter pylori*. A stool or vomitus occult blood test is useful for diagnosing gastrointestinal hemorrhage. B type ultrasonic examination, liver function test and cholangiography are useful techniques for differential diagnosis.

Epigastric pain is the essential symptom for diagnosis. Patients often have a history of repeated stomach-epigastric pain. Features of the pain include distention, dull or vague or colicky pain, and its occurrence is usually related to eating. If the stomach-epigastric pain is fluctuating, persistent, or aggravated, other organic diseases should be first excluded.

► Differential Diagnosis

- (1) Stomach-epigastric pain should be differentiated from abdominal pain and heart pain. See Table 15-1.

Table 15-1 Differential Diagnosis of Stomach-Epigastric Pain, Abdominal Pain and Heart Pain

Diagnostic Essentials	Epigastric Pain	Abdominal Pain	Heart Pain
Location	Epigastric region	Between rib-side & pubic hairline	Chest
Pain	Mainly distending & dull pain	Most cases, children cannot accurately characterize the pain & complain of dull, distending, stabbing or dragging pain	Mainly stabbing or colic pain, sometimes severe pain radiating to shoulder & back
Associated Signs and Symptoms	Distention & fullness, belching, gastric upset, nausea & vomiting	Concomitant symptoms vary according to the organs affected; recurrent abdominal pain has no atypical associated symptoms	Palpitations, oppression in chest, shortness of breath, sweating, etc.
Accessory Examinations	Barium meal examination & fiber gastroscope may reveal gastroduodenal mucositis or ulcer. 13C- urea breathe test (UBT) detects H. pylori infection	Blood test: Increased WBC in blood indicates inflammation; mucus, pus cells, & macrophages in stools indicates dysentery or colitis; radiographic studies may identify intestinal obstruction, peritonitis, intussusceptions, & gastrointestinal perforation	Electrocardiographic abnormality

Patients diagnosed with heart pain should be hospitalized and given emergency measures immediately. Patients diagnosed with surgical abdominal conditions such as intestinal obstruction, appendicitis or intussusceptions should also be hospitalized and have the appropriate surgical procedures.

(2) The diseases that cause stomach-epigastric pain such as peptic ulcers, acute gastritis and chronic gastritis should be identified.

Table 15-2 Differential Diagnosis of Peptic Ulcer, Acute Gastritis, and Chronic Gastritis

Diagnostic Essentials	Peptic Ulcer	Acute Gastritis	Chronic Gastritis
Pain	Intermittent epigastric burning pain; gastric ulcer pain usually occurs after meals; duodenal ulcer pain usually occurs while stomach is empty or at night time	Acute attack—discomfort or pain in epigastric region	Recurrent irregular abdominal pain; often expressed as vague and dull or distending epigastric pain
Associated Signs and Symptoms	Belching, acid regurgitation, & vomiting, sometimes blood; passing bloody stools from acute upper gastrointestinal bleeding; perforation of alimentary tract can induce peritonitis, pancreatitis, shock & anemia, etc.	Nausea, vomiting & anorexia; in serious cases, upper gastrointestinal bleeding causing vomiting blood; passing blood in stools	Nausea, vomiting, anorexia, gastric upset & abdominal distention; rarely with gastrointestinal bleeding

Continued

Diagnostic Essentials	Peptic Ulcer	Acute Gastritis	Chronic Gastritis
Accessory Examinations	Niche sign might be found in barium meal studies; over 95% of peptic ulcer cases can be identified by gastroscopy	Barium studies often negative	Gastroscopy findings include mucosal hyperemia, edema, and increased mucus production, or rough mucous membranes with nodular hyperplasia and erosion or bleeding

If the condition is severe with any sign of gastric perforation, shock, or massive gastrointestinal bleeding, hospitalize for immediate treatment.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

(1) Acute or Chronic Pattern Identification

In most cases, an acute onset of stomach-epigastric pain is usually induced by a cold pathogenic invasion, or overeating raw or cold food, or crapulence, which causes the middle yang to be damaged by the cold pathogen, or food accumulation, leading to the stomach-qi failing to descend, and the obstruction that causes the pain.

Most cases of chronic or slow occurrence of stomach-epigastric pain are attributed to liver-stomach disharmony with a qi function blockage and stagnation caused by liver constraint and qi stagnation, or by spleen-stomach weakness.

(2) Cold or Heat Pattern Identification

A cold pattern manifests as a sudden onset of epigastric pain, which is exacerbated by cold and alleviated by warmth. A heat pattern usually has a sudden burning pain.

(3) Deficiency or Excess Pattern Identification

A deficiency pattern is usually characterized by a slow mild progression of pain, pain without a fixed location, pain with no distention, pain lacking fullness, and pain that can be relieved by massage.

An excess pattern is often characterized by severe acute pain, pain associated with fullness, often with constipation, a pain of fixed location, and pain aggravated by pressure.

(4) Mild or Severe Pattern Identification

Mild patterns are often seen in children with a good constitution. The pain responds well to treatment, is mild and has a short course. The child's general spirits are still good and the pain is easily alleviated after proper dietary measures, or by local massage with a hot or warm pack.

Severe patterns occur in children with a weak constitution, who usually have a history of frequent recurring stomach pain. This attack has severe epigastric pain, accompanied by digestive tract symptoms, or in serious cases, vomiting of blood, blood in the stools, or even gastric perforation or collapse. These cases should be treated urgently, including surgical procedures if necessary.



► Treatment Principles

The stomach must be unobstructed to maintain its normal function of descending the turbidity. Therefore, the basic treatment principle for stomach-epigastric pain is regulating qi and harmonizing the stomach, while at the same time, following the principles of identifying the etiology according to the differentiation of the signs and symptoms and determining the treatment based on this pattern identification.

While there is pathogenic qi exuberance, the essential treatment principle is to eliminate the pathogens.

For qi stagnation due to congealing cold pattern, the treatment principle is to warm the middle and dissipate cold, regulate qi and relieve pain.

For food retention pattern, the treatment principle is to promote digestion and remove food retention, and move qi to relieve pain.

For damp-heat obstructing the middle *jiao*, the treatment principle is to clear heat and dry dampness, resolve food stagnation and relieve pain.

For a liver-stomach disharmony pattern, the treatment principle is to soothe the liver and regulate qi and harmonize the stomach to relieve pain.

For deficiency patterns, supplement deficiency is the essential principle of treatment.

For a deficiency-cold of the spleen and stomach pattern, the treatment principle is to warm and supplement the spleen and stomach, relax tension and relieve pain.

For stomach yin deficiency, the treatment principle is to nourish yin and boost the stomach, relax tension and relieve pain.

For a complex deficiency-excess pattern, the essential principles of treatment are to reinforce healthy qi and eliminate pathogens. The treatment mainly aims at reinforcing healthy qi or eliminating the pathogens. The method to be used should be chosen according to the exuberance and debilitation of the pathogenic qi and the healthy qi.

The stomach is a *fu* organ and belongs to yang; it prefers moistness and is averse to dryness. Qi-regulating medicinals are pungent, dry and aromatic which tend to consume qi and injure yin, so they should not be used for a prolonged duration or in high doses, especially for those with stomach yin deficiency or heat in the liver and stomach. In these situations, it is better to use mild qi-regulating medicinals such as *chén pí* (Aicarpium Citri Reticulatae), *fó shǒu* (Fructus Citri Sarcodactylis) and *yù jīn* (Radix Curcumae).

► Classification of Patterns and Treatment

Qi Stagnation due to Congealing Cold

Signs and Symptoms

Manifestations include sudden onset of severe stomach-epigastric colic pain, aversion to cold and preference for warmth, pain relieved by warmth and worsened by cold, no thirst, and preference for hot drinks. The tongue is pale with a white coating; the pulse is wiry and tight or wiry and slow, with light red finger venules.

Pattern Differentiation

This pattern usually has a history of wind-cold attack or overeating raw or cold foods; the onset of pain is quick, with a severe and mainly colic-type pain which is relieved by warmth and worsened by cold. The patients have systemic signs and symptoms of a cold pattern.

Treatment Principles

Warm the middle and dissipate cold, regulate qi and relieve pain

Formula

Modified *Liáng Fù Wán*—Lesser Galangal and Cyperus Pill

高良姜	<i>gāo liáng jiāng</i>	Rhizoma Alpiniae Officinarum
吴茱萸	<i>wú zhū yú</i>	Fructus Evodiae
干姜	<i>gān jiāng</i>	Rhizoma Zingiberis
香附	<i>xiāng fù</i>	Rhizoma Cyperi
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae

Formula Analysis

Gāo liáng jiāng (Rhizoma Alpiniae Officinarum), *wú zhū yú* (Fructus Evodiae) and *gān jiāng* (Rhizoma Zingiberis) warm the stomach and dissipate cold.

Xiāng fù (Rhizoma Cyperi) and *chén pí* (Pericarpium Citri Reticulatae) move qi to relieve pain.

Modifications

For severe qi stagnation, add *mù xiāng* (Radix Aucklandiae) and *zhǐ qiào* (Fructus Aurantii) to regulate qi to smooth the middle.

For a visible exterior cold pattern presenting as chills, fever and body pain, add *zǐ sū yè* (Folium Perillae) and *shēng jiāng* (Rhizoma Zingiberis Recens) to scatter wind and dissipate cold.

For associated symptoms such as gastric stuffiness, belching and vomiting caused by food retention, add *zhǐ qiào* (Fructus Aurantii), *jiāo shén qū* (Massa Medicata Fermentata Praeparata), *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) and *fǎ bàn xià* (Rhizoma Pinelliae Praeparatum) to promote digestion and remove food stagnation.

For a complex cold and heat pattern due to stagnated coldness transforming into heat and characterized by gastric stuffiness, no desire to eat, bitter taste in the mouth and thirst, use a modification of *Bàn Xià Xiè Xīn Tāng*—Pinellia Heart-Draining Decoction to regulate qi and harmonize the stomach.

For gastric stuffiness, nausea, white and greasy tongue coating due to damp-cold obstructing the stomach, use a modification of *Huò Xiāng Zhèng Qì Sǎn*—Agastache Qi-Correcting Powder to remove dampness and release the exterior, and regulate qi to harmonize the middle.

Chinese Patent Medicines

Liáng Fù Wán—Lesser Galangal and Cyperus Pill

3-6 g, twice daily.

External Therapy

乳香	<i>rǔ xiāng</i>	18 g	Olibanum
没药	<i>mò yào</i>	18 g	Myrrha
防风	<i>fáng fēng</i>	18 g	Radix Saposhnikoviae
威灵仙	<i>wēi líng xiān</i>	18 g	Radix et Rhizoma Clematidis
白芷	<i>bái zhǐ</i>	18 g	Radix Angelicae Dahuricae
当归	<i>dāng guī</i>	18 g	Radix Angelicae Sinensis
海桐皮	<i>hǎi tóng pí</i>	18 g	Cortex Erythrinae
香附	<i>xiāng fù</i>	18 g	Rhizoma Cyperi
陈皮	<i>chén pí</i>	18 g	Pericarpium Citri Reticulatae
大透骨草	<i>dà tòu gǔ cǎo</i>	18 g	Herba Vaccinii Urophylli
川芎	<i>chuān xiōng</i>	12 g	Rhizoma Chuanxiong
红花	<i>hóng huā</i>	12 g	Flos Carthami
厚朴	<i>hòu pò</i>	12 g	Cortex Magnoliae Officinalis
艾叶	<i>ài yè</i>	12 g	Folium Artemisiae Argyi

Grind all ingredients into fine powder; put into a 15 cm × 25 cm cotton sachet bag and steam for 20 minutes. Once cooled, place on RN 12 (*zhōng wǎn*) once daily, with 3 days as one course of treatment.

Food Retention

Signs and Symptoms

Manifestations include distending stomach-epigastric pain worsened by pressure, eructation with a fetid odor, acid regurgitation, vomiting undigested food, pain relieved after vomiting, loss of appetite and a feeling of incomplete defecation. The tongue is red with a thick and greasy coating; the pulse is slippery. The finger venules are purple and stagnant.

Pattern Differentiation

In this pattern, there is often a history of improper feeding or overeating or eating cold food prior to the attack. It is characterized by distending epigastric pain, belching with fetid odor, acid regurgitation, vomiting undigested food, and pain relief after vomiting. This pattern can occur alone, but is most often complicated by other presenting patterns.

Treatment Principles

Promote digestion and remove food stagnation, move qi to relieve pain.

Formula

Modified *Bǎo Hé Wán*—Harmony-Preserving Pill

焦山楂	<i>jiāo shān zhā</i>	Fructus Crataegi Praeparata
焦神曲	<i>jiāo shén qū</i>	Massa Medicata Fermentata Praeparata
莱菔子	<i>lái fú zǐ</i>	Semen Raphani

半夏	<i>bàn xià</i>	Rhizoma Pinelliae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
茯苓	<i>fú líng</i>	Poria
连翘	<i>lián qiào</i>	Fructus Forsythiae

Formula Analysis

Jiāo shān zhā (Fructus Crataegi Praeparata), *jiāo shén qū* (Massa Medicata Fermentata Praeparata) and *lái fú zǐ* (Semen Raphani) promote digestion and remove food stagnation, harmonize the stomach and descend qi.

Bàn xià (Rhizoma Pinelliae), *chén pí* (Pericarpium Citri Reticulatae) and *fú líng* (Poria) fortify the spleen and harmonize the stomach, resolve dampness and regulate qi.

Lián qiào (Fructus Forsythiae) dissipates mass and clears heat.

This formula is a regular prescription for food retention, and the following medicinals may be added: *chǎo gǔ yá* (dry-fried Fructus Setariae Germinatus), *chǎo mài yá* (dry-fried Fructus Hordei Germinatus) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) according to the different clinical situations.

A relatively large dose of *jiāo shān zhā* (Fructus Crataegi Praeparata) is used for stagnation caused by overeating meat. *Lái fú zǐ* (Semen Raphani) is used for stagnation caused by overeating noodles or food made from wheat.

Jiāo shén qū (Massa Medicata Fermentata Praeparata) is used for stagnation caused by overeating cereals or food made from rice.

Modifications

For serious abdominal distention, add *zhǐ shí* (Fructus Aurantii Immaturus), *hòu pò* (Cortex Magnoliae Officinalis) and *bīng láng* (Semen Arecae) to move qi and remove food stagnation.

For internal heat transformed from food stagnation, add *huáng qín* (Radix Scutellariae) and *huáng lián* (Rhizoma Coptidis) to clear heat and resolve accumulation.

For constipation, combine with *Xiǎo Chéng Qì Tāng*—Minor Purgative Decoction to mildly purge heat accumulation, relieve fullness and disperse abdominal mass.

For dryness accumulation due to internal heat transformed from food stagnation and characterized by sharp stomach-epigastric pain which is worsened by pressure, constipation and dry yellow tongue coating, then combine with *Dà Chéng Qì Tāng*—Major Purgative Decoction to drastically purge heat accumulation.

For food retention caused by stomach qi deficiency, use a modification of *Xiāng Shā Zhǐ Zhú Wán*—Aucklandia, Amomum, Immature Bitter Orange and Atractylodes Macrocephala Pill to fortify the spleen and harmonize the stomach, move qi and remove the food stagnation.

Chinese Patent Medicines

a. *Bǎo Hé Wán*—Harmony-Preserving Pill.

Concentrated pill, 4-8 pills, twice daily. Used for food accumulation patterns.

b. *Zhǐ Shí Dǎo Zhì Wán*—Immature Bitter Orange Stagnation-Moving Pill.

3-6 g, twice daily. Used for food retention characterized by abdominal distention and incomplete defecation.

Tui na

Points	Repetitions	Methods
<i>Pí jīng</i> (脾经)	100	Supplementing
<i>Wèi jīng</i> (胃经)	100	Clearing
<i>Nèi bā guà</i> (内八卦)	100	Pushing clockwise
<i>Sì héng wén</i> (四横纹)	20	Pushing
<i>Bǎn mén</i> (板门)	100	Kneading
<i>Dà cháng jīng</i> (大肠经)	100	Clearing

Supplement *pí jīng* 100 times; clear *wèi jīng* 100 times; push clockwise *nèi bā guà* 100 times; push *sì héng wén* 20 times; knead *bǎn mén* 100 times; clear *dà cháng jīng* 100 times. Treat once daily, 3 times as one treatment course.

Damp-Heat Obstructing the Middle Jiao**Signs and Symptoms**

Manifestations include acute stomach-epigastric burning pain, worsened by pressure, epigastric upset, bitter taste, dry mouth without desire to drink, yellow urine, and incomplete defecation. The tongue is red with a yellow and greasy coating; pulse is slippery and rapid; there are purple and stagnated venules.

Pattern Differentiation

This pattern is characterized by acute burning epigastric pain and is worsened by pressure, bitter taste in the mouth, thirst, and a red tongue with a yellow and greasy coating.

Treatment Principles

Clear heat and resolve dampness, regulate qi and harmonize the stomach

Formula

Modified *Qīng Zhōng Tāng*—Center-Clearing Decoction

黄连	<i>huáng lián</i>	Rhizoma Coptidis
黄芩	<i>huáng qín</i>	Radix Scutellariae
茯苓	<i>fú líng</i>	Poria
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
白豆蔻	<i>bái dòu kòu</i>	Fructus Amomi Kravanh
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Huáng lián (Rhizoma Coptidis) and *huáng qín* (Radix Scutellariae) clear heat and resolve dampness.

Fú líng (Poria), *bàn xià* (Rhizoma Pinelliae) and *bái dòu kòu* (Fructus Amomi Kravanh) fortify the spleen and drain dampness.

Chén pí (Pericarpium Citri Reticulatae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

regulate qi and harmonize the stomach.

Modifications

For exuberant heat, add *pú gōng yīng* (Herba Taraxaci) and *zhī zǐ* (Fructus Gardeniae) to clear heat and drain fire.

For nausea and vomiting, add *jú pí* (Pericarpium Citri Reticulatae) and *zhú rú* (Caulis Bambusae in Taenia) to regulate qi to loosen the center, clear heat and check vomiting.

For abdominal distention caused by qi stagnation, add *hòu pò* (Cortex Magnoliae Officinalis) and *zhǐ shí* (Fructus Aurantii Immaturus) to regulate qi and disperse distention.

For poor appetite, add *jiāo shén qū* (Massa Medicata Fermentata Praeparata), *chǎo gǔ yá* (Fructus Setariae Germinatus) and *chǎo mài yá* (dry-fried Fructus Hordei Germinatus) to fortify the spleen and induce appetite.

For damp-phlegm obstructing the stomach, use *Èr Chén Tāng*—Two Matured Substances Decoction with *Píng Wèi Sǎn*—Stomach-Calming Powder to dry dampness and dispel phlegm, regulate qi and fortify the spleen.

Tui na

Points	Repetitions	Methods
<i>Nèi bā guà</i> (内八卦)	100	Pushing clockwise
<i>Wèi jīng</i> (胃经)	100	Clearing
<i>Liù fǔ</i> (六腑)	100	Pushing
<i>Sì héng wén</i> (四横纹)	20	Pushing

Push clockwise *nèi bā guà* 100 times; clear *wèi jīng* 100 times; push *liù fǔ* 100 times; push *sì héng wén* 20 times. Apply once daily, 3 times as one treatment course.

Liver-Stomach Disharmony

Signs and Symptoms

Manifestations include distending epigastric and stomach pain which radiates to both rib-sides, frequent eructation, pain relieved after eructation or flatus. The pain is often related to fluctuating emotional problems such as being upset. There is often a white and thin tongue coating with wiry pulses and purple and stagnant venules.

Pattern Differentiation

This pattern usually occurs in older children. It is characterized by distending stomach-epigastric fullness, with pain radiating to both rib-sides. Pain is often induced by fluctuating emotions.

Treatment Principles

Soothe the liver and regulate qi, harmonize the stomach to relieve pain

Formula

Modified *Chái Hú Shū Gān Sǎn*—Bupleurum Liver-Soothing Powder

柴胡	<i>chái hú</i>	Radix Bupleuri
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
川芎	<i>chuān xiōng</i>	Rhizoma Chuanxiong
香附	<i>xiāng fù</i>	Rhizoma Cyperi

陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
枳壳	<i>zhǐ qiào</i>	Fructus Aurantii
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Chái hú (Radix Bupleuri), *bái sháo* (Radix Bupleuri), *chuān xiōng* (Rhizoma Chuanxiong) and *xiāng fù* (Rhizoma Cyperi) soothe the liver and relieve depression.

Chén pí (Pericarpium Citri Reticulatae), *zhǐ qiào* (Fructus Aurantii) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) regulate qi and harmonize the middle.

Modifications

For severe abdominal distention, add *qīng pí* (Pericarpium Citri Reticulatae Viride), *yù jīn* (Radix Curcumae) and *mù xiāng* (Radix Aucklandiae) to soothe the liver and regulate qi.

For obvious pain, add *chuān liàn zǐ* (Fructus Toosendan) and *yán hú suǒ* (Rhizoma Corydalis) to regulate qi and relieve pain.

For frequent belching, add *fǎ bàn xià* (Rhizoma Pinelliae Praeparatum) and *xuán fù huā* (Flos Inulae) to descend qi and relieve belching.

For acid regurgitation and sour belching, add *huáng lián* (Rhizoma Coptidis) and *wú zhū yú* (Fructus Evodiae) to clear the liver and drain fire, descend adverse qi and check vomiting.

For a spleen-stomach weakness, add *fú líng* (Poria) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) to fortify the spleen and promote digestion.

For epigastric burning pain caused by heat constraint in the liver-stomach, use *Jīn Líng Zǐ Sǎn*—Toosendan Powder with *Zuǒ Jīn Wán*—Left Metal Pill to soothe the liver, regulate qi, clear heat and relieve pain.

Chinese Patent Medicines

Qì Zhì Wèi Tòng Chōng Jì—Qi Stagnation Stomachache Granules

2.5-5 g, 3 times daily.

External Therapy

柴胡	<i>chái hú</i>	30 g	Radix Bupleuri
枳壳	<i>zhǐ qiào</i>	30 g	Fructus Aurantii
木香	<i>mù xiāng</i>	30 g	Radix Aucklandiae
郁金	<i>yù jīn</i>	45 g	Radix Curcumae
丹参	<i>dān shēn</i>	45 g	Radix et Rhizoma Salviae Miltiorrhizae
川芎	<i>chuān xiōng</i>	30 g	Rhizoma Chuanxiong
延胡索	<i>yán hú suǒ</i>	30 g	Rhizoma Corydalis
冰片	<i>bīng piàn</i>	6 g	Borneolum Syntheticum

Grind all the ingredients into a fine powder, blend with *fēng mì* (Mel) into a cream-like ointment, then apply on RN 12 (*zhōng wǎn*), once daily, three days as one course of treatment.

Acupuncture

RN 12 (<i>zhōng wǎn</i>)	LV 14 (<i>qī mén</i>)	PC 6 (<i>nèi guān</i>)
ST 36 (<i>zú sǎn lǐ</i>)	GB 34 (<i>yáng líng quán</i>)	

Use drainage method, without needle retention. Apply once daily, three times as one treatment course.

Spleen and Stomach Deficiency-Cold

Signs and Symptoms

Manifestations include dull stomach pain and epigastralgia, pain relieved by warmth and pressure, worsened when stomach is empty and relieved after eating, sometimes vomiting thin liquid, poor appetite, listlessness, cool limbs, and loose stools. The tongue is pale with teeth marks, and has a thin white coating; pulse is deep and moderate; there are light finger venules.

Pattern Differentiation

This pattern is characterized by a prolonged lingering course, dull stomach and epigastric pain, preference and relief from warmth or massage. There are other systematic signs and symptoms of deficiency cold.

Treatment Principles

Warm and supplement the spleen and stomach, relax tension to relieve pain

Formula

Modified *Huáng Qí Jiàn Zhōng Tāng*—Astragalus Center-Fortifying Decoction

黄芪	<i>huáng qí</i>	Radix Astragali
桂枝	<i>guì zhī</i>	Ramulus Cinnamomi
饴糖	<i>yí táng</i>	Saccharum Granorum
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
生姜	<i>shēng jiāng</i>	Rhizoma Zingiberis Recens
大枣	<i>dà zǎo</i>	Fructus Jujubae

Formula Analysis

Huáng qí (Radix Astragali), *guì zhī* (Ramulus Cinnamomi) and *yí táng* (Saccharum Granorum) fortify the spleen and supplement the middle.

Bái sháo (Radix Paeoniae Alba) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) relieve spasms and pain.

Shēng jiāng (Rhizoma Zingiberis Recens) and *dà zǎo* (Fructus Jujubae) warm the stomach, harmonize the middle and supplement deficiency.

Modifications

For severe vomiting of watery fluids, add *gān jiāng* (Rhizoma Zingiberis), *bàn xià* (Rhizoma Pinelliae), *fú líng* (Poria) and *chén pí* (Pericarpium Citri Reticulatae) to warm the middle and fortify the spleen, dissipate cold and check vomiting.

For acid regurgitation and sour belching, remove *yí táng* (Saccharum Granorum) and add *huáng lián* (Rhizoma Coptidis) and *wú zhū yú* (Fructus Evodiae) to clear the liver and drain fire, descend adverse qi and check vomiting.

For vomiting, fear of cold and cold limbs, combine with *Lǐ Zhōng Tāng*—Center-Regulating Decoction to warm the middle and dissipate cold, replenish qi and fortify the spleen.

For epigastric distention, vomiting and belching, use *Xiāng Shā Liù Jūn Zǐ Tāng*—Costusroot and Amomum Six Gentlemen Decoction to fortify the spleen and harmonize the stomach.

Chinese Patent Medicines

Xiǎo Jiàn Zhōng Hé Jì—Minor Middle-Fortifying Liquid

5-10 ml, 3 times daily.

Tui na

Points	Repetitions	Methods
EX-UE8 (<i>wài láo gōng</i>)	100	Kneading
<i>Pí jīng</i> (脾经)	100	Supplementing
<i>Nèi bā guà</i> (内八卦)	100	Pushing clockwise

Knead EX-UE8 100 times; supplement *pí jīng* 100 times; push clockwise *nèi bā guà* 100 times. Apply once daily, 3 times as one treatment course.

Acupuncture

BL 20 (<i>pí shù</i>)	BL 21 (<i>wèi shù</i>)	RN 12 (<i>zhōng wǎn</i>)
PC 6 (<i>nèi guān</i>)	ST 36 (<i>zú sān lǐ</i>)	

Manipulate with supplementation, do not retain the needle. Treat once daily, 3 times as one treatment course.

Stomach Yin Insufficiency

Signs and Symptoms

Manifestations include dull stomach pain and epigastralgia with a burning sensation that is worse when the stomach is empty, polydipsia with desire to drink, dry mouth and throat, poor appetite, and dry stools. The tongue is red with a minimal or peeled coating; the pulse is thready and rapid, or thready and wiry. The finger venules are pale purple.

Pattern Differentiation

This pattern is common in patients with prolonged disease, or those that have taken warm drugs over a long duration. It is clinically characterized by a dull burning pain in the stomach area and a dry mouth and throat. The tongue is red with a minimal coating.

Treatment Principles

Nourish yin to boost the stomach, relax tension to relieve pain

Formula

Modified *Yì Wèi Tāng*—Stomach-Boosting Decoction with *Sháo Yào Gān Cǎo Tāng*—Peony and Licorice Decoction

北沙参	<i>Běi shā shēn</i>	Radix Glehniae
麦冬	<i>mài dōng</i>	Radix Ophiopogonis
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
玉竹	<i>yù zhú</i>	Rhizoma Polygonati Odorati
芍药	<i>sháo yào</i>	Radix Paeoniae Alba
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Běi shā shēn (Radix Glehniae), *mài dōng* (Radix Ophiopogonis), *shēng dì huáng* (Radix Rehmanniae) and *yù zhú* (Rhizoma Polygonati Odorati) nourish yin to boost the stomach.

Sháo yào (Radix Paeoniae Alba) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) harmonize the middle and relieve spasms and pain.

Modifications

For severe stomach yin deficiency, add *shí hú* (Caulis Dendrobii) to nourish yin to boost the stomach.

For food retention, add *jiāo shén qū* (Massa Medicata Fermentata Praeparata) and *jiāo shān zhā* (Fructus Crataegi Praeparata) to promote digestion and harmonize the stomach.

For obvious pain, add *xiāng yuán* (Fructus Citri) and *fó shǒu* (Fructus Citri Sarcodactylis) to rectify qi and harmonize the stomach.

For stomach heat exuberance, add *zhī mǔ* (Rhizoma Anemarrhenae) and *lú gēn* (Rhizoma Phragmitis) to clear the stomach and discharge heat; or use *Qīng Wèi Sǎn*—Stomach-Clearing Powder to clear stomach fire, cool blood, and nourish yin.

For prolonged stomach yin deficiency, add medicinals that combine sweet and sour properties to boost yin such as *wū méi* (Fructus Mume), *shān zhā* (Fructus Crataegi) and *mù guā* (Fructus Chaenomelis).

[WESTERN MEDICINE THERAPIES]

1. PHARMACOTHERAPY FOR PEPTIC ULCER

(1) Acid Neutralizing/Inhibitory Drugs:

a. H₂ receptor antagonists are now widely used: Cimetidine, Ranitidine and Famotidine, etc.

b. Proton pump (H⁺/K⁺-ATPase) inhibitors (PPI): Omeprazole, Lansoprazole, etc.

(2) Cytoprotective Agents: Sucralfate and Dioctahedral Smectite, etc.

(3) Anti *H. Pylori* Therapy:

Commonly used sensitive antibiotic agents include amoxicillin, metronidazole, tinidazole, furazolidone and clarithromycin, etc. The treatment that is currently used to eradicate *H. Pylori* is a triadic therapy, which mainly includes a proton pump inhibitor or a Bismuth subsalicylate, with the addition of two more antibiotics. For example: a proton pump inhibitor plus clarithromycin and amoxicillin or metronidazole; or bismuth subsalicylate plus metronidazole and clarithromycin.



2. PHARMACOTHERAPY FOR CHRONIC GASTRITIS

- (1) H₂ receptor antagonists: suitable for patients with severe epigastric pain and associated upper gastrointestinal tract bleeding, and is not used as a routine medication.
- (2) Prokinetic agents: Domperidone or Cisapride.
- (3) Cytoprotective Agents: Sucralfate or Dioctahedral Smectite.
- (4) Anti *H. pylori* Therapy: patients with an identified *H. pylori* infection require anti-*H. pylori* therapy.

[PREVENTION AND NURSING CARE]

1. PREVENTION

- (1) Avoid overeating and overdrinking; establish a regular dietary regime to prevent excessive hunger or eating until too full.
- (2) Overcome unhealthy dietary habits and eat food at a moderate temperature; avoid overeating of fried, spicy, or greasy foods.
- (3) It is useful to maintain an optimistic mood and balance periods of work and rest.

2. NURSING CARE

- (1) Closely monitor the patient's condition including the location of pain, characteristics of epigastric pain, and the times that symptoms appear. Closely observe the color of stools and vomitus. If there is any sign of gastrointestinal tract bleeding, the patient should be given emergency treatment with a combination of traditional Chinese and Western medicines.
- (2) During the illness, care is needed to avoid eating raw or cold foods, strong smelling or raw fish, and also tough or greasy foods. A bland and easily digested diet is recommended.
- (3) It is better for serious cases to have bed rest and to keep warm and avoid catching colds.

[CASE STUDIES]

► Case #1. Female, age 14. Initial Visit: 8/6/2007

The chief complaint is recurrent stomachaches for one year. In this year, the girl often suffered stomach discomfort after meals. The stomachaches occurred approximately twice weekly, usually happened after eating cold food. She also had abdominal distention, nausea, acid regurgitation, and a poor appetite. Her bowel movements were normal. The *H. pylori* antibody test was positive.

Physical examination: tenderness beneath the xiphoid process, the tongue was pale with a thin yellow coating; the pulse was normal.

The patient was identified as having stomach-epigastric pain associated with impaired spleen yang and middle *jiao* qi stagnation.

The treatment principle here is to warm the spleen and rectify qi.

Formula

炙黄芪	zhì huáng qí	15 g	Radix Astragali Praeparata cum Melle
桂枝	guì zhī	3 g	Ramulus Cinnamomi
白芍	bái sháo	15 g	Radix Paeoniae Alba
炙甘草	zhì gān cǎo	5 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
煅海螵蛸	duàn hǎi piāo xiāo	10 g	Endoconcha Sepiae Praeparatum
郁金	yù jīn	10 g	Radix Curcumae
槟榔	bīng láng	10 g	Semen Arecae
煨益智仁	wèi yì zhì rén	10 g	Roasted Fructus Alpiniae Oxyphyllae
砂仁	shā rén	10 g	Fructus Amomi (decocted later)
丁香	dīng xiāng	3 g	Flos Caryophylli
焦山楂	jiāo shān zhā	10 g	Fructus Crataegi Praeparata
焦神曲	jiāo shén qū	10 g	Massa Medicata Fermentata Praeparata
姜黄	jiāng huáng	6 g	Rhizoma Curcumae Longae

5 doses for 5 days

At the second visit, the stomach pain was relieved, the onset was eased, and her appetite had increased. The same formula was used, removing *yù jīn* (Radix Curcumae) and adding *zhì xiāng fù* (Radix Rhizoma Cyperi) 5 g. She continued to take another 7 doses for 7 days.

At the third visit, the child had no stomachache, no abdominal distention, nausea, nor acid regurgitation. This treatment was slightly changed according to the condition of the patient and continued for over one month without relapse occurring.

Analysis

The patient suffered from recurrent epigastric pain and abdominal distention induced by eating cold food, caused by spleen-stomach deficiency cold and qi stagnation. Thus the treatment principle was to warm the spleen and rectify qi.

Huáng qí (Radix Astragali seu Hedysari) and *guì zhī* (Ramulus Cinnamomi) supplement qi and warm yang.

Bái sháo (Radix Paeoniae Alba) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) relieve spasms and pain.

Dīng xiāng (Flos Caryophylli) warms the middle and directs counterflow downwards.

Yù jīn (Radix Curcumae) and *shā rén* (Fructus Amomi) regulate the qi mechanism.

jiāo shān zhā (Fructus Crataegi Praeparata) and *jiāo shén qū* (Massa Medicata Fermentata Praeparata) promote digestion and increase the appetite.

Bīng láng (Semen Arecae) has an antibacterial action and is often used to treat *H.pylori* infection.

The whole formula acts to relieve pain by warming the spleen and rectifying qi.

Source: Wan LS, editor. 汪受传儿科医论医案选 [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics]. Beijing: Academy Press; 2008:161

► **Case #2. Female, age 12.**

The patient had suffered from repeated epigastric pain for more than 3 months, and the symptoms had exacerbated for one week with poor appetite, nausea, and dry stools.

Physical examination: she was emaciated with a yellow complexion and mild tenderness in the epigastric region. Her tongue was pale with a thin greasy coating; her pulse was deep and wiry. She was used to sleeping in a prone position. She was also moody easily. One week before, she was reprimanded by her parents for a poor school test score, and then became uneasy and moody after which the epigastric pain exacerbated.

An X-ray fluoroscopy with Barium suggested superficial gastritis.

She was identified as having epigastric pain associated with liver constraint and spleen deficiency. Treatment principle: soothe the liver and fortify the spleen.

Formula

柴胡	<i>chái hú</i>	6 g	Radix Bupleuri
枳壳	<i>zhǐ qiào</i>	6 g	Fructus Aurantii
黄连	<i>huáng lián</i>	6 g	Rhizoma Coptidis
木香	<i>mù xiāng</i>	6 g	Radix Aucklandiae
焦大黄	<i>jiāo dà huáng</i>	6 g	Radix et Rhizoma Rhei Praepareta
当归	<i>dāng guī</i>	10 g	Radix Angelicae Sinensis
赤芍	<i>chì sháo</i>	10 g	Radix Paeoniae Rubra
白芍	<i>bái sháo</i>	15 g	Radix Paeoniae Alba
香附	<i>xiāng fù</i>	10 g	Rhizoma Cyperi
茯苓	<i>fú líng</i>	10 g	Poria
炒白术	<i>chǎo bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae (dry-fried)
高良姜	<i>gāo liáng jiāng</i>	6 g	Rhizoma Alpiniae Officinarum
生甘草	<i>shēng gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae

Decocted with water, 6 doses for 6 days.

At the second visit her epigastric pain was reduced and her food intake had increased. She was advised to take 6 doses of the same formula for another 6 days and to eat easily digested food at a moderate temperature.

At the third visit, her epigastric pain had disappeared and her appetite was normal. She had a flushed complexion.

On follow-up, there was no epigastric pain for 2 months.

Analysis

In this case, the child was moody, especially after she was reprimanded by her parents, causing increased epigastric pain. She had a yellow complexion, pale tongue with a thin greasy coating and a deep wiry pulse. The main pathomechanism of this case was liver-stomach disharmony. The emotional stimulation disturbed the liver function of free flowing and dispersion; a transverse invasion of the liver qi caused stomach qi failing to descend,

leading to functional digestive disturbance with stomach distention and pain.

Chái hú (Radix Bupleuri) and *zhǐ qiào* (Fructus Aurantii) soothe the liver.

Fú líng (Poria) and *chǎo bái zhú* (dry-fried Rhizoma Atractylodis Macrocephalae) fortify the spleen.

Mù xiāng (Radix Aucklandiae) and *xiāng fū* (Rhizoma Cyperi) regulate qi movement.

Dāng guī (Radix Angelicae Sinensis) and *chì sháo* (Radix Paeoniae Rubra) invigorate blood.

Bái sháo (Radix Paeoniae Alba) relieves spasms and pain.

The whole prescription functions to soothe the liver and fortify the spleen to relieve pain.

Source: Luo HG, Zeng LZ, Zhu QJ, et al. Editor. 儿科医案 [Pediatric Clinical Cases]. Beijing: China Medico-Pharmaceutical Sciences and Technology Publishing House; 2004:253.

[QUESTIONS]

1. A child, age 12, has a distending pain in the stomach-epigastric area which radiates to both rib-sides; he is frequently belching and the pain is relieved after eructation. He is vexated and irritable. He has a red tongue with a white and thin coating; his pulse is wiry.

Which of the following formulas is the best choice?

- A. *Bǎo Hé Wán*—Harmony-Preserving Pill
- B. *Qīng zhōng Tāng*—Center-Clearing Decoction
- C. *Yì Wèi Tāng*—Stomach-Boosting Decoction
- D. *Huáng Qí Jiàn Zhōng Tāng*—Astragalus Center-Fortifying Decoction
- E. *Chái Hú Shū Gān Sǎn*—Bupleurum Liver-Soothing Powder

2. A child, age 3, has a distending pain in the stomach-epigastric region after eating a chicken drumstick. He has pain with pressure, no appetite, and there is incomplete defecation. His tongue is red with a thick yellow coating and his pulse is slippery.

Which medicinal listed below should be used in a relatively large dose within the formula?

- A. *Fú líng* (Poria)
- B. *Jiāo shān zhā* (Fructus Crataegi Praeparata)
- C. *Chén pí* (Pericarpium Citri Reticulatae)
- D. *Jiāo shén qū* (Massa Medicata Fermentata Praeparata)
- E. *Chǎo gǔ yá* (dry-fried Fructus Setariae Germinatus)

3. A child, age 8, had a dull burning pain in the stomach-epigastric region which worsened when the stomach was empty. He presented with a dry mouth and throat with dry stools. He had a red tongue with a peeled coating; the pulse was thready and rapid.

Which is the presenting pattern here?

- A. Food retention
- B. Cold congealing and qi stagnation
- C. Damp-heat obstructing the middle
- D. Stomach yin deficiency
- E. Liver-stomach disharmony

4. A child, age 12, has recurrent dull pain in the epigastric region which can be relieved by warmth or massage. He presented with a poor appetite, tiredness, insufficient warmth in his hands and feet, and loose stools. He had a pale tongue with teeth marks and thin and white coating; his pulse was deep and moderate.



Which is the best choice of the following Chinese patent medicines?

- A. *Bǎo Hé Wán*—Harmony-Preserving Pill
- B. *Xiǎo Jiàn Zhōng Hé Jì*—Minor Center-Fortifying Liquid
- C. *Liáng Fù Wán*—Lesser Galangal and Cyperus
- D. *Zhǐ Shí Dǎo Zhì Wán*—Immature Bitter Orange Stagnation-Moving Pill
- E. *Qì Zhì Wèi Tòng Chōng Jì*—Qi Stagnation Stomachache Granules

[REFERENCES]

- [1] R Othenbacher D., Brenner H. Burden of Pylori and H. Pylori-related Diseases Helicobacter in Developed Countries: Recent Developments and Future Implications. *Microbes Infect*, 2003, 5:693-703.
- [2] Frenck RW Jr, Clemens J. Helicobacter in the Developing World. *Microbes Infect*, 2003, 5:705-713.
- [3] Yan HM, Chen ZD. Clinical Research on Treatment of Children's Chronic Gastritis with Damp-heat Patterns by Traditional Chinese Medicine. [J]. *Beijing Journal of Traditional Chinese Medicine*, 2005; 24 (6): 330-331.
- [4] Wang XL, Jiao WL, LV ZS, et al. Preliminary Screening of Chinese Herbal Medicine in Inhibiting Helicobacter Pylori. [J]. *Chinese Journal of Integrated Traditional and Western Medicine*, 1994;14 (9): 534-536.

Chapter 16

Anorexia (Yàn Shí)

Anorexia is a pediatric condition characterized by a persistently poor appetite with a lack of desire or disinterest in eating or even food refusal. Clinically, the key symptom is a poor appetite. The child's capacity for eating is also noticeably reduced when compared with other children of the same age group.

Anorexia is a condition different from the symptom of lack of appetite which accompanies other acute or chronic diseases. Usually the onset is relatively slow and the course is relatively long, and there are no significant seasonal differences except that symptoms may become worse in the summer due to the fact that summer dampness easily causes spleen qi obstruction. This may occur among children of any age, but is especially common in those between 1-6 years old.

Studies have reported that about 6-40% of preschool children have eating disorders, especially common in infants aged 6-24 months. Food refusal is a key symptom of several eating disorders. Dahl and Sundelin reported that 1-2% of infants aged less than one year old present with significant food refusal, and also demonstrate relatively slow growth. 70% of these children continued to exhibit serious eating problems until 4-6 years old ^[1-2].

Anorexia can occur among urban and rural children, though the incidence is higher in urban areas, most likely due to their different eating habits. Long-term dietary irregularities is the usual cause of spleen-stomach damage and digestive dysfunction. Other symptoms aside from lack of appetite and decreased food intake are rare, and the prognosis is usually favorable. However, if the disorder is prolonged there will be dysfunction of splenic transportation and transformation which can lead to qi and blood deficiency. The patient then becomes more susceptible to other illnesses, as well as infantile malnutrition.

With the statement "To activate the spleen qi is more important than to supplement the spleen when it comes to fortifying the spleen", it is important to understand the following principle when diagnosing and treating anorexia: "The spleen is in charge of transportation and transformation which regulates absorption and the distribution of essence." Pattern identification and treatment with Chinese medicine is incredibly useful, and TCM has a rich experience in treating anorexia.

Wang Shou-chuan et al. treated 341 anorexic children with spleen transportation dysfunction for one month; 178 cases were used as a test treatment group and treated with *Ér Bǎo Kē Lì*—Erbao Granules. The formula contains *cāng zhú* (Rhizoma Atractylodis), *chén pí* (Pericarpium Citri Reticulatae), *jiāo shān zhā* (Fructus Crataegi Praeparata) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli). The other 136 cases served as a control group, they were treated with a concentrated Vitamin B complex liquid.

Treatment results: the curative effects were compared with an efficacy rate of 91.6% in the treatment group and 44.1% in the control. The test group results were superior to the control group, and the difference was statistically significant ($P < 0.001$).

Li Juan treated 45 cases of anorexia with *Yàn Shí Sǎn*—Appetizer Powder combined with tui na, with 7 days as one treatment course.

The formula *Yàn Shí Sǎn*—Appetizer Powder, consisted of *bái zhú* (Rhizoma

Atractylodis Macrocephalae), *fú líng* (Poria), *jī nèi jīn* (Endothelium Corneum Gigeriae Galli), *chén pí* (Pericarpium Citri Reticulatae), *shān yào* (Rhizoma Dioscoreae), *mù xiāng* (Radix Aucklandiae), *jiāo shān zhā* (Fructus Crataegi Praeparata), *shén qū* (Massa Medica Fermentata), *mài yá* (Fructus Hordei Germinatus) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle).

The tui na involved the following steps: supplementing *pí jīng* (脾经) and *wèi jīng* (胃经), circling *nèi bā guà* (内八卦) clockwise, pushing *sì héng wén* (四横纹), rubbing the abdomen, kneading ST 36 (*zú sān lǐ*), kneading BL 20 (*pí shù*), kneading BL 21 (*wèi shù*) and pinching the spine 3 times.

Results: 27 cases were cured, 16 cases were improved and 2 cases showed no change. The total effective rate was 95.6%.

[ETIOLOGY & PATHOMECHANISM]

Anorexia is mainly caused by improper feeding, congenital insufficiencies, emotional disorders, or is secondary to spleen damage due to illness. The affected *zang-fu* organs are mainly the spleen and stomach; the stomach governs food reception and digestion, and the spleen governs food essence transportation and transformation. Anorexia may develop if there is a digestive dysfunction and the spleen and stomach are in disharmony.

Improper Diet and Feeding

Children's *zang-fu* organs are delicate, and the spleen is often insufficient. Improper diet and feeding such as fixed food preferences, junk food, irregular feeding times or overconsumption of fatty, rich or sweet foods, may damage the spleen and the gastric functions of absorption and distribution of essence and lead to anorexia; in fact this is true when over-prescribing medicinals for supplementation (decoctions designed to treat kidney problems or increase the yang element in the system). This condition can also result a lack of knowledge in infant feeding where supplemental foods are not introduced at the appropriate times during the infant's early months. If there is a sudden increase in too many food types given during weaning, the child's spleen and stomach fail to manage this, and may also cause anorexia.

Congenital Insufficiency and Spleen Damage by Other Diseases

A congenitally weak spleen and stomach or chronic diseases may result in the spleen and stomach becoming damaged and weak, which then influences the ability of the spleen and stomach to receive, transform and transport essences, causing a reduced appetite or dislike of food. The stomach's receiving ability and decomposition function may also be compromised by heat diseases that consume yin and fluids, or by overeating of deep fried or spicy foods which result in stomach yin insufficiency. This invariably leads to anorexia.

Emotional Extremes and Spleen Damage by Excessive Pensiveness

Children are easily hurt by emotional excess due to their timid nature. If there are extreme emotions and incorrect physical care, bullying, environmental changes, or even when their desires or wishes are not met, these conditions may cause liver qi to invade the spleen and cause anorexia.

The majority of anorexic children have splenic dysfunctions of transportation and transformation, but this seldom leads to deterioration as most children can gradually improve with full or partial recovery after appropriate treatment. In a small percentage

of children the ongoing condition continues and is prolonged if there is a dysfunction in transportation causing a shortage of the required substances for generation and transformation of essence, qi and blood. The *zang-fu* organs and the muscles and skin fail to receive nourishment which may culminate in infantile malnutrition and other deficiencies.

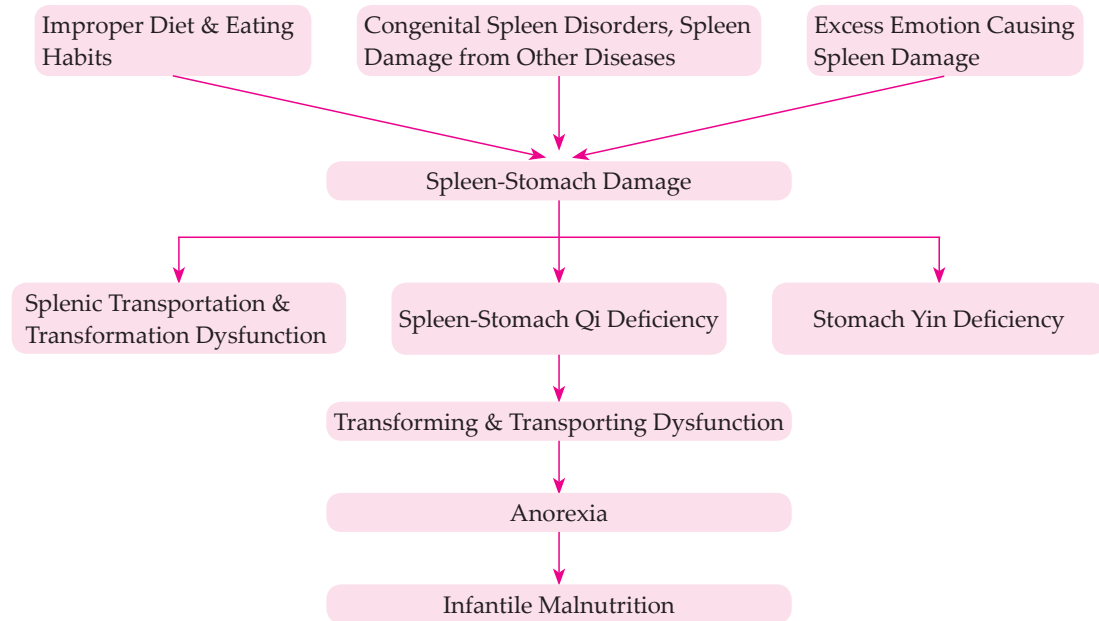


Fig. 16-1 Etiology and Pathomechanisms of Infantile Anorexia

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

- (1) Improper feeding/eating habits, congenital insufficiencies, or emotional extremes.
 - (2) Prolonged poor appetite, food refusal or with a lower food intake than other children in the same age group.
 - (3) Lackluster complexion and emaciation; spirits are usually good and daily activities are normal.
 - (4) Diagnosis excludes and is independent of other chronic diseases.
- Among the four points above, the second point is most essential for diagnosis.

► Differential Diagnosis

Anorexia should be differentiated from summer-non-acclimatization.
See Table 16-1.

Table 16-1 Differential Diagnosis of Anorexia & Summer Non-Acclimatization

Essentials of Diagnosis	Anorexia	Summer Non-Acclimatization
Predisposing Age	Any age, typically 1-6	Any age, especially infants
Onset Season	Any seasons, worse in summer	Summer onset & autumn recovery

Continued

Essentials of Diagnosis	Anorexia	Summer Non-Acclimatization
Prevalent Areas	Urban areas	Areas with summerheat & damp climates
Eating Habits	Prolonged poor appetite, disinterest in eating, food refusal	Poor appetite in summer with autumn recovery, may have periodic episodes
Other Symptoms	Rare	Possible fatigue, inconsistent defecation, or fever

Summer non-acclimatization is a seasonal disease that can be treated with Chinese medicinals that clear summerheat, resolve dampness, fortify the spleen and boost qi.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

It is important to identify the *zang-fu* patterns particularly of the spleen and stomach. The patterns in this disorder are determined according to the causes, longevity, severity and presenting symptoms. These can be classified into three patterns: spleen transportation and transformation dysfunction, spleen-stomach yin deficiency, and spleen-stomach qi deficiency. All three patterns are marked by poor appetite, disinterest in eating and food refusal. Spleen dysfunction patterns only present with a reduced appetite and less eating with a lack of interest in food. There is abdominal fullness after the occasional binge, but there is a normal physique. The tongue has a thin greasy coating.

Spleen-stomach qi deficiencies are marked by a lackluster or sallow complexion, emaciation, profuse sweating, loose stools and a pale tongue with a thin white coating.

Stomach yin deficiencies are marked by eating less but drinking more, with a dry mouth, thirst and dry stools. There is a dry red tongue with little or a partly peeled coating.

If there is only one symptom being the loss of desire to eat but no other signs and symptoms can be identified, it may be difficult to make a correct clinical differentiation. Then the tongue appearance can be used as the main basis for diagnosis.

► Treatment Principles

Again, in treating anorexia, the important principle is “To activate the spleen qi is more important than to supplement the spleen when it comes to fortifying the spleen” which infers that the basic treatment method is to regulate splenic transportation to improve digestion. By harmonizing spleen and stomach, their receiving ability and transformation and transportation functions can return to normal along with a healthy appetite. When there is spleen dysfunction, the priority is to move spleen qi while harmonizing the stomach.

In the case of spleen-stomach qi deficiencies, the priority is to fortify the spleen and boost qi. For stomach yin deficiencies, the priority is to nourish yin, which then benefits the stomach.

For splenic transportation, the treatment method is to dry dampness to promote transportation, to regulate qi to promote transportation, to promote digestion to help

transportation, or to warm and move spleen yang. The child's diet also needs to be improved with nourishing foods while being treated with the medicinals.

Apart from taking medicinal decoctions to treat this problem, tui na, external treatments, acupuncture and patent medicines are also often used. Children with mild conditions can benefit from any one of these therapies alone, however, acupuncture is generally not recommended for emaciated children and those infants aged less than three months. For children with severe conditions, combined therapies should be incorporated.

► Classification of Patterns and Treatments

Splenic Dysfunction of Transportation and Transformation

Signs and Symptoms

Manifestations include poor appetite, an impression of tasteless food, aversion to eating, or with belching, nausea, stomach distention and fullness, inconsistent defecation, abdominal fullness after the occasional binge eating, normal physique, high/normal spirits and normal daily habits. The tongue is pale with a thin white or thin greasy coating, and the pulse is moderate.

Pattern Differentiation

These problems usually occur at the early stages of anorexia. There are seldom any other symptoms except for loss of appetite and poor eating habits. The child has high spirits and a normal physique. This pattern may easily change to a pattern of spleen-stomach qi deficiency if spleen qi is damaged due to delayed treatment or prolonged illness.

Treatment Principles

Harmonize the spleen-stomach, move the spleen to increase appetite

Formula

Modified *Bù Huàn Jīn Zhèng Qì Sǎn*—**Priceless Qi-Righting Powder**

苍术	<i>cāng zhú</i>	Rhizoma Atractylodis
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
枳壳	<i>zhǐ qiào</i>	Fructus Aurantii
藿香	<i>huò xiāng</i>	Herba Agastachis
神曲	<i>shén qū</i>	Massa Medicata Fermentata
炒麦芽	<i>chǎo mài yá</i>	Dried, fried Fructus Hordei Germinatus
焦山楂	<i>jiāo shān zhā</i>	Fructus Crataegi Praeparata

Formula Analysis

Cāng zhú (Rhizoma Atractylodis) dries and eliminates dampness and moves the spleen.

Chén pí (Pericarpium Citri Reticulatae), *huò xiāng* (Herba Agastachis) and *zhǐ qiào* (Fructus Aurantii) regulate qi, awaken the spleen and harmonize the stomach.

Shén qū (Massa Medicata Fermentata), *chǎo mài yá* (dried, fried Fructus Hordei Germinatus) and *jiāo shān zhā* (Fructus Crataegi Praeparata) promote digestion and benefit the appetite.

Modifications

For abdominal distention and fullness, add *hòu pò* (Cortex Magnoliae Officinalis) and

mù xiāng (Radix Aucklandiae) to regulate qi and smooth qi flow in the middle *jiao*.

For a greasy white tongue coating, add *bàn xià* (Rhizoma Pinelliae) and *pèi lán* (Herba Eupatorii) to dry and eliminate dampness and fortify the spleen.

For dampness due to summerheat, add *hé yè* (Folium Nelumbinis) and *biǎn dòu yī* (Testa Dolichoris) to expel summerheat and resolve dampness.

For eructation and nausea, add *zhú rú* (Caulis Bambusae in Taenia) and *bàn xià* (Rhizoma Pinelliae) to harmonize the stomach and reduce adverse qi.

For dry stools, add *lái fú zǐ* (Semen Raphani) and *zhǐ shí* (Fructus Aurantii Immaturus) to remove stagnation and promote defecation.

For loose stools, add *shān yào* (Rhizoma Dioscoreae) and *yì yǐ rén* (Semen Coicis) to fortify the spleen and drain dampness.

Chinese Patent Medicines

Xiǎo Ér Xiāng Jú Dān—Children's Radix Aucklandiae and Pericarpium Citri Reticulatae Pill.

3 g, 2 or 3 times daily.

Tui na

Points	Repetitions	Methods
<i>Pí jīng</i> (脾经)	200	Supplementing
<i>Nèi bā guà</i> (内八卦)	300	Pushing clockwise
<i>Wèi jīng</i> (胃经)	100	Clearing
Abdomen (腹)	1 min	Rubbing
ST 36 (<i>zú sān lǐ</i>)	1 min	Kneading

Supplement *pí jīng* 200 times, push *nèi bā guà* clockwise 300 times, clear *wèi jīng* 100 times, rub the abdomen for one minute, and knead ST 36 (*zú sān lǐ*) for one minute. Apply once a day, with five days as one treatment course.

Acupuncture

BL 20 (<i>pí shù</i>)	ST 36 (<i>zú sān lǐ</i>)
SP 9 (<i>yīn líng quán</i>)	SP 6 (<i>sān yīn jiāo</i>)

Use even supplementation and drainage; do not retain the needle.

Apply once daily, with five days as one treatment course.

External Therapy

胡黄连	<i>hú huáng lián</i>	3 g	Rhizoma Picrorhizae
陈皮	<i>chén pí</i>	3 g	Pericarpium Citri Reticulatae
枳壳	<i>zhǐ qiào</i>	3 g	Fructus Aurantii
三棱	<i>sān léng</i>	6 g	Rhizoma Sparganii
莪术	<i>é zhú</i>	6 g	Rhizoma Curcumae
谷芽	<i>gǔ yá</i>	10 g	Fructus Setariae Germinatus

After the ingredients are ground into a fine powder mix 6 g with vinegar to make a paste for nightly application to RN 8 (*shén què*) and DU 4 (*mìng mén*). Remove in the morning; apply once nightly for five days.

Spleen-Stomach Qi Deficiency

Signs and Symptoms

Manifestations include poor appetite with less eating, reluctance to talk, a lackluster or sallow complexion, slight emaciation, profuse defecation of stools mixed with undigested food. The tongue is pale with a thin white coating; the pulse is slow and weak.

Pattern Differentiation

Anorexia due to spleen-stomach qi deficiency often occurs among children who normally have a weak spleen and stomach or a history of chronic diseases (especially children with chronic spleen dysfunction). It is characterized by poor appetite, a lackluster complexion, fatigue and slight emaciation.

Treatment Principles

Fortify the spleen and boost qi, promote transportation and transformation.

Formula

Modified *Yi Gōng Sǎn*—Special Achievement Powder

Formula Analysis

党参	<i>dǎng shēn</i>	Radix Codonopsis
茯苓	<i>fú líng</i>	Poria
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
砂仁	<i>shā rén</i>	Frucus Amomi
山药	<i>shān yào</i>	Rhizoma Dioscoreae
薏苡仁	<i>yì yǐ rén</i>	Semen Coicis
扁豆	<i>biǎn dòu</i>	Semen Lablab Album
炒谷芽	<i>chǎo gǔ yá</i>	Dried, fried Fructus Setariae Germinatus
炒麦芽	<i>chǎo mài yá</i>	Dried, fried Fructus Hordei Germinatus

Dǎng shēn (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) fortify the spleen and boost qi.

Chén pí (Pericarpium Citri Reticulatae) and *shā rén* (Frucus Amomi Villosi) regulate qi and promote transportation and transformation.

Shān yào (Rhizoma Dioscoreae), *yì yǐ rén* (Semen Coicis) and *biǎn dòu* (Semen Lablab Album) fortify the spleen and drain dampness.

Chǎo mài yá (dry-fried Fructus Hordei Germinatus) and *chǎo gǔ yá* (dry-fried Fructus Setariae Germinatus) fortify the spleen and improve the appetite.

Modifications

For greasy tongue coating, add *cāng zhú* (Rhizoma Atractylodis) and remove *bái zhú* (Rhizoma Atractylodis Macrocephalae) to move spleen qi and dry dampness.

For food stagnation add *jiāo shān zhā* (Fructus Crataegi Praeparata) and *jiāo shén qū* (Massa Medicata Fermentata Praeparata) to promote digestion and remove food stagnation.

For abdominal fullness, add *mù xiāng* (Radix Aucklandiae) and *bīng láng* (Semen Arecae) to regulate qi and smooth qi flow in the middle *jiao*.

For profuse sweating and susceptibility to colds or the flu, add *huáng qí* (Radix Astragali) and *fāng fēng* (Radix Saposhnikoviae) to boost qi and consolidate the exterior.

For depression, add *chái hú* (Radix Bupleuri) and *fó shǒu* (Fructus Citri Sarcodactylis) to soothe the liver and relieve depression.

Chinese Patent Medicines

Jiàn Pí Wán—Spleen-Fortifying Pill

3 g, 3 times daily. Treats abdominal distention and fullness due to spleen-stomach deficiency.

Qǐ Pí Wán—Spleen-Arousing Pill

2 g, twice daily. Treats spleen and stomach weakness marked by indigestion, abdominal distention and loose bowels.

Ēr Kāng Níng Kǒu Fú Yè—Er Kang Ning Oral Liquid

10 ml, three times daily. For thin weak children with indigestion.

Xiāng Shā Liù Jūn Zǐ Wán—Costus Root and Amomum Six Gentlemen Pill

3-4.5 g, twice daily. For spleen deficiency with qi stagnation marked by abdominal distention and painful defecation with loose stools.

Tui na

Points	Repetitions	Methods
<i>Pí jīng</i> (脾经)	200	Supplementing
<i>Nèi bā guà</i> (内八卦)	300	Pushing (clockwise)
ST 36 (<i>zú sān lǐ</i>)	1 minute	Kneading
Abdomen (腹)	1 minute	Rubbing
<i>Jǐ</i> (spine 脊)	3	Pinching

Supplement *pí jīng* 200 times, push *nèi bā guà* clockwise 300 times, knead ST 36 (*zú sān lǐ*) for one minute, rub the abdomen for one minute, and pinch the spine 3 times.

Apply once daily, with five days as one treatment course.

Acupuncture

BL 20 (<i>pí shù</i>)	BL 21 (<i>wèi shù</i>)
ST 36 (<i>zú sān lǐ</i>)	SP 6 (<i>sān yīn jiāo</i>)

Needle with supplementation; do not retain the needle.

Apply once daily, with five days as one treatment course.

External Therapy

砂仁	<i>shā rén</i>	12 g	Fructus Amomi
茯苓	<i>fú líng</i>	12 g	Poria
炒麦芽	<i>chǎo mài yá</i>	12 g	Fructus Hordei Germinatus Praeparata

焦山楂	<i>jiāo shān zhā</i>	12 g	Fructus Crataegi
神曲	<i>shén qū</i>	12 g	Massa Medicata Fermentata
肉豆蔻	<i>ròu dòu kòu</i>	12 g	Semen Myristicae
党参	<i>dǎng shēn</i>	10 g	Radix Codonopsis
白术	<i>bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae
川朴	<i>chuān pò</i>	10 g	Cortex Magnoliae Officinalis
广木香	<i>guǎng mù xiāng</i>	6 g	Radix Aucklandiae
冰片	<i>bīng piàn</i>	2 g	Borneolum Syntheticum

Grind all ingredients into a fine powder, blend with Vaseline for application to RN 12 (*zhōng wǎn*) and RN 6 (*qì hǎi*).

Treat once daily, with three days as one treatment course.

Stomach Yin Deficiency

Signs and Symptoms

Manifestations include poor appetite with no desire to eat, dry mouth and thirst, dry skin, dry stools and constipation, infrequent urination with yellow urine, hot palms and soles; some infants are irritable and sleep less. The tongue is slightly red with little moisture and a superficial or partly peeling coating; the pulse is thready.

Pattern Differentiation

This pattern often occurs among children with congenital yin deficiency or those who have ingested excessive amounts of spicy foods, or in the aftermath of warm-diseases that have consumed yin fluids. It is characterized by eating less but drinking more, dry stools and constipation, hot palms and soles, and a red tongue with scant coating.

Treatment Principles

Nourish yin, boost the stomach, promote transportation and transformation.

Formula

Modified *Yǎng Wèi Zēng Yè Tāng*—Nourish Stomach Increase Fluid Decoction

北沙参	<i>běi shā shēn</i>	Radix Glehniae
麦冬	<i>mài dōng</i>	Radix Ophiopogonis
玉竹	<i>yù zhú</i>	Rhizoma Polygonati Odorati
石斛	<i>shí hú</i>	Caulis Dendrobii
乌梅	<i>wū méi</i>	Fructus Mume
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
焦山楂	<i>jiāo shān zhā</i>	Fructus Crataegi Praeparata
炒麦芽	<i>chǎo mài yá</i>	Dried, fried Fructus Hordei Germinatus

Formula Analysis

Běi shā shēn (Radix Glehniae), *mài dōng* (Radix Ophiopogonis), *yù zhú* (Rhizoma

Polygonati Odorati), *shí hú* (Caulis Dendrobii) and *bái sháo* (Radix Paeoniae Alba) nourish yin and improve the condition of the stomach.

Wū méi (Fructus Mume) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) are sour and sweet in nature to transform yin.

Jiāo shān zhā (Fructus Crataegi Praeparata) and *chǎo mài yá* (dried, fried Fructus Hordei Germinatus) improve the appetite and promote transportation and transformation.

Modifications

For thirst and over-drinking, add *tiān huā fēn* (Radix Trichosanthis), *lú gēn* (Rhizoma Phragmitis) and *hú huáng lián* (Rhizoma Picrorhizae) to clear heat and engender fluids.

For constipation, add *huǒ má rén* (Fructus Cannabis), *yù lǐ rén* (Semen Pruni) and *guā lóu rén* (Semen Trichosanthis) to moisten the intestines to relieve constipation.

For poor food intake and indigestion, add *gǔ yá* (Fructus Setariae Germinatu) and *shén qū* (Massa Medicata Fermentata) to promote digestion and improve the appetite.

For restless sleep accompanied by hot palms and soles, add *lián zǐ xīn* (Plumula Nelumbinis), *suān zǎo rén* (Semen Ziziphi Spinosa) and *yè jiāo téng* (Caulis Polygoni Multiflori) to clear heat and calm the heart and mind.

Tuì nà

Points	Repetitions	Methods
Bǎn mén (板门)	200	Kneading
Wèi jīng (胃经)	200	Clearing
Nèi bā guà (内八卦)	300	Pushing clockwise
Abdominal yin-yang (腹阴阳)	50	Pushing
Èr rén shàng mǎ (二人上马)	100	Kneading
RN 12 (zhōng wǎn)	200	Kneading

Knead *bǎn mén* 200 times, clear *wèi jīng* 200 times, push *nèi bā guà* clockwise 300 times, push abdominal yin-yang 50 times, knead *èr rén shàng mǎ* 100 times, and knead RN 12 (*zhōng wǎn*) 200 times.

Apply once daily, with five days as one treatment course.

Acupuncture

ST 36 (zú sān lǐ)	SP 6 (sān yīn jiāo)	SP 9 (yīn líng quán)
RN 12 (zhōng wǎn)	PC 6 (nèi guān)	

Needle with supplementation; do not retain the needle.

Apply once daily, with five days as one treatment course.

[WESTERN MEDICINE THERAPIES]

Anorexia in some children may be related to zinc deficiency, so the diet should include foods containing zinc. If there is low serum zinc or low erythrocyte zinc concentration, the treatment of choice is to supplement the diet with zinc gluconate or zinc sulfate tablets, 2 mg elemental zinc/kg/day (5 mg of zinc sulfate/kg/day).

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) It is important to become familiar with healthy eating habits, this includes eating appropriate amounts on time as part of a regulated lifestyle. Teach children not to eat candy or drink soft drinks before meals, nor consume ice cold drinks on hot summer days. A variety of easy to digest foods that are rich in complex nutrients should be provided, and the diet should be adjusted according to age. When breast-fed infants are ready to be introduced to supplemental foods, these should be added carefully and gradually with the right amounts and appropriate timing.

(2) When a child develops a poor appetite, it is important to investigate the cause as soon as possible. Find the cause early on and take preventive and curative measures. A child's diet should be gradually increased to help stomach qi recover after an illness.

(3) Pay close attention to the psychological care and training of children to help them to behave well, develop a moral character, and gradually adapt to changes in the living environment. Avoid physical punishment.

2. NURSING CARE

(1) Children must be taught not to eat too much junk food and due to the difficulty in digesting them, also avoid or eat less cold and raw or rich fatty foods.

(2) Feed the child his or her favorite foods first to stimulate the appetite, then provide well-balanced meals when their appetite increases.

(3) Children with zinc deficiency should be provided with more foods high in zinc such as milk, egg yolks, lean meat, fish, animal organs, beans and nuts.

[CASE STUDIES]

► Case # 1. Male, age 2. Initial Visit 3/29/2003

Signs and Symptoms: prolonged poor appetite for the last 1 1/2 years.

A history of vomiting, diarrhea and stomach pains due to ingesting too much supplementing foods such as egg yolks, at 6 months old. From this time on, he had had a poor appetite and ate less food. His parents worried that he may be under-nourished and force-fed him with shrimp-meat, fish and meats, which only increased his lack of appetite. At the present time, his signs and symptoms were poor appetite, food refusal, occasional bad breath and nausea, hot palms and soles, a sallow complexion, lassitude, alternating loose and dry stools, and normal urination. He had a light red tongue with a thin yellow coating, thick and greasy in the middle; the pulse was normal.

Considering the signs and symptoms, the patient was diagnosed with stomach heat and spleen deficiency. Therefore, treatment was aimed to clear stomach heat, fortify the spleen and promote digestion.

Formula

忍冬藤	<i>rěn dōng téng</i>	10 g	Caulis Lonicerae Japonicae
连翘	<i>lián qiào</i>	6 g	Fructus Forsythiae
竹茹	<i>zhú rú</i>	3 g	Caulis Bambusae in Taenia
茯苓	<i>fú líng</i>	12 g	Poria
扁豆	<i>biǎn dòu</i>	12 g	Semen Lablab Album
陈皮	<i>chén pí</i>	6 g	Pericarpium Citri Reticulatae
砂仁	<i>shā rén</i>	3 g	Fructus Amomi Villosi (decocted later)
薏苡仁	<i>yì yǐ rén</i>	12 g	Semen Coicis
鸡内金	<i>jī nèi jīn</i>	6 g	Endothelium Corneum Gigeriae Galli
神曲	<i>shén qū</i>	10 g	Massa Medicata Fermentata

1 dose per day for 4 days.

At the second visit, the child's food intake had clearly increased, the bad breath and nausea had disappeared and the hot palms and soles had abated. The child was defecating twice daily, had a sallow complexion, was fatigued and had a light red tongue with a yellow coating. He was treated with the above formula omitting *lián qiào* but with added *mài yá* and *chán tuì*.

Formula

忍冬藤	<i>rěn dōng téng</i>	10 g	Caulis Lonicerae Japonicae
竹茹	<i>zhú rú</i>	3 g	Caulis Bambusae in Taenia
茯苓	<i>fú líng</i>	12 g	Poria
扁豆	<i>biǎn dòu</i>	12 g	Semen Lablab Album
陈皮	<i>chén pí</i>	6 g	Pericarpium Citri Reticulatae
砂仁	<i>shā rén</i>	3 g	Fructus Amomi Villosi (decocted later)
薏苡仁	<i>yì yǐ rén</i>	12 g	Semen Coicis
鸡内金	<i>jī nèi jīn</i>	6 g	Endothelium Corneum Gigeriae Galli
神曲	<i>shén qū</i>	10 g	Massa Medicata Fermentata
炒麦芽	<i>chǎo mài yá</i>	10 g	Dried, fried Fructus Hordei Germinatus
蝉蜕	<i>chán tuì</i>	3 g	Periostracum Cicadae

3 doses, one dose per day.

At the third visit, the child's appetite and food intake were normal, the hot palms and soles were absent, his complexion improving, his spirit and demeanor were normal, the feces were normal with once daily bowel movements, and his tongue was red with a thin yellow coating. After the formula (omitting *zhú rú* (Caulis Bambusae in Taenia)) was taken

for six days, the child was deemed clinically cured. A one month follow-up showed no recurrence.

Analysis

The child's spleen and stomach functions had been damaged by improper feeding which resulted in splenic failure to transport and transform. The child had been forced to eat, which exacerbated his poor appetite. The sallow complexion, lassitude, alternating diarrhea and hard stools all indicated spleen deficiency. However, the bad breath and thin yellow coating accompanied by a thick greasy coating in the middle of the tongue indicated heat in the stomach. Once the stomach was cleared of heat, the spleen was fortified and digestion was promoted, the child showed remarkable improvement.

Source: Sun J, Bian N, Zheng SX, et al. Meng Xian-lan's Clinical Experiences in Treating Infantile Anorexia by Clearing Stomach Heat and Fortifying the Spleen. *Shandong Journal of TCM*. 2003, 22 (10): 637.

► Case # 2. Male, age 4. Initial Visit 5/26/2002

Signs and Symptoms: poor appetite for over one year, low spirits, a lackluster complexion, emaciation, slight abdominal distention and a light red tongue with a thin greasy coating. The pulse was thready and slippery. He had taken several kinds of digestive medicines but without improvement. Based on the signs and symptoms, the patient was diagnosed as anorexic due to poor digestion caused by a spleen-stomach disharmony. Therefore, treatment with tui na aimed to fortify the spleen, harmonize the stomach, promote digestion and eliminate undigested food.

Tui na

Points	Repetitions	Methods
Nèi bā guà (内八卦)	150	Pushing clockwise
Pí jīng (脾经)	150	Supplementing and Pushing
EX-UE 10 (sì fēng)	50	Pinching
Sì héng wén (四横纹)	150	Pushing
RN 12 (zhōng wǎn)	100	Kneading
ST 25 (tiān shū)	100	Kneading
Abdomen (腹)	3 minutes	Rubbing
Abdominal yin-yang (腹阴阳)	100	Pushing
ST 36 (zú sān lǐ)	100	Kneading

Tui na was administered once daily. On the second day, the parents were told that their child's disease was almost cured. A few more treatments were applied to consolidate the therapeutic effect.

At the second visit, his appetite had notably increased (tui na had been applied at this stage for five days). His food intake returned to normal after ten days of therapy. At a 6 month follow-up, the condition had not recurred.

Analysis

The child's lackluster complexion and emaciation indicated a spleen deficiency. Slight

abdominal distention, the thin greasy coating on the tongue and a thready and slippery pulse indicated food stagnation. The doctor applied tui na by pushing *nèi bā guà* clockwise, clearing and supplementing *pí jīng*, nipping and kneading EX-UE 10 (*sì fēng*), pushing *sì héng wén*, kneading RN 12 (*zhōng wǎn*), kneading ST 25 (*tiān shū*) and rubbing the abdomen and kneading ST 36 (*zú sān lǐ*). The aim was to fortify the spleen, harmonize the stomach, promote digestion and remove food stagnation. The effects were remarkable and the patient's diet returned to normal.

Source: Huang CX, Zhang AY, Cheng RY, et. al. Clinical Curative Effect Study on Infantile Anorexia treated by Tui na Therapy. Chinese Journal of the Practical Chinese with Modern Medicine, 2004, 4(17): 714.

[QUESTIONS]

1. A 3-year-old child is admitted with a poor appetite, eating less but drinking more. Other symptoms include a dry mouth and thirst, dry skin, scant yellow urine, dry stools, constipation, and hot palms and soles. The tongue is red and dry with a partly peeled coating and the pulse is rapid and thready.

What is the first choice of formula?

- A. *Bù Huàn Jīn Zhèng Qì Sǎn*—Priceless Qi-Righting Powder
- B. *Yì Gōng Sǎn*—Special Achievement Powder
- C. *Yǎng Wèi Zēng Yè Tāng*—Stomach-Nourishing and Humor-Increasing Decoction
- D. *Jiàn Pí Wán*—Spleen-Fortifying Pill
- E. *Xiāng Shā Liù Jūn Zǐ Wán*—Costusroot and Amomum Six Gentlemen Pill

2. A 3-year-old child is admitted with a poor appetite with a lack of taste, aversion to feeding, belching, nausea, dyspepsia, mild constipation, satiety after an occasional binge, a normal physique, and high spirits. The tongue is light red with a thin greasy coating and there is a soft, moderate pulse.

If tui na is to be applied, which one of the following methods is the first choice?

- A. Supplement *pí jīng* 200 times; push *nèi bā guà* clockwise 300 times; clear *wèi jīng* 100 times; rub the abdomen for one minute; knead ST 36 (*zú sān lǐ*) for one minute.
- B. Supplement *pí jīng* 200 times; push *nèi bā guà* clockwise 300 times; push *liù fǔ* 300 times; clear *xiǎo cháng* 300 times.
- C. Knead *bǎn mén* 200 times; clear *wèi jīng* 200 times; push *nèi bā guà* clockwise 300 times; knead *èr rén shàng mǎ* 100 times; knead RN 12 (*zhōng wǎn*) 200 times.
- D. Clear *tiān hé shuǐ* 200 times, push *liù fǔ* 300 times; clear *xiǎo cháng* 300 times, rub EX-UE8 (*wài láo gōng*) 200 times.
- E. Supplement *pí jīng* 200 times; clear *wèi jīng* 200 times; clear *tiān hé shuǐ* 200 times, push *liù fǔ* 300 times; clear *xiǎo cháng* 300 times.

3. A 3-year-old child is admitted with a poor appetite with a lack of taste, aversion to eating, belching, nausea, dyspepsia, mild constipation, abdominal fullness and distention. The child has a normal physique, high spirits and normal daily activities. The tongue is a light red with a thin white coating and there is a moderate pulse.

What do the signs and symptoms designate?

- A. Spleen dysfunction regarding transportation and transformation
- B. Spleen-stomach qi deficiency



- C. Stomach yin deficiency
- D. Lung-spleen deficiency
- E. Spleen-kidney yang deficiency

[REFERENCES]

- [1] Dahl, M. Rydell, A.M. & Sundelin, C. Children with Early Refusal to Eat: Follow-ups during Primary School. *Acta Paediatrica Scandinavica*, 1994; 83,54-58.
- [2] Dahl, M. & Sundelin, C. Feeding Problems in an Affluent Society: Follow-up at Age 4 in Children with Early Refusal to Eat. *Acta Paediatrica Scandinavica*, 1992; 81, 575-579.
- [3] Wang SC, You RD, Yu XW, et al. Clinical and Experimental Study on Move the Spleen Formula for Treating Infantile Anorexia. *Chinese Journal of Integrated Traditional and Western Medicine*, 1991; 11 (2): 75-76.
- [4] Li J, Wang XF, Xue WG, et, al. Chinese Medicine Accompanied with Tui na Treating 45 Infantile Anorexia Cases. *Jilin Journal of Traditional Chinese Medicine*, 2007; 27 (5): 32.



Chapter 17

Diarrhea (*Xiè Xiè*)

Diarrhea is characterized by frequent bowel evacuation and the passage of abnormally loose stools or liquid feces. Although there are a number of etiologies, Western medicine divides diarrhea into infectious and non-infectious types. Infectious diarrhea is caused by viral, bacterial, fungal and parasitic infections, etc. The non-infectious types include dietary, symptomatic, allergic and miscellaneous forms.

Diarrhea is one of the most common childhood diseases around the world. According to WHO and UNICEF statistics, in the year 2002, diarrhea was the 4th most common cause of death and accounted for up to 15% of children's deaths under the age of five in developing countries, ranking next to acute respiratory infections that accounted for up to 18% ^[1]. In 2004, there were 1.3 billion cases of diarrhea in children under the age of five worldwide. Every year in the United States there are 20-35 million cases of diarrhea among the 16.5 million children under age five, with 2.1 to 3.7 million outpatient visits, 220,000 inpatient admissions, and 300-400 deaths. In China it is estimated that there are 298 million cases of diarrhea each year among children under the age of five.

Due to this issue, WHO and UNICEF set two goals in the joint declaration of "The Clinical Treatment of Acute Diarrhea" (2006) during the United Nations Special Session on Children.

1. Reduce deaths due to diarrhea among children under five by one-half by 2010 compared to the year 2000 ("A World Fit for Children", outcome document of the UN's Special Session on Children).

2. Reduce by two thirds the mortality rate among children under five by 2015 as compared to 1990 (United Nations Millennium Development Goals).

The highest incidence of diarrhea occurs among children aged 6 months to 5 years, with about half of these patients being infants younger than one year. It occurs all year round, with the incidence being higher in summer and autumn. Diarrhea may have different manifestations in different seasons. Mild cases of diarrhea usually have a favorable prognosis after appropriate treatment, although excessive diarrhea can damage both qi and yin, even causing yin exhaustion and yang collapse. Persistent or chronic diarrhea may also result in childhood malnutrition.

Epidemiological studies indicate that rotavirus enteritis is responsible for at least 50% of diarrhea cases, while cases of non-infectious diarrhea caused by other various factors are also increasing. WHO suggested that antibiotics are unnecessary in 90% of cases.

There is abundant literature showing beneficial results in the treatment of childhood diarrhea using Chinese medicine, including herbal medicinals, tui na and external treatments, especially for those conditions caused by viruses, improper diet, or cases of persistent and chronic diarrhea.

Yuan Bin et al. applied *Cāng Gé Zhǐ Xiè Líng* (Atractylodis and Puerariae Diarrhea-Checking Granules) consisting of *cāng zhú* (Rhizoma Atractylodis), *gé gēn* (Radix Puerariae Lobatae), *chē qián zǐ* (Semen Plantaginis), *dì jǐn cǎo* (Herba Euphorbiae Humifusae), *bái sháo* (Radix Paeoniae Alba) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) in the treatment of



74 cases of children with rotavirus enteritis, comparing the curative effects with 50 cases treated with Smecta.

Results: the cure rate was 86.49% in the treatment group and 50% in the control group. The treatment group had superior outcomes to the control group ($P < 0.01$) in terms of relieving abdominal distention, fever, symptoms of upper respiratory infections, anorexia and the eradication of rotavirus^[2].

Wang Qi-cun applied tui na to 168 cases of infantile diarrhea. For damp-heat types, the clearing method was applied to *pí jīng* and *dà cháng*; with kneading on *guī wěi*, rubbing on the abdomen, and pushing on *qī jié gǔ*. Treatment was given once a day with three days as one course of treatment.

For deficiency cold patterns, supplementation was applied to *pí jīng*; the pushing method on *dà cháng* and *qī jié gǔ*; and rubbing was applied on *dān tián* and *guī wěi*. Treatment was given once a day with three days as one course of treatment.

138 cases were cured, accounting for 82%; 27 cases had showed marked improvement, accounting for 16%; and 3 cases had no improvement, accounting for 2%. The overall effective rate was therefore 98%.

[ETIOLOGY & PATHOMECHANISM]

The causes of childhood diarrhea are mainly exogenous pathogenic factors, improper diet and spleen and stomach weakness. The disease location mainly involves the spleen and stomach. Because the stomach governs food intake and digestion and the spleen governs the transportation and transformation of water-dampness and the essence of food and water, if the spleen and stomach qi are impaired and damaged by exogenous pathogenic factors such as wind, cold, summerheat and dampness, improper or unhygienic diets, a dysfunction of transportation and transformation will result. Fluids accumulate to form internal dampness, grains transform into food stagnation, normal ascending and descending functions are impaired, and the spleen fails to differentiate between purity and turbidity. The unseparated pure and turbid substances enter the large intestine together with stagnated food, resulting in diarrhea.

The spleen is averse to dampness and prefers dryness, so exogenous pathogenic dampness, interior dampness produced by food, or water-dampness caused by spleen deficiency can all easily encumber spleen-earth.

Therefore, even though diarrhea can involve wind, cold, heat, deficiency and excess, all cases involve internal dampness. The incidence is higher among children under the age of 2, because of their tendency to spleen insufficiency with an inability to transform dampness, and qi and yang insufficiency.

Invasion of Exogenous Pathogens

Children are more susceptible to exogenous pathogens because their *zang-fu* organs are immature and their skin is relatively thin and weak, causing an impaired ability to adapt properly to environmental changes. Pathogenic wind, cold, heat or summerheat usually combine with dampness, leading to diarrhea. Also when dampness encumbers spleen yang, the spleen's function of transportation and transformation are affected, causing exuberant internal dampness and diarrhea.

Regarding seasonal weather changes, the long summers in China are mostly humid,

so diarrhea associated with exogenous pathogens is more common during summer and autumn, especially diarrhea due to dampness and heat. Diarrhea due to wind and cold can occur in any season.

Food Damage

Young children often have a spleen insufficiency. Its functions of transportation and transformation are weak and the child is unable to control their diet properly. With improper nursing and feeding, excessive ingestion of cold, raw, contaminated or overly rich foods can impair the spleen and stomach. While diarrhea due to improper food intake is common among children, indigestion symptoms often coincide with other types of diarrhea.

Spleen and Kidney Deficiency

Spleen deficiency is caused by a congenitally weak spleen or chronic lingering diseases. Spleen deficiency affects the functions of transportation and transformation, and the consequent stomach weakness results in an inability to digest food, causing fluids to transform into internal dampness and food stagnation. Stagnated chyme and the unseparated pureness and turbidity then enter the large intestine, causing diarrhea. If fulminant (excessive) diarrhea is treated improperly or allowed to persist for a prolonged time, this may then result in spleen deficiency diarrhea. Even if the pathogens of wind, cold, damp and heat are relieved, the spleen-stomach impairment persists. When spleen deficiency causes diarrhea, the spleen qi is consumed first, followed by a spleen yang impairment.

As time goes by, the spleen impairment may affect the kidney, leading to a spleen-kidney yang deficiency. Deficient yang qi fails to warm the body, leading to inner exuberance of yin-cold. When the undigested food enters the intestines and cold, thin stools result, this is diarrhea due to a spleen-kidney yang deficiency.

Fulminant diarrhea and heat diarrhea tend to consume yin and fluid. Cold diarrhea and chronic diarrhea easily impair yang qi. As yin is the guardian of yang, yang qi collapses when the yin fluid is exhausted. Therefore, children's diarrhea may easily impair

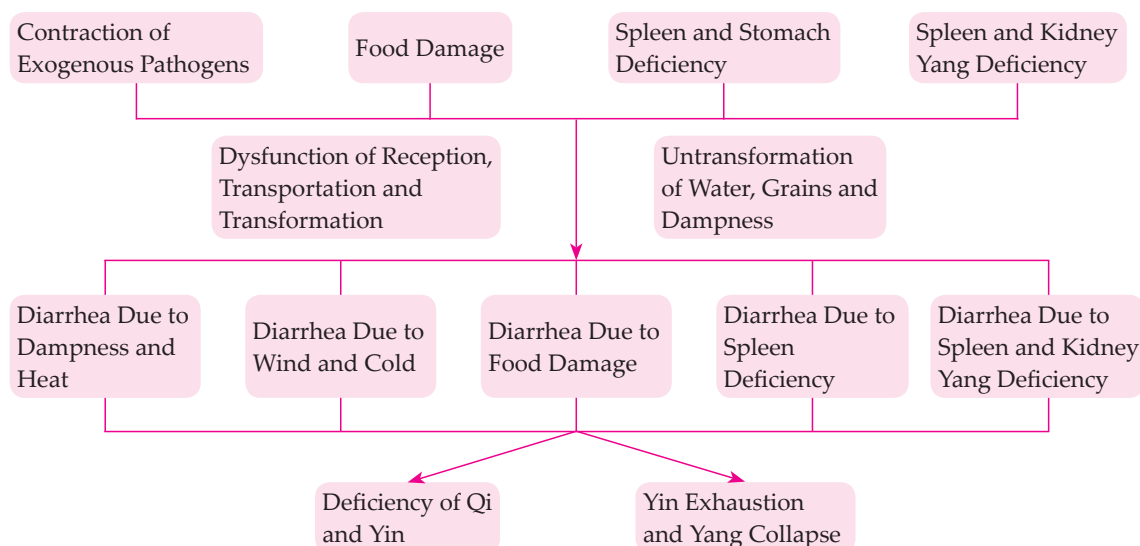


Fig. 17-1 Etiology and Pathomechanisms of Infantile Diarrhea

yin, consume qi and affect yang, leading to deterioration. Excessive diarrhea may cause impairment of both qi and yin, and then yin affects yang and finally causes yin exhaustion and yang collapse. It is a critical condition.

In cases of incessant diarrhea causing weak and deficient spleen qi and the spleen-earth failing to restrict liver-wood, this leads to deficiency wind stirring internally which may result in chronic infantile convulsions. Dysfunction of transportation due to a spleen deficiency causes a shortage in the source of generation and transformation, resulting in qi and blood deficiency with failure to nourish the *zang-fu* organs, muscles and skin, which may result in infantile malnutrition.

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

(1) A history of attack by wind and cold or exogenous seasonal pathogenic factors, or improper feeding, unhygienic diet, or spleen and kidney insufficiency due to chronic diseases.

(2) Diarrhea is defined by the Nelson Textbook of Pediatrics as an excessive loss of fluid and electrolytes from the stools. The child's stool frequency is also clearly increased. The stool is thin and of increased volume, sometimes pale yellow in color and watery, or thin and paste-like, or contains curdled milk and undigested food with or without mucus. It may be yellow-green and loose, or brown with a sour and offensive odor. The patient may have nausea, vomiting, abdominal pain, fever, poor appetite or thirst.

(3) Diarrhea is divided into mild or severe categories, according to the patient's condition.

a. Mild: acute or chronic onset, mainly characterized by gastrointestinal symptoms, loss of appetite, occasional milk regurgitation or vomiting, increased stool frequency (which is usually less than 10 movements a day). The stool is loose, but there is no dehydration or symptoms of systemic poisoning. Most cases of mild diarrhea recover within a few days. This type is commonly seen.

b. Severe: acute onset and rapid progress; stool frequency exceeds 10 times a day. Apart from severe gastrointestinal symptoms, there is obvious dehydration, electrolyte imbalance, and symptoms of systemic poisoning such as fever, dysphoria (irritability), low spirits, drowsiness and even shock or coma. The severe type can easily result in deterioration.

(4) Diarrhea is further divided according to the clinical course.

a. Acute diarrhea: course < two weeks

b. Persistent (lingering or prolonged) diarrhea: course of two weeks to two months

c. Chronic diarrhea: course > two months

Acute diarrhea is usually associated with an excess syndrome, whereas persistent and chronic diarrhea are often associated with patterns of deficiency.

(5) Microscopic examination:

The stool is thin and loose with fat globules, undigested food or a small number of white blood cells and red blood cells.

(6) Microbiological examination:

In the case of infectious diarrhea, it is possible to detect rotavirus or other viruses, or find bacteria such as *E. coli* by stool cultures.

► Differential Diagnosis

Diarrhea needs to be differentiated from bacillary dysentery and necrotizing enterocolitis. See Table 17-1.

Table 17-1 Differential Diagnoses of Diarrhea, Bacillary Dysentery and Necrotizing Enterocolitis

Diagnosis Essentials	Diarrhea	Bacillary Dysentery	Necrotizing Enterocolitis
Predisposing Age	6 months to 5 years old	Any	3-12 years old
Stool Characteristics	Loose & thin or watery, yellow or yellow-green color, foul & acid odor, milk flap & foam	Mucus, pus & blood	Dark red, paste-like, or red bean soup-like bloody stools
Fever	Positive	Positive, or even high fever	High fever
Other Symptoms	Vomiting, abdominal pain, abdominal distention or dehydration	Paroxysmal abdominal pain, tenesmus, convulsions or coma	Vomiting or vomiting a coffee-like substance, abdominal pain, serious poisoning symptoms
Laboratory Examination	Microscopic examination detects fat globules, small numbers of white & red blood cells. Rotavirus detection is positive	Microscopic examination detects large amounts of pus cells, red blood cells & phagocytes; <i>shigella dysenteriae</i> growth detected on bacterial cultures	Microscopic test finds large numbers of red cells. Fecal occult blood test is positive. Blood test indicates increased white blood cell count, left shift in neutrophils, with apparent toxic granulation
Abdominal X-ray Examination			Dilated bowel loops, intestinal mucosal thickening, or with fluid levels, or even pneumoperitoneum due to intestinal perforation

If diagnosed with necrotizing enterocolitis, the patient must be sent to a hospital immediately to receive medical treatment or integrated Western and Chinese medical therapy. A patient with a mild condition of bacillary dysentery can also be treated with Chinese herbal medicine and acupuncture. Patients diagnosed with toxic bacillary dysentery presenting with severe signs such as high fever, unchecked bowel movements, convulsions, drowsiness, shock and coma must be sent to a hospital immediately.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Diarrhea is classified according to the eight principles of pattern differentiation. The classification of common patterns should include cold, heat, deficiency and excess, while the classification of deteriorated patterns should include qi, yin and yang. In terms of onset

and course, the common patterns fall under fulminant diarrhea and chronic diarrhea. The former is more ascribed to excess, while the latter is usually ascribed to deficiency or deficiency complicated by excess.

a. Fulminant Diarrhea:

Diarrhea due to damp-heat is marked by a high incidence rate, frequent and urgent defecation of thin or watery stools, yellow with a fetid odor, and a small amount of mucus. The tongue has a yellow greasy coating.

Diarrhea due to wind-cold is marked by thin frothy stools with a slightly foul odor and severe abdominal pain also accompanied by signs and symptoms of wind-cold exterior syndrome.

Diarrhea due to food damage occurs after improper feeding and diet, and is marked by a poor appetite, abdominal distention, loose stools with undigested food, and abdominal pain with the urge to defecate which is relieved by the diarrhea.

b. Chronic Diarrhea:

Diarrhea due to spleen deficiency has a long course, while diarrhea due to spleen and kidney yang deficiency has an even longer course with thin stools and undigested food also accompanied by signs and symptoms of interior cold due to yang deficiency. A deteriorating pattern of severe diarrhea begins with persistent diarrhea; listlessness and dry skin indicates a severe condition with qi and yin damage while low spirits, scanty urine or anuria, cold limbs and a feeble pulse indicate yin exhaustion and yang collapse, which is a critical condition.

► Treatment Principles

The basic principle is to activate the spleen and transform dampness. When the spleen is re-activated and damp-turbidity is resolved, the diarrhea stops. For excess patterns, eliminating the pathogens is the first goal. Therapeutic methods such as clearing the intestines and transforming dampness, dispelling wind and dissipating cold, promoting digestion and removing food stagnation are applied accordingly to the different patterns.

The healthy qi needs to be reinforced first for deficiency patterns. Treatment principles are to fortify the spleen and boost qi, and warm and supplement the spleen and kidney. Deteriorated patterns are mainly caused by over-consumption of healthy qi, and these are separately treated by fortifying qi and nourishing yin, astringing the intestines to preserve yin with sweet and sour, restoring yang and stopping collapse.

A variety of treatment modalities such as medicinal decoctions, tui na, external treatment, acupuncture and patented medicinal formulas can be used on patients with mild conditions. Tui na therapy exhibits an especially beneficial curative effect, however acupuncture is not recommended for infants under three months old or for children that are emaciated. Patients with severe conditions should take decoctions combined with the therapies mentioned above. Western medicine therapies such as fluid replacement therapy should be applied when needed.

► Classification of Patterns and Treatments

1. COMMON PATTERNS

Diarrhea due to Damp-Heat

Signs and Symptoms

Manifestations include urgent and frequent bowel movements with profuse, watery

or egg soup-like stools and a fetid odor, or with little mucus, paroxysmal abdominal pain, fever, dysphoria and crying, thirst with desire to drink, loss of appetite, or nausea and vomiting, and yellow and scanty urine. The tongue is red with a yellow greasy coating; the pulse is slippery and rapid with purple finger venules.

Pattern Differentiation

Diarrhea due to dampness and heat is marked by an acute onset of urgent, frequent and profuse defecation and a red tongue with a yellow greasy coating. Most fulminant diarrhea belongs to this pattern.

If heat predominates over dampness, the stool odor is offensively foul, or there may be small amounts of mucus with a fever and a red tongue with a yellow coating. If dampness predominates over heat, there are watery and thin stools, thirst, scanty urine and a greasy tongue coating.

When accompanied by food damage, the stool is mixed with undigested food and there is a poor appetite and a thick greasy tongue coating. In the case of excessive diarrhea, it may easily impair and damage yin and qi and create a deteriorating pattern.

Treatment Principles

Clear intestines and relieve heat, resolve dampness and check diarrhea.

Formula

Modified *Gé Gēn Huáng Qín Huáng Lián Tāng*—*Pueraria*, *Scutellaria*, and *Coptis*
Decoction

葛根	<i>gé gēn</i>	Radix Puerariae Lobatae
黄芩	<i>huáng qín</i>	Radix Scutellariae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
地锦草	<i>dì jīn cǎo</i>	Herba Euphorbiae Humifusae
辣蓼	<i>là liǎo</i>	Herba Polygoni Hydropiperis
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Gé gēn (Radix Puerariae Lobatae) releases the exterior, relieves heat, promotes fluid production and ascends yang.

Huáng qín (Radix Scutellariae) and *huáng lián* (Rhizoma Coptidis) clear gastrointestinal dampness and heat.

Dì jīn cǎo, (Herba Euphorbiae Humifusae), *là liǎo* (Herba Polygoni Hydropiperis) and *chē qián zǐ* (Semen Plantaginis) clear the intestines and resolve dampness.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For frequent diarrhea due to severe preponderant heat, add *Jī Sū Sǎn* (Mint Powder) and *mǎ biān cǎo* (Herba Verbenae).

For fever and thirst, add *huá shí* (Talcum) and *lú gēn* (Rhizoma Phragmitis).

For watery diarrhea due to severe preponderant damp, add *cāng zhú* (Rhizoma

Atractylodis) and *dòu juǎn* (Semen Sojae Germinatum).

For nausea and a greasy tongue coating, add *huò xiāng* (Herba Agastachis) and *pèi lán* (Herba Eupatorii).

For vomiting, add *zhú rú* (Caulis Bambusae in Taenia) and *bàn xià* (Rhizoma Pinelliae).

For abdominal pain, add *mù xiāng* (Radix Aucklandiae).

For poor appetite, add *jiāo shān zhā* (Fructus Crataegi Praeparata) and *jiāo shén qū* (Massa Medicata Fermentata Praeparata).

In the case of no desire for milk and stools with milk curds, add *chǎo mài yá* (dry-fried Fructus Hordei Germinatus) and *chǎo gǔ yá* (dry-fried Fructus Setariae Germinatus).

Chinese Patent Medicines

Gé Gēn Qín Lián Wēi Wán—Pueraria, Scutellaria and Coptis Pellet.

Take 1 g, 3 times daily with warm water.

Tui na

Points	Repetitions	Methods
<i>pí jīng</i> (脾经)	200-300	Clearing and Supplementing
<i>dà cháng</i> (大肠)	100-150	Clearing
<i>xiǎo cháng</i> (小肠)	100-150	Clearing
<i>liù fǔ</i> (六腑)	200-300	Pushing
<i>tiān hé shuǐ</i> (天河水)	100-200	Clearing
ST 25 (<i>tiān shū</i>)	100-200	Kneading
navel (脐)	100-200	Kneading

Apply clearing and supplementing methods to *pí jīng* 200-300 times, clear on *dà cháng* 100-150 times and *xiǎo cháng* 100-150 times, push on *liù fǔ* 200-300 times, clear *tiān hé shuǐ* 100-200 times, knead on *tiān shū* 100-200 times, and then knead on the navel 100-200 times.

Acupuncture

ST 25 (<i>tiān shū</i>)	LI 4 (<i>hé gǔ</i>)	LU 11 (<i>shào shāng</i>)
LI 11 (<i>qū chí</i>)	ST 36 (<i>zú sān lǐ</i>)	

Needle all points with drainage. Retain the needles for 5 minutes, or do not retain the needle. Treat 1-2 times daily, with 4 days as one course of treatment.

Diarrhea due to Wind and Cold

Signs and Symptoms

Manifestations include thin frothy stools with a slightly foul odor and abdominal pain with borborygmus, or with aversion to cold, fever, thin nasal discharge and coughing. The tongue is pale with a thin and white coating; the pulse is floating and tight, with pale red finger venules.

Pattern Differentiation

Diarrhea due to wind and cold is characterized by thin frothy stools with a slightly fetid odor, borborygmus and abdominal pain. For wind preponderance, the stool is frothier and there is an increased thin nasal discharge. If there is cold preponderance then there is cutting abdominal pain and an aversion to cold. For concurrent food damage, there can be

poor appetite and undigested food in the stools.

Treatment Principles

Expel wind and remove cold, eliminate dampness and regulate the middle *jiao*.

Formula

Modified *Huò Xiāng Zhèng Qì Sǎn*—Agastache Qi-Correcting Powder

藿香	<i>huò xiāng</i>	Herba Agastachis
紫苏叶	<i>zǐ sū yè</i>	Folium Perillae
白芷	<i>bái zhǐ</i>	Radix Angelicae Dahuricae
生姜	<i>shēng jiāng</i>	Rhizoma Zingiberis Recens
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
苍术	<i>cāng zhú</i>	Rhizoma Atractylodis
茯苓	<i>fú líng</i>	Poria
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
大枣	<i>dà zǎo</i>	Fructus Jujubae

Formula Analysis

Huò xiāng (Herba Agastachis), *zǐ sū yè* (Folium Perillae), *bái zhǐ* (Radix Angelicae Dahuricae) and *shēng jiāng* (Rhizoma Zingiberis Recens) scatter wind and remove cold, rectify qi and transform damp.

Bàn xià (Rhizoma Pinelliae), *chén pí* (Pericarpium Citri Reticulatae) and *cāng zhú* (Rhizoma Atractylodis) are warm and dry, transform dampness, rectify qi and harmonize the stomach.

Fú líng (Poria), *gān cǎo* (Radix et Rhizoma Glycyrrhizae) and *dà zǎo* (Fructus Jujubae) fortify the spleen and harmonize the stomach.

Modifications

For pale, frothy and thin stools, add *fáng fēng tàn* (Radix Saposhnikoviae Carbonisatus).

For severe abdominal pain with internal cold, add *gān jiāng* (Rhizoma Zingiberis), *shā rén* (Frucus Amomi Villosi) and *mù xiāng* (Radix Aucklandiae).

For abdominal distention and a greasy tongue coating, add *hòu pò* (Cortex Magnoliae Officinalis) and *bīng láng* (Semen Arecae).

For accompanying food stagnation, omit *gān cǎo* (Radix et Rhizoma Glycyrrhizae) and *dà zǎo* (Fructus Jujubae), and add *jiāo shān zhā* (Fructus Crataegi Praeparata) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli).

For inadequate urine output, add *chē qián zǐ* (Semen Plantaginis) and *zé xiè* (Rhizoma Alismatis).

For aversion to cold and nasal obstruction with a deep harsh voice, add *jīng jiè* (Herba Schizonepetae) and *fáng fēng* (Radix Saposhnikoviae).

For cough, add *jié gēng* (Radix Platycodonis) and *bǎi bù* (Radix Stemonae).

Chinese Patent Medicine

Huò Xiāng Zhèng Qì Sǎn Yè—Agastache Qi-Correcting Liquid

Take 5-10 ml, 2 or 3 times daily.

Tui na

Points	Repetitions	Methods
<i>pí jīng</i> (脾经)	200-300	Supplementing
<i>dà cháng</i> (大肠)	100-200	Supplementing
<i>sān guān</i> (三关)	100-200	Pushing Upwards
abdomen (腹)	200-300	Rubbing
<i>qī jié gǔ</i> (七节骨)	50-100	Pushing Upwards
navel (脐)	100-200	Kneading
<i>wài láo gōng</i> (EX-UE8)	100	Kneading

Supplemen *pí jīng* 200-300 and *dà cháng* 100-200 times, push upwards along *sān guān* 100-200 times, rub the abdomen 200-300 times, push upwards along *qī jié gǔ* 50-100 times, knead the navel 100-200 times, and knead *wài láo gōng* (EX-UE8) 100 times.

Treat 1-2 times daily, with 3 days as one course of treatment.

Acupuncture

ST 25 (<i>tiān shū</i>)	ST 37 (<i>shàng jù xū</i>)	RN 6 (<i>qì hǎi</i>)
---------------------------	------------------------------	------------------------

Needle all points with drainage. Retain the needles for 5 minutes, or do not retain the needle.

Treat 1-2 times daily, with 4 days as one course of treatment.

Moxibustion

RN 8 (<i>shén què</i>)	RN 12 (<i>zhōng wǎn</i>)	ST 36 (<i>zú sān lǚ</i>)
--------------------------	----------------------------	----------------------------

Apply indirect moxibustion with ginger.

Treat 1-2 times daily, with 4 days as one course of treatment.

Diarrhea due to Food Damage

Signs and Symptoms

Manifestations include loose stools with milk curds and food residue with a sour rotten egg odor, epigastric and abdominal distention and pain with the desire for defecation which is relieved after diarrhea. There may also be abdominal distention with pain worsened by pressure, eructation with a sour putrid odor or vomiting, poor appetite and restlessness at night. The tongue is red with a thick and greasy coating; the pulse is slippery and rapid, and there are dim and sluggish venules.

Pattern Differentiation

Diarrhea due to food damage is characterized by prior consumption of unhygienic food, loose stools with undigested food, a sour and fetid odor, and epigastric and abdominal distention with pain which is relieved after passing stools.

In the milk damage pattern, the loose stool contains milk curds; for the food damage type there is residual food. A food damage pattern may occur by itself, but more often it occurs as an accompanying syndrome. Without appropriate treatment the course may be

prolonged and the condition may turn into spleen deficiency-type diarrhea.

Treatment Principle

Activate the spleen and harmonize the stomach, disperse food and transform stagnation.

Formula

Bǎo Hé Wán—Harmony-Preserving Pill

焦山楂	<i>jiāo shān zhā</i>	Fructus Crataegi Praeparata
焦神曲	<i>jiāo shén qū</i>	Massa Medicata Fermentata Praeparata
鸡内金	<i>jī nèi jīn</i>	Endothelium Corneum Gigeriae Galli
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
茯苓	<i>fú líng</i>	Poria
连翘	<i>lián qiào</i>	Fructus Forsythiae

Formula Analysis

Jiāo shān zhā (Fructus Crataegi Praeparata), *jiāo shén qū* (Massa Medicata Fermentata Praeparata) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) promote digestion and resolve stagnation.

Chén pí (Pericarpium Citri Reticulatae) and *bàn xià* (Rhizoma Pinelliae) rectify qi and descend adverse qi.

Fú líng (Poria) invigorates the spleen and resolves dampness.

Lián qiào (Fructus Forsythiae) clears heat constraint.

Modifications

For breast-feeding babies that are defecating stools with milk curds, it is important to add *chǎo mài yá* (dry-fried Fructus Hordei Germinatus) *chǎo gǔ yá* (dry-fried Fructus Setariae Germinatus) and *shā rén* (Frucus Amomi Villosi).

For abdominal pain, add *mù xiāng* (Radix Aucklandiae) and *bīng láng* (Semen Arecae).

For abdominal distention, add *hòu pò* (Cortex Magnoliae Officinalis) and *lái fú zǐ* (Semen Raphani).

For vomiting, add *huò xiāng* (Herba Agastachis) and *shēng jiāng* (Rhizoma Zingiberis Recens).

Chinese Patent Medicines

Bǎo Hé Wán—Harmony-Preserving Pill

Take 2-4 pills, 3 times daily. For infants, melt the pill with warm water.

Tuī na

Points	Repetitions	Methods
<i>bǎn mén</i> (板门)	100-200	Kneading
<i>héng wén</i> (横纹)	150-200	Pushing
<i>wèi jīng</i> (胃经)	100-200	Clearing
<i>pí jīng</i> (脾经)	200-300	Clearing and supplementing

Continued

Points	Repetitions	Methods
dà cháng (大肠)	100-200	Clearing
navel (脐)	100-200	Kneading
abdomen (腹)	200-300	Rubbing

Knead *bǎn mén* 100-200 times, push from *bǎn mén* to *héng wén* 150-200 times, clear *wèi jīng* 100-200 times, clear and supplement *pí jīng* 200-300 times, clear *dà cháng* 100-200 times, knead navel 100-200 times, and rub abdomen 200-300 times.

Treat 1-2 times daily, with 3 days as one course of treatment.

Acupuncture

ST 25 (<i>tiān shū</i>)	ST 36 (<i>zú sān lǐ</i>)	RN 12 (<i>zhōng wǎn</i>)
EX-UE10 (<i>sì fēng</i>)	LI 4 (<i>hé gǔ</i>)	

Needle all points with drainage. Retain the needles for 5 minutes, or do not retain the needle.

Treat 1-2 times daily, with 4 days as one course of treatment.

Diarrhea due to Spleen Deficiency

Signs and Symptoms

Manifestations include a prolonged course of loose stools without a fetid odor, susceptibility to postprandial diarrhea, intermittent onset of a mild or serious condition, a sallow complexion, emaciation and listlessness. The tongue is pale with a white coating; the pulse is slow and weak with pale venules.

Pattern Differentiation

This pattern is marked by a prolonged course of loose stools and diarrhea after eating combined with common signs and symptoms of spleen deficiency. For spleen qi deficiency-type cases there is a sallow complexion with emaciation and listlessness. For spleen yang deficiency-type cases there will be thin stools without fetid odor, listlessness and a pale complexion with cold body and limbs. It is easy for this pattern to turn into spleen-kidney yang deficiency-type diarrhea.

Treatment Principle

Fortify the spleen to boost qi, promote splenic transportation and transformation to check diarrhea.

Formula

Shēn Líng Bái Zhú Sǎn—Ginseng, Poria and Atractylodes Macrocephalae Powder

党参	<i>dǎng shēn</i>	Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
山药	<i>shān yào</i>	Rhizoma Dioscoreae
莲子	<i>lián zǐ</i>	Semen Nelumbinis

扁豆	<i>biǎn dòu</i>	Semen Lablab Album
薏苡仁	<i>yì yǐ rén</i>	Semen Coicis
砂仁	<i>shā rén</i>	Frucus Amomi Villosi
桔梗	<i>jié gěng</i>	Radix Platycodonis

Formula Analysis

Dǎng shēn (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) supplement the spleen and boost qi.

Shān yào (Rhizoma Dioscoreae), *lián zǐ* (Semen Nelumbinis), *biǎn dòu* (Semen Lablab Album) and *yì yǐ rén* (Semen Coicis) fortify the spleen and transform dampness.

Shā rén (Frucus Amomi Villosi) and *jié gěng* (Radix Platycodonis) rectify qi and harmonize the stomach.

Modifications

For poor appetite and a greasy tongue coating, add *huò xiāng* (Herba Agastachis), *cāng zhú* (Rhizoma Atractylodis), *chén pí* (Pericarpium Citri Reticulatae) and *jiāo shān zhā* (Fructus Crataegi Praeparata).

For abdominal distention, add *mù xiāng* (Radix Aucklandiae) and *wū yào* (Radix Linderae).

For abdominal coldness, pale tongue and stools with undigested food, add *páo jiāng* (Rhizoma Zingiberis Praeparatum) and *wèi yì zhì rén* (Fructus Alpiniae Oxyphyllae Rosc.).

In cases of chronic diarrhea without food stagnation, add *ròu dòu kòu* (Semen Myristicae) and *chì shí zhī* (Holloysitum Rubrum).

Chinese Patent Medicine

Jiàn Pí Bā Zhèn Gāo—Eight Gem Spleen-Fortifying Cake

Take 1 or 2 pieces, 2-3 times per day. Melt with warm water and administer as a draught.

Plaster Therapy

Grind one portion of *dīng xiāng* (Flos Caryophylli) and two portions of *ròu guì* (Cortex Cinnamomi) into a fine powder. Mix ginger juice with 1-2 g powder and make a paste. Spread the paste around the umbilical region, cover with a thin cotton or gauze pad and fix with adhesive tape.

Treat once per day with 5 days as one course of treatment.

Tui na

Points	Repetitions	Methods
<i>pí jīng</i> (脾经)	200-300	Supplementing
<i>dà cháng</i> (大肠)	100-200	Supplementing
navel (脐)	100-200	Rubbing
<i>guī wěi</i> (龟尾)	100	Rubbing
<i>qī jié gǔ</i> (七节骨)	50-100	Pushing Upwards
BL 20 (<i>pí shù</i>)	100	Kneading
BL 21 (<i>wèi shù</i>)	100	Kneading
ST 36 (<i>zú sān lǐ</i>)	100	kneading

Use the supplementing technique on *pí jīng* 200-300 times and *dà cháng* 100-200 times, knead on the navel 100-200 times and *guī wěi* 100 times, push upwards along *qī jié gǔ* 50-100 times and knead on BL 20 (*pí shù*), BL 21 (*wèi shù*) and ST 36 (*zú sān lǐ*) 100 times each.

Apply once daily, 5 times as one course of treatment. Tui na is not applicable for underweight children.

Acupuncture

ST 36 (<i>zú sān lǐ</i>)	RN 12 (<i>zhōng wǎn</i>)	BL 20 (<i>pí shù</i>)
RN 4 (<i>guān yuán</i>)	RN 6 (<i>qì hǎi</i>)	

Needle all points with even supplementation and drainage, or with supplementation. Retain the needles for 5 minutes, or do not retain the needle.

Treat once daily, with 5 days as one course of treatment.

Moxibustion

RN 8 (<i>shén què</i>)	RN 12 (<i>zhōng wǎn</i>)	ST 36 (<i>zú sān lǐ</i>)
--------------------------	----------------------------	----------------------------

Apply mild moxibustion with a moxa stick.

Treat once daily, with 5 days as one course of treatment.

Diarrhea due to Spleen-Kidney Yang Deficiency

Signs and Symptoms

Manifestations include persistent chronic diarrhea with clear thin stools with undigested food or a prolapsed rectum, cold body and limbs, a pale complexion, listlessness, sleeping with the eyes slightly open, and clear urine. The tongue is pale with a white coating; the pulse is weak and thready, and the venules are light-colored.

Pattern Differentiation

This pattern is seen in prolonged cases of chronic diarrhea marked by clear thin stools with undigested food and a cold body and limbs. For predominant spleen-yang deficiency cases, there are thin stools, or even rectocele, with a pale complexion. For predominant kidney-yang deficiency cases, there are thin cold stools, efflux desertion, abdominal pain and cold limbs, and listlessness. There is a tendency for this pattern to be prolonged without proper treatment. It may progress into severe infantile malnutrition and even death due to yang collapse.

Treatment Principles

Warm and supplement the spleen and kidney, astringe the intestines to check diarrhea.

Formula

Modified *Fù Zǐ Lǐ Zhōng Tāng*—Aconite Center-Regulating Decoction with *Sì Shén Wán*—Four Spirits Pill

党参	<i>dǎng shēn</i>	Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
干姜	<i>gān jiāng</i>	Rhizoma Zingiberis
吴茱萸	<i>wú zhū yú</i>	Fructus Evodiae

附子	<i>fù zǐ</i>	Radix Aconiti Lateralis Praeparata
补骨脂	<i>bǔ gǔ zhī</i>	Fructus Psoraleae
肉豆蔻	<i>ròu dòu kòu</i>	Semen Myristicae

Formula Analysis

Dǎng shēn (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) fortify the spleen and boost qi.

Gān jiāng (Rhizoma Zingiberis) and *wú zhū yú* (Fructus Evodiae) warm the middle and dissipate cold.

Fù zǐ (Radix Aconiti Lateralis Praeparata), *bǔ gǔ zhī* (Fructus Psoraleae) and *ròu dòu kòu* (Semen Myristicae) warm the spleen and kidney and check diarrhea.

Modifications

For rectal prolapse, add *zhì huáng qí* (Radix Astragali Praeparata cum Melle) and *shēng má* (Rhizoma Cimicifugae).

For chronic diarrhea and efflux desertion, add *shí liú pí* (Pericarpium Granati) and *chì shí zhī* (Holloysitum Rubrum).

Chinese Patent Medicine

Fù Zǐ Lǐ Zhōng Wán — Aconite Center-Regulating Pill

Take 4-8 pills, 3 times daily. For infants, melt the pill with warm water.

Plaster Therapy

Grind one portion of *dīng xiāng* (Flos Caryophylli) and two portions of *ròu guì* (Cortex Cinnamomi) into a fine powder. Mix ginger juice with 1-2 g powder and make a paste. Spread the paste around the umbilical region, cover with thin cotton or gauze and fix with adhesive tape.

Treat once daily, with 5 days as one course of treatment.

Tui na

Points	Repetitions	Methods
<i>pí jīng</i> (脾经)	200-300	Supplementing
<i>shèn jīng</i> (肾经)	200-300	Supplementing
EX-UE8 (<i>wài láo gōng</i>)	100	Rubbing
<i>dà cháng</i> (大肠)	100-200	Rubbing
<i>qī jié gǔ</i> (七节骨)	50-100	Pushing upwards
<i>guī wěi</i> (龟尾)	100	Rubbing
navel (脐)	100-200	Rubbing

Supplement *pí jīng* 200-300 times and *shèn jīng* 200-300 times, knead on EX-UE8 (*wài láo gōng*) 100 times, supplement *dà cháng* 100-200 times, push upwards along *qī jié gǔ* 50-100 times, knead *guī wěi* 100 times and the navel 100-200 times.

Treat once daily, with 5 times as one course of treatment. Tui na is not suitable for underweight children.

Acupuncture

BL 20 (<i>pí shù</i>)	BL 23 (<i>shèn shù</i>)	ST 36 (<i>zú sān lǐ</i>)
RN 4 (<i>guān yuán</i>)	SP 9 (<i>yīn líng quán</i>)	

Needle with supplementation and remove, or retain the needle for 5 minutes.

Treat once daily, with 5 days as one course of treatment.

Moxibustion

RN 8 (<i>shén què</i>)	RN 12 (<i>zhōng wǎn</i>)	ST 36 (<i>zú sān lǐ</i>)
--------------------------	----------------------------	----------------------------

Apply mild moxibustion with a moxa stick until the skin feels hot.

Treat once daily, with 5 days as one course of treatment.

2. DETERIORATED SYNDROMES

Impairment of Both Qi and Yin

Signs and Symptoms

Manifestations include continuous diarrhea, watery stools, listlessness, irritability, sunken orbits and fontanelle, dry skin, crying without tears, thirst with a desire to drink, and scanty urine or anuria with a dry mouth and dry red lips. The tongue is red with little or no coating; the pulse is thready and rapid.

Pattern Differentiation

This pattern often occurs following fulminant diarrhea and damp-heat diarrhea with manifestations of listlessness, dry skin, and scanty urine.

For predominant qi consumption, thin and loose stools with listlessness and poor appetite are seen.

For cases with predominant yin-impairment, there are profuse watery stools, sunken orbits and fontanelle, crying without tears, and scanty urine or anuria.

This pattern should be detected and treated as soon as possible because delayed treatment may lead to yin exhaustion and yang collapse.

Treatment Principles

Fortify the spleen and boost qi, transform yin with sweet and sour flavors.

Formula

Modified *Rén Shēn Wū Méi Tāng*—Ginseng and Mume Decoction

人參	<i>rén shēn</i>	Radix et Rhizoma Ginseng
白朮	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
烏梅	<i>wū méi</i>	Fructus Mume
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
木瓜	<i>mù guā</i>	Fructus Chaenomelis
蓮子	<i>lián zǐ</i>	Semen Nelumbinis
山藥	<i>shān yào</i>	Rhizoma Dioscoreae

Formula Analysis

Rén shēn (Radix et Rhizoma Ginseng) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) supplement qi and fortify the spleen.

Sour and sweet *wū méi* (Fructus Mume) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) engender yin, astringe the intestines and check diarrhea.

Mù guā (Fructus Chaenomelis) dispels dampness and harmonizes the stomach.

Lián zǐ (Semen Nelumbinis) and *shān yào* (Rhizoma Dioscoreae) fortify the spleen and check diarrhea.

Modifications

For continuous diarrhea, add *yǔ yú liáng* (Limonitum) and *chì shí zhī* (Holloysitum Rubrum).

For thirst with desire to drink, add *shí hú* (Caulis Dendrobii), *yù zhú* (Rhizoma Polygonati Odorati), *tiān huā fēn* (Radix Trichosanthis) and *lú gēn* (Rhizoma Phragmitis).

For hot and fetid stools, add *huáng lián* (Rhizoma Coptidis) and *là liǎo* (Herba Polygoni Hydropiperis).

Patients presenting with this syndrome require hospitalization. Fluid therapy is recommended.

Yin Exhaustion and Yang Collapse

Signs and Symptoms

Manifestations include continuous diarrhea with frequent profuse stools, listlessness, apathy, a pale or gray-green complexion, weak crying without tears, scanty urine or anuria and cold limbs. The tongue is pale and dry; the pulse is deep, thready and feeble, indicating a potentially critical condition.

Pattern Differentiation

The pattern here is developed from impairment of both qi and yin, or consumption of yin and yang due to enduring diarrhea. It is marked by a pale or gray-green complexion, listlessness, weak crying, scanty urine and even anuria, cold limbs and a deep thready feeble pulse. This pattern belongs to a critical condition; delayed treatment may lead to death.

Treatment Principles

Nourish yin and restore yang to prevent collapse.

Formula

Modified *Shēng Mài Sǎn*—Pulse-Engendering Powder with *Shēn Fù Lóng Mǔ Jiù Nì Tāng*—Ginseng, Aconite, Dragon Bone, and Oyster Shell Counterflow Decoction

人參	<i>rén shēn</i>	Radix et Rhizoma Ginseng
西洋參	<i>xī yáng shēn</i>	Radix Panacis Quinquefolii
麥冬	<i>mài dōng</i>	Radix Ophiopogonis
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
附子	<i>fù zǐ</i>	Radix Aconiti Lateralis Praeparata
肉豆蔻	<i>ròu dòu kòu</i>	Semen Myristicae

Formula Analysis

Rén shēn (Radix et Rhizoma Ginseng) powerfully supplements original qi.

Xī yáng shēn (Radix Panacis Quinquefolii) supplements yin qi.

Sweet and sour *mài dōng* (Radix Ophiopogonis), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *bái sháo* (Radix Paeoniae Alba) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) boost qi and engender yin.

Fù zǐ (Radix Aconiti Lateralis Praeparata) and *ròu dòu kòu* (Semen Myristicae) restore yang to prevent collapse.

Lóng gǔ (Os Draconis; Fossilia Osis Mastodi) and *mǔ lì* (Concha Ostreae) subdue yang to prevent collapse.

Patients with this pattern must be sent to a Western hospital for fluid therapy.

[WESTERN MEDICINE THERAPIES]

1. MEDICATIONS

Patients diagnosed with bacterial enteritis can be given ampicillin, cephalosporins, furazolidone or other appropriate antimicrobial agents. They are also given micro-ecological treatment to restore the intestinal ecological balance of normal flora, such as Bifidobacterium and Lactobacillus Acidophilus Preparation. Montmorillonite powder is used to protect the intestinal mucosa.

2. FLUID REPLACEMENT THERAPY

Fluid replacement therapy is applied to patients with water-electrolyte disturbance and acid-base imbalances.

Oral Replacement Solution (ORS) is recommended by WHO for diarrhea treatment to prevent and correct mild and moderate dehydration.

This is a solution of sodium chloride 3.5 g, sodium bicarbonate 2.5 g, potassium citrate 1.5 g, glucose 20 g, and 1000 ml of warm water.

For mild dehydration use 50 ml/kg; moderate dehydration: 60-90 ml/kg.

The cumulative fluid loss is restored within 8-12 hours by taking small frequent doses. When the dehydration is corrected, dilute ORS with the same volume of water and drink freely according to the conditions. As ORS is 2/3 isotonic solution, it is not recommended for newborn babies and patients with obvious symptoms of vomiting, abdominal distention, shock, heart and kidney dysfunction, etc.

Intravenous rehydration is needed for cases of severe dehydration or moderate diarrhea cases with severe vomiting or abdominal distention.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) Pay attention to food hygiene. Food should be fresh and hygienic. Do not eat spoiled food and avoid overeating. Wash hands before meals and after using the restroom. Bottle and feeding utensils should be cleaned properly.

(2) Avoid long-term overuse of broad-spectrum antibiotics to prevent treatment-

resistant diarrhea caused by intestinal flora imbalance.

2. NURSING CARE

(1) Properly control the diet to reduce the burden on the spleen and stomach. Fasting is recommended for patients with severe vomiting and diarrhea due to food damage or other causes. When the condition improves, gradually increase food intake. Avoid greasy, raw and cold, polluted or heavy foods.

(2) Keep the skin dry and clean with frequent changing of diapers. After each stool movement wash the buttocks, perineum and inguinal regions with warm water, and powder with pine pollen powder to prevent diaper rash.

(3) The patient's condition should be closely observed to detect early signs of deteriorated syndromes.

[CASE STUDIES]

► Case #1

Male, age 10 months. Initial Visit: 8/16/1981

Manifestations included frequent diarrhea, fever, and deep dark scanty urine. Other manifestations included thirst, nausea, listlessness, and open eyes while sleeping. His tongue was red with a yellow coating.

Based on these signs and symptoms, the patient was diagnosed with exuberant pathogenic heat with internal dampness, middle *jiao* disturbance, and disharmony of ascending and descending. Therefore, the treatment principle here is to clear heat and dissipate dampness.

Formula

葛根	<i>gé gēn</i>	6 g	Radix Puerariae Lobatae
黄连	<i>huáng lián</i>	2 g	Rhizoma Coptidis (fried with ginger)
黄芩	<i>huáng qín</i>	5 g	Scutellariae Radix Nova
赤茯苓	<i>chì fú líng</i>	5 g	Poria Rubra
苍术	<i>cāng zhú</i>	10 g	Rhizoma Atractylodis (soaked in rice water)
猪苓	<i>zhū líng</i>	6 g	Polyporus
泽泻	<i>zé xiè</i>	10 g	Rhizoma Alismatis
藿香	<i>huò xiāng</i>	6 g	Herba Agastachis
木香	<i>mù xiāng</i>	3 g	Radix Aucklandiae

After 2 doses, his fever was reduced, urine was normal, and the diarrhea was checked. The same formula was prescribed at the second visit, but with the addition of 6 g of *dǎng shēn* (Radix Codonopsis).

Analysis

This is a representative case of diarrhea due to heat and dampness with a predominance of internal heat.

Gé Gēn Huáng Qín Huáng Lián Tāng—Pueraria, Scutellaria, and Coptis Decoction clears the intestines and resolves toxins; when combined with *Sì Líng Sǎn*— Four Ingredients Powder with Poria, it can effectively clear heat and drain dampness, and instantly take effect.

Sleeping with the eyes open indicated that the spleen was weak, so after the diarrhea had been checked, *dǎng shēn* (Radix Codonopsis) was added to benefit the spleen and reinforce the healthy qì.

Source: Wang XF, Deng JC. [Collection of Works Written by Famous TCM Doctors]. Beijing: China Press of Traditional Chinese Medicine; 2001:166.

► Case #2

Male, age 10 months. Initial Visit: 1/6/2004

The patient had experienced diarrhea for one month and had not responded well to either Chinese or Western medications. There were a medium amount of loose stools containing indigested food, 4-5 bowel movements a day with borborygmus and diarrhea occurring shortly after food intake accompanied by a poor appetite. His tongue was pale with a thin greasy coating. His spirit was good. Based on the signs and symptoms the patient was diagnosed with weakened spleen yang with transportation and transformation failure. Therefore, the treatment principle here is to warm the spleen to assist in transportation and transformation.

Formula

党参	<i>dǎng shēn</i>	10 g	Radix Codonopsis
茯苓	<i>fú líng</i>	10 g	Poria
淮山药	<i>huái shān yào</i>	10 g	Rhizoma Dioscoreae
炮姜炭	<i>páo jiāng</i>	3 g	Rhizoma Zingiberis Praeparatum
煨益智仁	<i>wèi yì zhì rén</i>	10 g	Fructus Alpiniae Oxyphyllae Rosc.
砂仁	<i>shā rén</i>	3 g	Fructus Amomi Villosi (decocted later)
炒谷芽	<i>gǔ yá</i>	10 g	Fructus Setariae Germinatus (dry-fried)
炒麦芽	<i>mài yá</i>	10 g	Fructus Hordei Germinatus (dry-fried)

7 doses

At the second visit after seven days his appetite had increased, stool frequency decreased to 1-3 times daily, and stools became thicker. The following treatment was to further fortify the spleen to assist transportation and transformation.

Formula

太子参	<i>tài zǐ shēn</i>	10 g	Radix Pseudostellariae
茯苓	<i>fú líng</i>	10 g	Poria
苍术	<i>cāng zhú</i>	10 g	Rhizoma Atractylodis
白术	<i>bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae

煨益智仁	wèi yì zhì rén	10 g	Fructus Alpiniae Oxyphyllae Rosc.
砂仁	shā rén	3 g	Fructus Amomi Villosi (decocted later)
炒扁豆	biǎn dòu	5 g	Semen Lablab Album (dry-fried)
炒谷芽	gǔ yá	10 g	Fructus Setariae Germinatus (dry-fried)
炒麦芽	mài yá	10 g	Fructus Hordei Germinatus (dry-fried)

7 doses

At the third visit, after seven days, his stools were formed normally, evacuating once or twice daily. His food intake further increased, classifying him as clinically cured.

Analysis

The patient had thin stools with undigested food, diarrhea shortly after food intake, and a poor appetite. These are manifestations of spleen qi deficiency and dysfunction of transportation and transformation, while the persistent diarrhea, borborygmus and pale tongue with thin greasy coating are manifestations of spleen yang damage with untransformed dampness and turbidity. Therefore, this case involves spleen qi deficiency and spleen yang weakness. The treatment principle was to fortify the spleen and resolve dampness by using a modification of *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder.

It consisted of *páo jiāng tàn* (Rhizoma Zingiberis Praeparatum Carbonisatus), *wèi yì zhì rén* (Fructus Alpiniae Oxyphyllae Rosc.) and *shā rén* (Fructus Amomi Villosi) to warm and activate the spleen yang. *Mài yá* (dry-fried Fructus Hordei Germinatus) and *gǔ yá* (dry-fried Fructus Setariae Germinatus) help digestion and promote transformation. The curative effect was good.

According to clinical experience, lingering diarrhea may lead to qi consumption affecting yang. Therefore, to improve the treatment efficacy it is appropriate to add spleen and kidney warming herbs according to the degree of yang deficiency.

Source: Wan LS, editor. [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics]. Beijing: Academy Press; 2008: 138-139.

► Case #3.

Female, age 12 months. Initial Visit: 8/23/2002

Manifestations included diarrhea for over a fortnight with 7-8 bowel movements daily for unknown reasons. She had been administered oral medicines, infused intravenously and by enema without any beneficial effects.

The presenting condition was 7-8 bowel movements daily with a watery discharge and the large thenar muscle (*dayuji*) area was dark blue. Routine stool examination detected a small amount of fat globules. Based on the signs and symptoms, the patient was diagnosed with deficiency cold-type diarrhea.

She was prescribed tui na therapy, with supplementing on *pí jīng* and *dà cháng* 100 times, clearing *xīn gān jīng* 50 times and *xiǎo cháng* 100 times. Also applied was transporting Earth to Water 80 times, rubbing the abdomen, kneading the umbilicus, pushing upward *qī jié gǔ* and kneading *guī wěi*, 200 times each. Tui na was administered once. The next day, the parents were informed that the disease was almost cured. One more treatment was applied

to consolidate the therapeutic effect.

Analysis

The patient had diarrhea for over a fortnight with 7-8 bowel movements daily. Watery stools with fat globules indicated that there was spleen and stomach deficiency, dysfunction of transportation and transformation, and dysfunction of large intestine transportation. The area of the large thenar muscle (*dayuji*) was dark blue, indicating exuberant heart-liver fire. The author applied tui na to supplement the large intestine and clear the heart-liver channel and the small intestine. The curative effect was remarkable. It is possible to attain a positive result by using tui na with the correct differentiation and a suitable prescription.

[QUESTIONS]

1. A 7-month-old infant presented as being sick for one day with fever and nine daily bowel movements. The symptoms manifested were watery stools, urgent defecation, fetid odor, nausea and vomiting, crying, and yellow scanty urine.

What is the best major formula to be applied?

- A. *Bǎo Hé Wán*—Harmony-Preserving Pill
- B. *Píng Wèi Sǎn*—Stomach-Calming Powder
- C. *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder
- D. *Huò Xiāng Zhèng Qì Sǎn*—Agastache Qi-Correcting Powder
- E. *Gé Gēn Huáng Qín Huáng Lián Tāng*—Pueraria, Scutellaria, and Coptis Decoction

2. A 6-month-old infant intermittently holds his abdomen, and has been crying and restless since morning. There are thin loose stools three times daily with foam, a light fetid odor, borborygmus, and pale red finger venules.

What is the initial patent formula to be applied?

- A. *Gé Gēn Qín Lián Wēi Wán*—Pueraria, Scutellaria, and Coptis Pill
- B. *Huò Xiāng Zhèng Qì Yè*—Agastache Qi-Correcting Liquid
- C. *Bǎo Hé Wán*—Harmony-Preserving Pill
- D. *Jiàn Pí Bā Zhēn Gāo*—Eight Gem Spleen-Fortifying Cake
- E. *Fù Zǐ Lǐ Zhōng Wán*—Aconite Center-Regulating Pill

3. A 2-year-old child ate two pieces of cheese last night and started crying during the night, vomiting twice. Loose stools were passed three times until the morning, with less crying after each movement. There was a loss of appetite and the tongue showed a thick, hard, greasy coating.

Which medicinal is the best choice?

- A. *Jiāo shān zhā* (Fructus Crataegi Praeparata)
- B. *Jiāo shén qū* (Massa Medicata Fermentata Praeparata)
- C. *Jī nèi jīn* (Endothelium Corneum Gigeriae Galli)
- D. *Chǎo mài yá* (dry-fried Fructus Hordei Germinatus)
- E. *Chǎo gǔ yá* (dry-fried Fructus Setariae Germinatus)

4. An 11-month-old infant presents with diarrhea for 2 weeks, with bowel movements over 10 times daily at the onset. The frequency decreased to 3-4 times daily after being treated. The stool is loose and light-colored and passed after food intake. There is listlessness and a light-colored tongue coating.

If tui na is to be applied, which method should be applied first?

- A. Supplementing the spleen channel
- B. Supplementing the kidney channel
- C. Clearing the stomach channel
- D. Clearing the large intestine
- E. Kneading *bǎn mén*

5. A one-year-old infant presents with 3 months of alternating mild to severe diarrhea. The symptoms are loose and thin stools with undigested food and without a fetid odor, some prolapse of the rectum, cold limbs, listlessness and light-colored finger venules.

What do these signs and symptoms designate?

- A. Diarrhea due to dampness and heat
- B. Diarrhea due to wind and cold
- C. Diarrhea due to food damage
- D. Diarrhea due to spleen deficiency
- E. Diarrhea due to spleen and kidney yang deficiency

[REFERENCES]

- [1] World Health Organization & United Nations Children's Fund. WHO/ UNICEF Joint Statement: Clinical Management of Acute Diarrhea, 2004:2.
- [2] Yuan B, Han XM, Ye J. Clinical Observations on *Canggezhixieling* in Treating 74 Cases of Infantile Rotavirus Enteritis. Hebei Journal of TCM. 2002; 24 (10):726-727.
- [3] Wang QC. Tui na Treating 168 Cases of Infantile Diarrhea. Journal of Traditional Chinese Medicine and Chinese Materia Medica of Jilin. 2004; 24 (6):39-40.

Chapter 18

Food Accumulation (*Jī Zhì*)

Food accumulation is a gastrointestinal disorder caused by internal damage from over-ingestion of food or milk. Food that remains in the middle *jiao* fails to be absorbed, transformed or moved, and the result is qi stagnation characterized by loss of appetite, indigestion, abdominal and epigastric distention, sour belching, loose foul stools or constipation. Western medicine refers to this pattern as a digestive disorder.

Food accumulation may occur around the year, but is usually more predominant during autumn and summer when there summer damp-heat is prevalent. The disorder affects children of various age groups, but especially infants and young children. It is most typical in a child with a poor constitution or spleen and stomach deficiency, those who receive artificial feeding, or those who have not received adequate care after an illness.

At present, because the majority of modern families in China have only one child, the parents usually tend to overindulge the child; they are often over-dressed or eat too many rich high-protein foods. Or although the food intake is normal, there may be excessive nutrition or nutritional imbalances that damage the spleen and stomach. This is a new feature in current clinical cases of pediatric food accumulation disorder.

Food accumulation can occur either by itself or as a part of other diseases. The general prognosis in children is good, but some cases may persist or incur further damage to the spleen and stomach due to nutritional deficiencies. This can impede growth and development or even lead to infantile malnutrition. The *Infantile Health Promotion Discussion—Chapter on Infantile Malnutrition* (*Huó Yòu Kǒu Yì—Gān Jí Zhèng Hòu Fāng Yì*) states, “Food accumulation is the mother of infantile malnutrition. Therefore, if food accumulation remains untreated, it will lead to infantile malnutrition.”

In recent years, there have been many in-depth studies on Chinese medicine treatment of food accumulation. Establishment of the animal models of food accumulation has provided an experimental basis for studying the mechanisms of Chinese medicine in the prevention and treatment of this condition, as well as for screening effective medicinals and therapies; the application of multiple therapies has improved current treatment efficacy for this condition.

Wang Shou-chuan et al. conducted experiments on mice with food accumulation and found that by using *Qīng Rè Huà Zhì Kē Lì*—Granules for Clearing Heat and Resolving Stagnation, it was possible to improve the contents of the gastric dynamic pigment (MOT) and gastric lactating pigments (GAS) in the blood and small intestine tissues while also reducing growth suppression pigment (SS) levels. The research results showed that this formula can promote gastrointestinal peristalsis by regulating gastrointestinal hormones, which may be one of its mechanisms to treat children with food accumulation^[1].

The granular formula contains wine-fried *dà huáng* (Radix et Rhizoma Rhei), *dà qīng yè* (Folium Isatidis), *běi hán shuǐ shí* (Glauberitum), *chǎo mài yá* (dry-fried Fructus Hordei Germinatus), *jiāo shān zhā* (dry-fired Fructus Crataegi), *jiāo bīng láng* (dry-fired Semen Arecae), and *cǎo dòu kòu* (Semen Alpiniae Katsumadai).

Li Wen-jian treated 88 cases of food accumulation in children using the following

methods:

1. For mild cases of food accumulation, *Bǎo Hé Sǎn*—Harmony-Preserving Powder with *Shēng Jiàng Sǎn*—Ascending and Descending Powder was used.

Bǎo Hé Sǎn contains *chǎo mài yá* (dry-fried Fructus Hordei Germinatus) 50 g, *jiāo shān zhā* (dry-fired Fructus Crataegi) 50 g, *jiāo shén qū* (dry-fried Massa Medicata Fermentata) 50 g, *chén pí* (Pericarpium Citri Reticulatae) 9 g, *lián qiào* (Fructus Forsythiae) 9 g, *chǎo lái fú zǐ* (dry-fried Semen Raphani) 9 g, *fú líng* (Poria) 15 g, *bàn xià* (Rhizoma Pinelliae) 15 g, *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) 15 g, *zhǐ shí* (Fructus Aurantii Immaturus) 15 g, *hòu pò* (Cortex Magnoliae Officinalis) 15 g, *jiāo bīng láng* (dry-fried Semen Arecae) 15 g and *shā rén* (Fructus Amomi) 6 g.

Shēng Jiàng Sǎn contains *shēng dà huáng* (Radix et Rhizoma Rhei) 15 g, *jiāng cán* (Bombyx Batryticatus) 15 g, *dǎn nán xīng* (Arisaema cum Bile) 15 g, *tiān zhú huáng* (Concretio Silicea Bambusae) 15 g, *jiǔ jūn* (Rhubarb) 20 g, *bīng piàn* (Borneolum Syntheticum) 1 g and *jiāng huáng* (Rhizoma Curcumae Longae) 5 g.

2. For those with relatively worse symptoms and a longer course, a modification of *Zhǐ Shí Dǎo Zhì Wán*—Immature Bitter Orange Stagnation-Moving Pill was given. It contains *zhǐ shí* (Fructus Aurantii Immaturus) 6 g, *jiāo shén qū* (Massa Medicata Fermentata Praeparata) 6 g, *jiāo shān zhā* (Massa Medicata Fermentata Praeparata) 6 g, *chǎo mài yá* (Fructus Hordei Germinatus Praeparata) 6 g, *dà huáng* (Radix et Rhizoma Rhei) 3 g, *mù xiāng* (Radix Aucklandiae) 3 g, *bái zhú* (Rhizoma Atractylodis Macrocephalae) 8 g, *fú líng* (Poria), *lái fú zǐ* (Semen Raphani) 8 g, and *shā rén* (Fructus Amomi) 5 g.

The treatments were given for 4-8 days and resulted in all children having improved appetites, good spirits, and normal bowel movement and urination^[2].

Children are susceptible to food accumulation, but they often have difficulty in taking herbal medicinals. The use of external therapies such as tui na, pinching along the spine, acupuncture, and herbal plaster treatment can also achieve a beneficial effect.

Herbal plaster therapy is easily accepted due to its simple application for the treatment of food accumulation with abdominal pain and is thus widely used. It is generally applied to acupoint RN 8 (*shén què*) which accesses the “*shén qì* (spirit-qi)” and connects internally to the twelve main channels and the five *zang* and six *fu* organs as well as the limbs and bones.

Modern studies suggest that this point is a most effective method for transdermal drug delivery. As the umbilical cord is the final closure of the abdominal wall during embryonic development and contains the thinnest surface stratum corneum layer with no fat under the umbilicus, it is easier for medicinals to penetrate and diffuse in the area; the local skin, fascia and peritoneum are also directly connected. The inferior epigastric artery with bilateral veins under the umbilicus has a rich vascular network with a high sensitivity to drugs with rapid absorption, thus the effects of Chinese medicinals can be rapidly distributed to all tissues and organs through the umbilicus so as to regulate the body's qi, blood, yin, and yang and strengthen healthy qi to dispel pathogens, finally curing the diseases.

Gei Mei-fei et al. made the #1 Abdominal Pain Formula for treating pediatric food accumulation and abdominal pain, consisting of *chǎo mài yá* (Fructus Hordei Germinatus Praeparata), *jiāo shén qū* (Massa Medicata Fermentata Praeparata), *jī nèi jīn* (Endothelium Corneum Gigeriae Galli), and *yán hú suǒ* (Rhizoma Corydalis), with a ratio of 3 : 3 : 3 : 1

respectively. The above ingredients were processed into a fine powder with an 80° mesh sieve. 3 g of powder are mixed with glycerin and vinegar to make a paste, and put onto the center of a self-adhesive sterile dressing (7 cm × 10 cm). The dressing is then applied to RN 8 (*shén què*) for 10-12 hours per day, with 5 times as one treatment course.

In the control group, patients were given Anisodamine 2.5-5 mg twice daily, and Lactein (lactic acid bacteria tablets) 2-4 tablets, 3 times daily. The treatment efficacy in the treatment group was significantly better than the control ^[3].

Gui Xiang et al. applied yin-yang acupuncture with the needling method known as “yang concealed within yin” on ST 36 (*zú sān lǐ*), ST 21 (*liáng mén*), RN 12 (*zhōng wǎn*), ST 25 (*tiān shū*), ST 34 (*liáng qiū*), BL 20 (*pí shù*), BL 21 (*wèi shù*) and LV 13 (*zhāng mén*) in combination with abdominal rubbing. Finger rubbing was applied for excess patterns, while palm rubbing was used for deficiency patterns. 56 cases of pediatric food accumulation were treated, and 46 cases recovered, 7 cases were improved, and 3 were invalid ^[4].

[ETIOLOGY & PATHOMECHANISM]

The causes leading to the onset of food accumulation are mainly due to an inappropriate diet of milk or foods which damage the spleen and stomach causing impaired transportation and transformation; or there may be spleen and stomach deficiency with inadequate digestion and transformation capacities where ingested milk or food is retained. As the stomach governs food intake and the spleen governs transportation and transformation, it is only with normal function that milk and food can be absorbed properly. If damaged, there can be a malfunction of reception and transformation where the milk and food stagnate; qi becomes lethargic and relatively unresponsive, finally leading to a pattern of food accumulation.

Milk & Food Internal Accumulation

In infants the spleen is often insufficient and they are not yet able to be abstemious in eating and drinking, and if inappropriately nursed or fed, digestive functions can easily become impaired by intake of food or milk.

The problems associated with those impaired by milk are usually due to irregular milk feeding such as feeding too fast or too much or by an incorrect milk temperature.

Problems associated with those impaired by foods are usually due to an improper diet or problem eaters with poor eating habits such as a partiality for a particular type of food, overeating and drinking too much, from overeating of spicy, greasy, deep stir-fried foods or cold raw hard to digest foods, or from adding too many complementary foods to the diet, too early or too quickly.

The stomach is the reservoir for food and drink, which dominates intake and governs descent of the turbid. The spleen, as the source of qi and blood production, dominates transformation and transportation and governs ascent of the clear. These functions can be damaged when there is improper or irregular milk or food intake which leads to dysfunctions in receiving, transforming and transporting as well as abnormal ascending and descending. This results in food stagnation or accumulation.

The *Chapter on Essentials of Pediatric Teachings from the Golden Mirror of the Medical Tradition* states, “The stomach governs reception, while the spleen governs transformation and transportation. It is valuable to breastfeed regularly and to have an abstemious diet

to avoid suffering from food accumulation. If parents indulge their infants by excessive feeding of milk or food, the food stagnates and this will lead to illness". Those damaged by milk have milk accumulation, and those damaged by food will have food accumulation.

Spleen Deficiency with Accumulation

Spleen deficiency can be due to either a congenital deficiency which contributes to its general weakness, a lack of proper care after illness which weakens qi, the overuse of bitter, cold and purgative medicinals, or chronic digestive stagnation which also weakens the spleen-stomach. If there is spleen deficiency with compromised functions, and the quantities of food or milk are increased, the relative lack of response will cause them to stagnate in the middle *jiao* and create food accumulation. This is a pattern of deficiency complicated by excess.

Treatise on Origins and Manifestations of Various Diseases (Zhū Bīng Yuán Hòu Lùn) states, "Food accumulation with poor digestion is due to *zang* qi being too weak; cold stays within or between the stomach and spleen, causing difficult digestion of food. New food enters into the stomach while the old food from the previous meal has still not descended. Weakened spleen qi fails to perform the functions of transformation and transportation".

Food accumulation usually exists with both stagnation and deficiency. It is possible that the stagnation causes deficiency, or that the deficiency causes stagnation, and also that there is an interaction between the two. If prolonged food stagnation is not treated properly or in time, further damage to the spleen and stomach leads to a poor source of qi and blood generation, thus hindering growth and development. As the physical body starts to lose weight and fails to thrive, the condition gradually turns into infantile malnutrition.

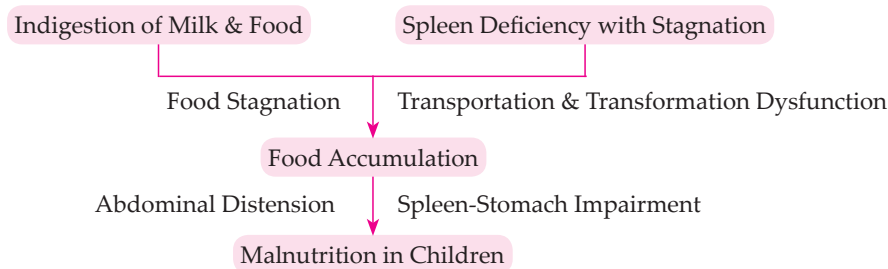


Fig. 18-1 Etiology and Pathomechanism of Food Accumulation

[CLINICAL DIGNOSIS]

► Essentials of Diagnosis

1. A history of damage by overfeeding of milk or food.
2. Characterized by loss of appetite, indigestion, abdominal and epigastric fullness and distention, loose stools or constipation.
3. May be accompanied by restlessness, night crying, or vomiting.
4. Lab Testing: undigested food residue and lipid droplets can be found.

The main features of food accumulation are undigested food or milk, and qi stagnation. The main points of diagnosis include a history of milk and food damage, a loss of appetite, indigestion, abdominal distention or pain, and irregular bowel movements.

► Differential Diagnosis

Food accumulation needs to be differentiated from pediatric anorexia and childhood malnutrition. See Table 18-1.

Table 18-1 Differential Diagnosis of Food Accumulation, Anorexia, and Malnutrition in Children

Diagnosis Essentials	Food Accumulation	Anorexia	Malnutrition in Children
Age	All age groups, most common in infants & young children	All age groups, more common in ages 1-6	All age groups, more common in ages 1-5
Characteristics	Any season, higher incidence in Summer & Autumn when damp-heat is predominant	Slow onset with a longer course, often more than 2 months, without apparent seasonal features, more severe symptoms in Summer & Autumn when damp-heat is predominant	Any season, slow onset with lingering course
Clinical Manifestations	Loss of appetite, indigestion accompanied by abdominal & epigastric fullness & distention, constipation with fetid odor, burping, vomiting with an acidic odor	Long term appetite loss, aversion to food	Poor appetite, gluttony, parorexia, emaciation, yellow complexion, dry hair, abdominal distention or sinking, tiredness or restlessness

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Located in the spleen and stomach, pattern differentiation should be based on the eight principles, individual physical characteristics, causes, symptoms, and course to distinguish between deficiency, excess, cold, heat, and the severity of disease.

(1) Differentiating Deficiency and Excess

Generally, food accumulation is an excess pattern in the early stage and a deficiency-excess complex when there has been accumulation for a long time. There may be more excess and less deficiency, or less excess and more deficiency. If caused by spleen and stomach deficiency, the early stage is seen with intermingled deficiency and excess syndromes. Abdominal palpation is crucial for distinguishing excess from deficiency. As stated in *Standards of Diagnosis and Treatment in Pediatrics* (Yòu Kē Zhèng Zhì Zhǔn Shéng), “Pressing with pain is food accumulation; pressing with no pain is internal deficiency”.

Excess-type food accumulation presents with epigastric and abdominal fullness and distention with pain that refuses pressure, accompanied by spitting, sour regurgitation, and constipation with foul-smelling stools.

Deficiency complicated by excess patterns present with abdominal fullness after eating, fullness relieved by pressure, loose bowels or stools mixed with undigested food, a yellow complexion, and listlessness.

The retention of food or milk in the gastrointestinal region is always a tangible excess pathogen. Therefore, all kinds of food accumulation are an excess condition, while complex combined patterns of excess and deficiency only occur when there is concurrent spleen deficiency.

(2) Differentiating Cold and Heat

Food accumulation can be classified into heat- and cold-types. Generally, the heat-type is more common than cold, and cold-type food accumulation that is prolonged will often transform into a heat pattern.

Heat-type food accumulation is generally more common in children with an excessive yang body type or deficient yin body type, or those who overconsume fatty or sweet foods. Manifestations include loss of appetite, epigastric and abdominal distention, fullness or pain that worsens with warmth but is slightly alleviated by coolness, foul breath, sour regurgitation, a red complexion and lips, restlessness, easily upset or angry, constipation, stools with a foul odor, and a hot sensation in the palms and soles. The tongue is red with a thick greasy yellow coating.

Cold-type food accumulation is generally seen in children with a yang deficient-type body, although it may be caused by the overconsumption of cold raw foods or the overuse of cold or cooling medicinals. Manifestations include epigastric and abdominal distention and fullness relieved by warmth or pressure, general lassitude, pale complexion and lips, and cold limbs. Food eaten in the morning may be vomited late in the afternoon, or food eaten in the evening may be vomited the next morning with an acidic, fishy, or sour odor. Stools are diluted and loose, and the tongue is pale with a greasy white coating.

(3) Differentiating Severe and Mild Patterns

Food accumulation can be either severe or mild. Those with a mild condition have a slow onset with a short course, only manifesting with no desire for milk or food, epigastric and abdominal distention and fullness, bad breath and foul-smelling stools.

Those in a severe condition will have a rapid onset with a longer course; there are irritability, food refusal, restless sleep at night, epigastric and abdominal distention and fullness, abdominal pain aggravated by pressure, foul-smelling vomitus, irregular dry or loose bowels, a yellow complexion, emaciation, low spirits and fatigue. If the condition progresses further and persists, or does not receive adequate treatment, it can eventually lead to infantile malnutrition.

► Treatment Principles

Food accumulation is a tangible food or milk build-up in the digestive system where the basic treatment principle is to promote digestion, remove accumulation, rectify qi and move stagnation. As stated in the *Grand Compendium of Pediatrics* (Yòu Yòu Jí Chéng), “Resolving and eliminating methods must be used for food accumulation so as to move stagnant qi and remove accumulation”. The actual treatment may vary from case to case according to different clinical manifestations.

For excess type food accumulation, the treatment is mainly to promote digestion and guide out stagnation.

For food accumulation transforming into heat, treat by combining clearing and resolving stagnant heat methods.

For cold type food accumulation, combine principles by warming yang and promoting

transformation.

If the food accumulation is hard to eliminate, treat by unblocking the bowels to remove stagnation while draining heat by purgation in order to pacify the spleen and stomach while the food accumulation is relieved; relatively drastic treatments should be stopped as soon as the pathogenic retention is removed, and must not be over-used.

For complex deficiency-excess types, treat by both supplementing and eliminating.

If there is a severe food accumulation with mild spleen deficiency, apply eliminating methods assisted by supplementation.

If spleen deficiency is greater than the food accumulation, use supplementing methods assisted by eliminating so as not to impair healthy qi; also strengthen healthy qi to help eliminate the accumulation.

It is important to note that food accumulation is often associated with qi stagnation, and qi stagnation can worsen food accumulation, so medicinals that promote digestion are often compatible with those which are qi regulating. As the child spleen and stomach are delicate, it is important to stop purgative and accumulation removing medicinals as soon as their purpose is achieved.

When trying to fortify the spleen and supplement deficiency, avoid overuse of strong sweet and greasy medicinals, as these can cause stagnation in the middle *jiao* and impede the splenic transportation. Once the food accumulation is eliminated, efforts should then be made to regulate the spleen and stomach functions so that they can manage the aftermath of the disorder. Apart from the use of medicinals to treat this illness, external therapies such as tui na and acupuncture are also often used.

► Classification of Patterns and Treatments

Milk or Food Accumulation

Signs and Symptoms

Manifestations include a lack of interest in drinking milk or eating food, burping with a sour taste, spitting up food or curdled milk, epigastric and abdominal distention and pain, and foul stools; sometimes accompanied by irritability, crying, disturbed sleep at night, and hot palms and soles. The tongue is red with a thick white or thick greasy yellow coating. The pulse is slippery rapid; there are stagnant purple finger venules.

Pattern Differentiation

The patient has a history of inappropriate overfeeding or overdrinking of milk. This pattern is characterized by its short course with no interest in milk or food, epigastric and abdominal fullness and distention, burping or spitting up sour vomitus, and foul stools. The pattern can be distinguished as damage by food or drink according to the daily diet.

If there is accumulation with heat, there can be hot sensations in the abdomen, palms and soles, thirst, a preference for cold drinks, irritability and crying, disturbed sleep at night, and scanty urine. The tongue is red with a thick greasy yellow coating.

If cold is more involved, there will be epigastric and abdominal pain, a preference for warm drinks, a pale complexion and lips, cold limbs and loose bowels. The tongue is pale with a thick greasy white coating.

If there is a lack of proper treatment or care, or if the illness persists for a long time, it will damage spleen qi causing spleen deficiency that will complicate the food accumulation.

Treatment Principles

Promote digestion, harmonize the middle and remove stagnation

Formula

(1) For milk accumulation, apply a modification of *Xiǎo Rǔ Wán*—**Milk Indigestion Eliminating Pill**

炒麦芽	<i>chǎo mài yá</i>	Fructus Hordei Germinatus Praeparata
炒谷芽	<i>chǎo gǔ yá</i>	Fructus Setariae Germinatus
焦神曲	<i>jiāo shén qū</i>	Massa Medicata Fermentata Praeparata
香附	<i>xiāng fù</i>	Rhizoma Cyai
陈皮	<i>chén pí</i>	Aicarpium Citri Reticulatae
砂仁	<i>shā rén</i>	Fructus Amomi
茯苓	<i>fú líng</i>	Poria

Formula Analysis

Chǎo mài yá (Fructus Hordei Germinatus Praeparata), *chǎo gǔ yá* (dry-fried Fructus Setariae Germinatus) and *jiāo shén qū* (Massa Medicata Fermentata Praeparata) promote milk digestion and remove accumulation.

Xiāng fù (Rhizoma Cyai) and *chén pí* (Aicarpium Citri Reticulatae) regulate qì and resolve stagnation.

Shā rén (Fructus Amomi) and *fú líng* (Poria) fortify the spleen and promote transportation.

Together they promote milk digestion, remove accumulation and harmonize the middle.

(2) For food accumulation, apply a modification of *Bǎo Hé Wán*—**Harmony-Preserving Pill**.

焦山楂	<i>jiāo shān zhā</i>	Fructus Crataegi
焦神曲	<i>jiāo shén qū</i>	Massa Medicata Fermentata Praeparata
鸡内金	<i>jī nèi jīn</i>	Endothelium Corneum Gigeriae Galli
莱菔子	<i>lái fú zǐ</i>	Semen Raphani
香附	<i>xiāng fù</i>	Rhizoma Cyai
陈皮	<i>chén pí</i>	Aicarpium Citri Reticulatae
砂仁	<i>shā rén</i>	Fructus Amomi
茯苓	<i>fú líng</i>	Poria
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
连翘	<i>lián qiào</i>	Fructus Forsythiae

Formula Analysis

Jiāo shén qū (Massa Medicata Fermentata Praeparata), *jiāo shān zhā* (scorch-fried Fructus

Crataegi), *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) and *lái fú zǐ* (Semen Raphani) relieve accumulation and resolve stagnation.

Among them, *jiāo shān zhā* (scorch-fried Fructus Crataegi) helps to digest meat accumulation.

jiāo shén qū (Massa Medicata Fermentata Praeparata) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) help to digest stale food accumulation.

Lái fú zǐ (Semen Raphani) helps in digesting grain and food accumulation.

Xiāng fù (Semen Raphani), *chén pí* (Aicarpium Citri Reticulatae) and *shā rén* (Fructus Amomi) move qi to free the middle.

Fú líng (Poria) and *bàn xià* (Rhizoma Pinelliae) fortify the spleen and remove dampness.

Lián qiào (Fructus Forsythiae) clears constrained heat.

Modifications

For evident abdominal distention, add *mù xiāng* (Radix Aucklandiae), *hòu pò* (Cortex Magnoliae Officinalis) and *zhǐ shí* (Fructus Aurantii Immaturus) to move qi, purge food stagnation and eliminate distention.

For abdominal pain with constipation, add *dà huáng* (Radix et Rhizoma Rhei) and *bīng láng* (Semen Arecae) to purge accumulation and remove stagnation.

For nausea and vomiting, add *zhú rú* (Caulis Bambusae in Taenia) and *shēng jiāng* (Rhizoma Zingiberis Recens) to harmonize stomach function, descend adverse stomach qi and check vomiting.

For epigastric fullness with a thick greasy tongue coating, add aromatic *huò xiāng* (Herba Agastachis), *cāng zhú* (Rhizoma Atractylodis) and *hòu pò* (Cortex Magnoliae Officinalis) to move qi and resolve dampness.

For double heat accumulation with fever, flushed face, bad breath, a red tongue and a thick yellow tongue coating, add *hú huáng lián* (Rhizoma Picrorhizae) and *huáng qín* (Radix Scutellariae) to clear accumulated heat in the stomach and intestines.

For thoracic and hypochondriac fullness sensations, add *chái hú* (Radix Bupleuri) and *chuān liàn zǐ* (Fructus Toosendan) to rectify qi and soothe the liver.

For thirst and dry mouth with a peeled tongue coating, add *mài dōng* (Radix Ophiopogonis), *shí hú* (Caulis Dendrobii) and *tiān huā fēn* (Radix Trichosanthis) to nourish yin and generate fluids.

For abdominal distention and pain due to overindulgence in cold drinks, or when accompanied by signs of exterior cold invasion, add *wū yào* (Radix Linderae), *gāo liáng jiāng* (Rhizoma Alpiniae Officinarum) to warm the middle *jiao*, disperse cold, move qi and relieve pain.

For loose stools, add *biǎn dòu* (Semen Lablab Album) and *yì yǐ rén* (Semen Coicis) to fortify the spleen and percolate dampness so as to supplement while supporting elimination.

If accumulation and stagnation transform into heat, the treatment principle is mainly to clear heat and remove stagnation. For recent accumulation with heat, combine heat clearing medicinals with those that remove stagnation such as *huáng qín* (Radix Scutellariae), *shí gāo* (Gypsum Fibrosum), *zhī mǔ* (Rhizoma Anemarrhenae), *zhī zǐ* (Fructus Gardeniae), *lián qiào* (Fructus Forsythiae) and *bái wēi* (Radix et Rhizoma Cynanchi Atrati).

For a long-standing accumulation with heat, use *Zhǐ Shí Dǎo Zhì Wán*—Immature Bitter Orange Stagnation-Moving Pills or *Xiāng Lián Dǎo Zhì Tāng*—Radix Aucklandiae and Rhizoma Coptidis Stagnation Resolving Decoction.

Chinese Patent Medicines

a. *Zhǐ Shí Dǎo Zhì Wán*—Immature Bitter Orange Stagnation-Moving Pills.

Take 3 g, twice daily. Used for relatively severe accumulation and stagnation patterns where the obstruction translates into heat.

b. *Qīng Rè Huà Zhì Kē Lì*—Heat Clearing and Stagnation Resolving Granules.

Children aged 1-3 years take 1 bag; aged 4-7 take 2 bags, aged 8-14 take 3 bags, 3 times daily. Used for food or milk stagnation transforming into heat.

c. *Xiǎo Ér Xiǎo Shí Piàn*—Infant's Food Digesting Tablets.

Take 2-4 tablets, 3 times daily. Used for internal milk or food accumulation.

External Therapy

a.

玄明粉	<i>xuán míng fěn</i>	3 g	Natrii Sulfas Exsiccatus
胡椒粉	<i>hú jiāo fěn</i>	0.5 g	Fructus Piperis

Grind the two ingredients into a fine powder and mix well; place onto the navel, cover with gauze and fix with adhesive tape.

Treatment is given once daily, with 3 times as one treatment course.

b.

焦神曲	<i>jiāo shén qū</i>	30 g	Massa Medicata Fermentata Praeparata
焦山楂	<i>jiāo shān zhā</i>	30 g	Fructus Crataegi
炒麦芽	<i>chǎo mài yá</i>	30 g	Fructus Hordei Germinatus Praeparata
槟榔	<i>bīng láng</i>	10 g	Semen Arecae
生大黄	<i>shēng dà huáng</i>	10 g	Radix et Rhizoma Rhei
芒硝	<i>máng xiāo</i>	20 g	Natrii Sulfas

The above ingredients are ground into a fine powder and blended with sesame oil. Place the warm paste onto RN 12 (*zhōng wǎn*) and RN 8 (*shén què*). The warm compress is used for 5 minutes and kept on for 24 hours. Used for food accumulation with abdominal distention and pain.

Apply on alternate days, with three times as one treatment course.

c.

桃仁	<i>táo rén</i>	Semen Asicae
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
栀子	<i>zhī zǐ</i>	Fructus Gardeniae

Equal parts of the above ingredients are ground into a fine powder together with a small proportion of *hú jiāo* (Fructus Piperis) powder. Use 2 g each time, with mashed *cōng bái* (Bulbus Allii Fistulosi) 10 g and a few drops of white wine to make a paste for application onto both soles. Used for food accumulation that has turned into heat.

Treatment is given once daily, with three times in one treatment course.

Tui na

Points	Repetitions	Methods
<i>Wèi jīng</i> (胃经)	200	Clearing
<i>Bǎn mén</i> (板门)	300	Kneading
<i>Nèi bā guà</i> (内八卦)	300	Pushing
<i>Sì héng wén</i> (四横纹)	50	Pushing
RN 12 (<i>zhōng wǎn</i>)	200	Kneading and Pressing
ST 36 (<i>zú sān lǐ</i>)	1 minute	Kneading and Pressing
<i>Qī jié gǔ</i> (七节骨)	100	Pushing down
Abdominal yin-yang	50	Separating Aside
Combine the following points for heat induced by food accumulation		
<i>Tiān hé shuǐ</i> (天河水)	200	Clearing
<i>Dà cháng</i> (大肠)	200	Clearing

Clear *wèi jīng* 200 times, knead *bǎn mén* 300 times, push *nèi bā guà* 300 times, push *sì héng wén* 50 times, knead and press *zhōng wǎn* 200 times, knead and press *zú sān lǐ* for 1 minute, push down *qī jié gǔ* 100 times, and push aside abdominal yin-yang 50 times.

For food stagnation with heat, also clear *tiān hé shuǐ* 200 times, clear *dà cháng* 200 times. Treat once daily, with 3 times as one treatment course.

Acupuncture

ST 36 (<i>zú sān lǐ</i>)	RN 12 (<i>zhōng wǎn</i>)	ST 21 (<i>liáng mén</i>)
<i>Lǐ nèi tíng</i> (里内庭)	ST 25 (<i>tiān shū</i>)	

For food stagnation transforming into heat, add LI 11 (*qū chí*) and DU 14 (*dà zhuī*).

For irritability and restlessness, add HT 7 (*shén mén*).

Use three to five points for each treatment needling with moderate stimulation and no needle retention. For excess syndromes, the drainage method is mainly applied with some supplementation, vice versa for deficiency syndromes.

Treat once daily, with 3 times as one treatment course.

Spleen Deficiency with Accumulation**Signs and Symptoms**

Manifestations include no desire for milk or food, a distended stomach with fullness when eating, abdominal distention relieved by pressure, a sallow complexion, emaciation, sleepiness and weakness, and thin foul-smelling half-congealed stools with curdled milk or undigested food residue. The tongue is pale with a greasy white coating. The pulse is thready and slippery; there are light purple stagnant finger venules.

Pattern Differentiation

This pattern is often seen in children with spleen deficiency or in those lacking appropriate care after an illness. It may also occur after overuse of cold cooling medicinals, or may be transformed from milk or food accumulation. The key points for pattern

identification include a yellow complexion, general fatigue, abdominal fullness that responds favorably to pressure, burping and sour regurgitation, loose stools with acidic odor with undigested food residue, and purple finger venules.

Treatment Principles

Fortify the spleen, promote transportation and digestion, and resolve stagnation

Formula

Modified *Jiàn Pí Wán*—Spleen-Fortifying Pill

党参	<i>dǎng shēn</i>	Radix Codonopsis
茯苓	<i>fú líng</i>	Poria
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
焦神曲	<i>jiāo shén qū</i>	Massa Medicata Fermentata Praeparata
焦山楂	<i>jiāo shān zhā</i>	Fructus Crataegi
炒麦芽	<i>chǎo mài yá</i>	Fructus Hordei Germinatus Praeparata
陈皮	<i>chén pí</i>	Aicarpium Citri Reticulatae
枳实	<i>zhǐ shí</i>	Fructus Aurantii Immaturus

Formula Analysis

Dǎng shēn (Radix Codonopsis), *fú líng* (Poria), *bái zhú* (Rhizoma Atractylodis Macrocephalae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) boost qi and fortify spleen to support healthy qi.

Chǎo mài yá (Fructus Hordei Germinatus Praeparata), *jiāo shén qū* (Massa Medicata Fermentata Praeparata) and *jiāo shān zhā* (Massa Medicata Fermentata Praeparata) promote digestion and remove accumulation.

Chén pí (Aicarpium Citri Reticulatae) and *zhǐ shí* (Fructus Aurantii Immaturus) fortify the spleen, remove accumulation, and regulate qi to relieve distention.

Modifications

For vomiting, add *fǎ bàn xià* (Rhizoma Pinelliae Praeparatum), *dīng xiāng* (Flos Caryophylli) and *shēng jiāng* (Rhizoma Zingiberis Recens) to warm the middle, harmonize the stomach, descend qi and check vomiting.

For abdominal pain due to cold accumulation, add *mù xiāng* (Radix Aucklandiae), *gān jiāng* (Rhizoma Zingiberis) and *shā rén* (Fructus Amomi) to warm the middle *jiao*, dissipate cold and check pain.

For loose bowels, add *chǎo shān yào* (dry-fried Rhizoma Dioscoreae), *yì yǐ rén* (Semen Coicis) and *cāng zhú* (Rhizoma Atractylodis) to fortify the spleen and remove dampness.

For a greasy white tongue coating, add aromatic ingredients *huò xiāng* (Herba Agastachis) and *pèi lán* (Herba Eupatorii) to awaken the spleen and remove dampness.

For a pale tongue with a white coating but no coating on the centre of the tongue, add *yù zhú* (Rhizoma Polygonati Odorati) and *shí hú* (Caulis Dendrobii) to enrich yin, nourish the stomach and generate fluids.

For cold hands and feet, diarrhea with cold sensations in the abdomen and a deficient cold constitution, apply a modification of *Lǐ Zhōng Tāng*—Middle-Regulating Decoction to

warm the middle *jiao*, dissipate cold, boost qi and fortify the spleen.

For spleen deficiency failing to transport with abdominal distention and loose bowels, apply a modification of *Xiāng Shā Liù Jūn Zǐ Tāng*—Costusroot and Amomum Six Gentlemen Decoction.

Chinese Patent Medicines

Xiǎo Ér Xiāng Jú Wán—Infant's Orange Pill.

Take 2-3 g, 2-3 times daily. For abdominal distention, a yellow complexion, emaciation, and a poor appetite.

Qǐ Pí Wán—Spleen-Arousing Pill.

Take 2-3 g, 2-3 times daily. For dyspepsia, abdominal distention and loose stools.

External Therapy

高良姜	<i>gāo liáng jiāng</i>	2 g	Rhizoma Alpiniae Officinarum
槟榔	<i>bīng láng</i>	4 g	Semen Arecae
白术	<i>bái zhú</i>	5 g	Rhizoma Atractylodis Macrocephalae

The above ingredients are ground into fine powder and fixed with gauze onto the navel. Replace daily, with 3 times as one treatment course.

Tuī na

Points	Repetitions	Methods
<i>Pí jīng</i> (脾经)	300	Supplementing
<i>Nèi bā guà</i> (内八卦)	300	Moving
RN 12 (<i>zhōng wǎn</i>)	50	Rubbing
<i>Dà cháng</i> (大肠)	100	Supplementing
ST 36 (<i>zú sān lǐ</i>)	1 minute	Kneading and Pressing

Supplement *pí jīng* 300 times, move *nèi bā guà* 300 times, rub *zhōng wǎn* 50 times, reinforce *dà cháng* 100 times, knead and press *zú sān lǐ* for one minute.

Treat once daily, with 3 times as one treatment course.

Acupuncture

ST 36 (<i>zú sān lǐ</i>)	RN 12 (<i>zhōng wǎn</i>)	ST 21 (<i>liáng mén</i>)
EX-UE10 (<i>sì fēng</i>)	BL 20 (<i>pí shù</i>)	BL 21 (<i>wèi shù</i>)
RN 6 (<i>qì hǎi</i>)		

Use 3-5 points for each treatment; needle with moderate stimulation and no needle retention. For excess syndromes, mainly use the drainage method followed by supplementation. For deficiency syndromes, mainly use supplementation followed by drainage.

Treat once daily, with 3 times as one treatment course.

[PREVENTION & NURSING CARE]

1. PREVENTION

Provide the appropriate balanced diet for the patient. Breastfeeding or eating should be regular with appropriate amounts of nutrient-rich and easy to digest foods. Avoid overeating or overdrinking, as well as too many fatty or greasy foods; also avoid cold uncooked and junk foods, and discourage partialities for a particular kind of food. Avoid inappropriate restorative medicinals.

Nourishment should be based on the growth and development by gradually adding complementary foods on the principle of gradual and orderly progress; introduce smaller to larger amounts, from thin to thick types of food, and from single foods to greater varieties. There should not be a sudden addition of too many foods since this can result in the spleen and stomach becoming distressed and lead to food stagnation. Also be careful to avoid any delays in the introduction of solid food as this can slow the infant's spleen and stomach digestive functions and cause food intolerances.

2. NURSING CARE

Children with food accumulation should have a temporarily controlled diet with reduced intake of protein and fats; provide light and easy to digest foods until food stagnation is eliminated.

Carefully monitor and note any changes in the condition, and apply treatment as necessary. Those with vomiting should temporarily stop eating, and drink liquids mixed with a few drops of ginger juice and sugar. Rub the abdomen for abdominal distention. Give 10-20 ml of honey mixed with water for constipation. For severe cases of constipation, apply a glycerine enema to move the bowels. With spleen and stomach deficiency, apply moxibustion on ST 36 (*zú sān lǐ*).

[CASE STUDIES]

► Case #1

Female, age 15 months.

Recently, the child had a poor appetite, night crying, teeth grinding during sleep, and profuse sweat over the head. Her tongue had a yellow greasy coating; there was a rapid slippery pulse. The pattern was food accumulation with internal damp-heat. The treatment principle here is to promote digestion, harmonize the middle, remove dampness and clear heat.

Formula

焦神曲	<i>jiāo shén qū</i>	10 g	Massa Medicata Fermentata Praeparata
焦山楂	<i>jiāo shān zhā</i>	10 g	Fructus Crataegi
炒麦芽	<i>chǎo mài yá</i>	10 g	Fructus Hordei Germinatus Praeparata
莱菔子	<i>lái fú zǐ</i>	10 g	Semen Raphani

鸡内金	<i>jī nèi jīn</i>	10 g	Endothelium Corneum Gigeriae Galli
藿香	<i>huò xiāng</i>	10 g	Herba Agastachis
佩兰	<i>pèi lán</i>	10 g	Herba Eupatorii
木香	<i>mù xiāng</i>	3 g	Radix Aucklandiae
莲子心	<i>lián zǐ xīn</i>	3 g	Plumula Nelumbinis
草豆蔻	<i>cǎo dòu kòu</i>	3 g	Semen Alpiniae Katsumadai
赤芍	<i>chì sháo</i>	3 g	Radix Paeoniae Rubra
黄连	<i>huáng lián</i>	2 g	Rhizoma Coptidis

After 5 doses the child had an increased appetite, no head sweating, and peaceful sleep with no teeth grinding. No relapses were reported at a 2 month follow-up.

Analysis

This clinical manifestations of poor appetite, night crying, disturbed sleep and teeth grinding during sleep and profuse sweating over the head indicates food accumulation that has already transformed into heat. Therefore, the principle of treatment was to remove food accumulation while also clearing heat.

In the above formula, *jiāo shén qū* (Massa Medicata Fermentata Praeparata), *jiāo shān zhā* (Massa Medicata Fermentata Praeparata), *chǎo mài yá* (dry-fried Fructus Hordei Germinatus) and *lái fú zǐ* (Semen Raphani) remove accumulation.

Jī nèi jīn (Endothelium Corneum Gigeriae Galli) fortifies the spleen and promotes digestion.

Huò xiāng (Herba Agastachis) and *pèi lán* (Herba Eupatorii) clear heat and remove dampness.

Mù xiāng (Radix Aucklandiae) moves qi and removes stagnation.

Lián zǐ xīn (Plumula Nelumbinis) clears the heart and calms the mind.

Source: Zhang G, Ma J, Liang YH, et al. Dr Liang Zonghan's Experiences in the Treatment of Children's Food Accumulation Dyspeptic Disease [J]. Liaoning Journal of Traditional Chinese Medicine, 1986; (2): 14-15.

► Case #2

Male, age 3. Initial Visit: 24/9/1999

Chief Complaint: Poor appetite with abdominal distention for 3 months.

History of the Present Illness:

The child had a loss of appetite for the past three months with abdominal distention, occasional abdominal pain and vomiting of food with a sour smell. His bowel movements were regular and normal, there was no fever, and he had a reasonable complexion. There was also slight thirst, irritability, disturbed sleep at night, and hot palms and soles. The child's spirit was less vital; there was a slightly red throat and abdominal distention. The tongue was red with a slightly thick yellow coating; his pulse was wiry and slippery.

The diagnosis was food accumulation.

Pattern Differentiation: milk and food internal accumulation.

The treatment principle here was to promote digestion, remove stagnation and

harmonize the middle *jiao*.

Formula

Modified *Bǎo Hé Wán*—Harmony-Preserving Pill

陈皮	<i>chén pí</i>	5 g	Aicarpium Citri Reticulatae
法半夏	<i>fǎ bàn xià</i>	5 g	Rhizoma Pinelliae Praeparatum
焦山楂	<i>jiāo shān zhā</i>	5 g	Fructus Crataegi
焦神曲	<i>jiāo shén qū</i>	10 g	Massa Medicata Fermentata Praeparata
胡黄连	<i>hú huáng lián</i>	3 g	Rhizoma Picrorhizae
川朴	<i>chuān pò</i>	5 g	Cortex Magnoliae Officinalis
炒槟榔	<i>chǎo bīng láng</i>	10 g	Dry-fired Semen Arecae
桔梗	<i>jié gěng</i>	5 g	Radix Platycodonis
苏梗	<i>sū gěng</i>	5 g	Radix Platycodonis
炒麦芽	<i>chǎo mài yá</i>	5 g	Fructus Hordei Germinatus Praeparata
莱菔子	<i>lái fú zǐ</i>	10 g	Semen Raphani

Four daily doses.

Second Visit: After 4 doses, the child's appetite increased slightly, with significantly reduced abdominal pain and distention, and no vomiting. His spirit had also improved. The tongue was red with a slightly thick yellow coating. After 4 more doses the appetite became normal, and there were regular bowel movements with no abdominal pain or distention. The complexion was improved and he slept well at night.

Analysis

In this case, the child had food accumulation transforming into heat, which was mainly treated by improving transportation rather than by nourishing. The methods used were to move qi and remove food stagnation while concurrently clearing accumulated heat.

The selected formula was a modification of *Bǎo Hé Wán*—Harmony-Preserving Pill:

Jiāo shén qū (Massa Medicata Fermentata Praeparata), *jiāo shān zhā* (Massa Medicata Fermentata Praeparata), *chǎo mài yá* (dry-fried Fructus Hordei Germinatus) and *lái fú zǐ* (Semen Raphani) remove food stagnation.

Chén pí (Aicarpium Citri Reticulatae) and *sū gěng* (Radix Platycodonis) move qi and free the middle *jiao*.

Chuān pò (Cortex Magnoliae Officinalis) and *bīng láng* (Semen Arecae) move qi and resolve stagnation.

Fǎ bàn xià (Rhizoma Pinelliae Praeparatum) descends adverse qi and checks vomiting.

Hú huáng lián (Rhizoma Picrorhizae) clears heat, generates fluids and quenches thirst.

The combination of medicinals resulted in normal transportation and improved ascending and descending of the spleen and stomach. The food accumulation and stagnation were relieved as well as the associated symptoms.

Source: Wan LS, Chief Editor. Selected Theories and Case Studies of Wang Shouchuan in Chinese Medical Pediatrics [M]. Academy Press, Beijing, 2008:136-137.

[QUESTIONS]

1. A child, age 5.

The child presented 3 days ago with no appetite after eating roast beef; there was sour burping, abdominal fullness and distention, and foul-smelling stools. The tongue was red with a thick greasy yellow coating; the pulse was slippery and rapid.

Which formula is the best choice for this child?

- A. *Xiāo Rǔ Wán*—Milk Indigestion Eliminating Pill
- B. *Lǐ Zhōng Tāng*—Middle-Regulating Decoction
- C. *Jiàn Pí Wán*—Spleen-Fortifying Pill
- D. *Bǎo Hé Wán*—Harmony-Preserving Pill
- E. *Xiāng Shā Liù Jūn Zǐ Tāng*—Costusroot and Amomum Six Gentlemen Decoction

2. A child, age 7, did not feel like eating for over a month and felt overfull after eating with abdominal fullness that responded well to pressure. There was a sallow complexion, emaciation, and loose stools with undigested food residue. The tongue was pale with a greasy white coating; the pulse was thready and slippery.

Which formula is the best choice for this child?

- A. *Xiāo Rǔ Wán*—Milk Indigestion Eliminating Pill
- B. *Liáng Fù Wán*—Lesser Galangal and Claus Pill
- C. *Jiàn Pí Wán*—Spleen-Fortifying Pill
- D. *Bǎo Hé Wán*—Harmony-Preserving Pill
- E. *Zhǐ Shí Dǎo Zhì Wán*—Immature Bitter Orange Stagnation-Moving Pill

3. A child, age 9 months, started to lose his appetite and not drink milk after eating a cooked egg yolk. There is sour burping, epigastric and abdominal distention, and foul-smelling stools. The tongue is red with a thick yellow coating, and there are purple finger venules.

If *tui na* is used, which of the following groups is the preferred method?

- A. Reinforce *pí jīng* (脾经) 300 times, move *nèi bā guà* (内八卦) 300 times, rub RN 12 (*zhōng wǎn*) 50 times, clear and reinforce *dà cháng* (大肠) 100 times, knead and press ST 36 (*zú sān lǐ*) for one minute.
- B. Clear *wèi jīng* (胃经) 200 times, knead *bǎn mén* (板门) 300 times, move *nèi bā guà* (内八卦) 300 times, push *sì héng wén* (四横纹) 50 times, knead and press RN 12 (*zhōng wǎn*) 200 times, knead and press ST 36 (*zú sān lǐ*) for one minute, push *qī jié gǔ* (七节骨) downward 100 times, push aside abdominal yin-yang 50 times.
- C. Clear *pí jīng* (脾经) 200 times, clear *dà cháng* (大肠) 100 times, clear *xiǎo cháng* (小肠) 100 times, recede downwards along *liù fǔ* (六腑) 200 times, clear *tiān hé shuǐ* (天河水) 100-200 times, knead ST 25 (*tiān shū*) 100-200 times, knead the navel 100-200 times.
- D. Reinforce *pí jīng* (脾经) 200 times and *shèn jīng* (肾经) 200 times, knead EX-UE8 (*wài lǎo gōng*) 100 times, and reinforce *dà cháng* (大肠) 100 times, push *qī jié gǔ* (七节骨) upward 50 times.
- E. Reinforce *pí jīng* (脾经) 300 times, clear *tiān hé shuǐ* (天河水) 200 times, clear *dà cháng* (大肠) 200 times, knead the navel 100 times, knead and press ST 36 (*zú sān lǐ*) for one minute.

4. A child, age 5, does not feel like eating, has abdominal distention when or after eating and a full

abdomen that responds well to pressure. There is a sallow complexion, emaciation, and foul-smelling loose stools with undigested food residue. The tongue is pale with a white greasy coating; the pulse is slippery and thready.

Which of the following is the presenting pattern?

- A. Food and milk stagnation in the interior
- B. Spleen and kidney yang deficiency
- C. Spleen and lung deficiency
- D. Stomach yin deficiency
- E. Spleen deficiency with stagnation

5. A child, age 3, presents with a poor appetite, feeling overfull after eating, a sallow complexion and pale lips, reduced body weight, and half-congealed thin stools with an acidic odor and food residues. The tongue is pale with a white greasy coating; the pulse is fine and slippery.

Which of the following is the most appropriate patent formula?

- A. *Xiǎo Èr Xiāo Shí Piàn*—Infant Food Digestion Tablets
- B. *Zhǐ Shí Dǎo Zhì Wán*—Immature Bitter Orange Stagnation-Moving Pill
- C. *Qīng Rè Huà Zhì Kē Lì*—Heat-Clearing Stagnation-Resolving Granules
- D. *Qǐ Pí Wán*—Spleen-Arousing Pill
- E. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill

[REFERENCES]

- [1] Wang SH, Zhao X, Liu ST. A Summary of the Third Phase Clinical and Experimental Research on *Qīng Rè Huà Zhì Kē Lì*—Heat-Clearing Stagnation-Resolving Granules [J]. *Modern Traditional Chinese Medicine & Pharmacology*, 2003; (4): 3-4.
- [2] Li WJ. Traditional Chinese Medicine Treatment of Infantile Food accumulation in 88 Cases [J]. *Journal of Sichuan Traditional Chinese Medicine*, 2003; 21(7): 72-73.
- [3] Gei MF, Zhang C. Clinical Experimental Research on *Abdominal Pain I* in the Treatment of Infantile Abdominal Pain due to Food Stagnation [J]. *Shandong Journal of Traditional Chinese Medicine*, 1999; 18(2): 112-114.
- [4] Guo X, Chen MR. Combination of Acupuncture “Yang Concealed within Yin” Needling Techniques and Abdominal Rubbing for Treating Infantile Food accumulation [J]. *Hunan Guiding Journal of Traditional Chinese Medicine and Pharmacology*, 2002; 8(8): 489-490.

Chapter 19

Malnutrition in Children (*Gān Zhèng*)

Malnutrition in children (*gān zhèng*) is a chronic disorder caused by improper feeding; it can also appear as a result of many other diseases. There is impairment of spleen and stomach functions with qi and body fluid depletion and poor nourishment of the skin, bones, channels, and *zang-fu* organs. It is clinically characterized by emaciation, a lusterless complexion, withered hair, listlessness or irritability, and an abnormal appetite.

In Chinese medicine, malnutrition in children is termed as *gān*, which has two meanings: firstly *gān* means sweet which mainly refers to its cause; this emphasizes that indulgence in greasy and sweet foods may damage the spleen and stomach and become a cause of malnutrition in children. Secondly *gān* means dry which refers to the pathogenesis and main symptoms, i.e., severe depletions of qi, blood and body fluids are the pathogenesis, and a withered physique and emaciation are the main symptoms.

Malnutrition in children can be classified into five major types according to the etiology, pathogenesis and clinical manifestations:

The first type is classified according to the affected organ according to *zang-fu* theory.

The second type is classified according to the specific disease cause, such as malnutrition with heat, cold, roundworms, improper feeding, lactational malnutrition etc.

The third type is classified according to affected areas such as the eyes, nose, mouth, spine, etc.

The fourth type is classified according to specific clinical manifestations such as cough, diarrhea, dysentery, nutritional edema, etc.

The fifth type is classified according to the severity of the condition: a mild condition that mostly involves qi, or malnutrition with deficiency, malnutrition with accumulation, extreme malnutrition, and malnutrition with dryness, etc.

Presently, malnutrition in children is generally classified into three main patterns with various sub-patterns based on the clinical duration and syndrome characteristics. The main patterns are qi malnutrition or mild malnutrition, malnutrition with accumulation, and malnutrition with dryness.

In Western medicine, malnutrition in children is considered as a chronic nutritional deficiency disorder, often caused by long-term inadequate nutritional intake, digestive and absorption defects, acute or chronic illnesses, or excessive physical consumption, which result in protein-energy malnutrition. Because there is a shortage of proteins and/or caloric energy with nutritional inadequacy, the condition is often complicated by nutritional anemia, rickets, and other various vitamin deficiencies. These manifest with weight loss, subcutaneous fat reduction and edema, usually accompanied by internal organ dysfunctions.

Clinically, it is divided into an emaciation type (mainly due to undersupply of caloric energy), an edema type (mainly due to undersupply of protein), and the emaciation-edema type.

The onset of malnutrition in children is slow, and the disorder often has a prolonged course. Malnutrition can occur in children from all age groups, and is especially common in



young children under the age of five years. There are no apparent seasonal factors relating to the onset of malnutrition, although a higher incidence is seen in developing countries and regions.

Malnutrition affects growth and development to various degrees, and severe cases may present as a critical condition of simultaneous yin-yang exhaustion with subsequent separation of yin and yang.

In ancient times, the disorder was listed as one of four main childhood syndromes which were “measles, smallpox, convulsions, and malnutrition”. Along with improved living standards and public healthcare services in many countries, the incidence of malnutrition (especially severe cases) has obviously decreased. However, mild and moderate cases are still commonly seen.

According to a WHO report in 2000, approximately 72% of undernourished children lived in Asia (especially in Southern Asia), 25.6% in Africa, and 2.3% in Latin America. It is estimated that nearly 182 million children under the age of five suffer from malnutrition. Therefore, there is a global healthcare target to reduce the incidence of malnutrition in children less than 5 years of age.

The prognosis for malnutrition in children is usually good after active and prompt treatment. Most patients can achieve a full recovery; the prognosis is relatively poor only in severe cases or patients with very severe accompanying symptoms.

Chinese medicine offers both internal and external treatment therapies for malnutrition in children. Research in recent years proves that children with malnutrition have varied degrees of defects in their gastrointestinal tracts involving secretion, absorption and movement functions. Their immune system function is low, and there are micronutrient deficiencies of trace minerals or elements. Chinese medicine has unique advantages in the prevention and treatment of malnutrition by effectively improving these aspects.

Qiu Gen-xiang et al applied a modification of Four Gentlemen's Decoction with Radix Paeonia Alba and Chrysanthemum—*Sháo Jú Sì Jūn Tāng* in 50 cases of childhood malnutrition. The formula contained *háng bái sháo* (Radix Paeoniae Alba from Hangzhou), *háng bái jú* (Chrysanthemum Morifolium Ramat), *hú huáng lián* (Rhizome Picrorhizae), *xī yáng shēn* (Radix Panacis Quinquifolii), *chǎo bái zhú* (stir-fried Rhizome Atractylodis Macrocephalae), *bái fú líng* (Poria), *é zhú* (Rhizome Curcumae), *zhì gān cǎo* (Radix et Rhizome Glycyrrhizae Preparata cum Melle), *guǎng chén pí* (Pericarpium Citri Reticulatae), *shā rén* (Fructus Amomi) and *zhì jī nèi jīn* (Endothelium Corneum Gigeriae Galli Praeparata).

The children improved in weight, nutritional indexes and blood levels of zinc, calcium and HGB. 41 patients were cured, 8 were improved and one was ineffective; the total effective rate reached 98%.

Wang Shou-chuan focused on commonly seen qi malnutrition according to Chinese medicine syndrome differentiation. He used *Zhuàng Ēr Yīn Kǒu Fú Yè*—Children's Strengthening Oral Liquid to supplement the spleen and soothe the liver. The formula contains *cāng zhú* (Rhizome Atractylodis), *chén pí* (Aicarpium Citri Reticulatae), *shān zhā* (Fructus Crataegi), *dǎng shēn* (Radix Codonopsis), *huáng qí* (Radix Astragali), and *jué míng zǐ* (Semen Cassiae).

Clinical research showed that the liquid formula could effectively raise zinc levels and increase HGB and RBC counts. Pharmacodynamic trials with mice showed improved pepsin activity and increased serum gastrin levels, while at the same time having no effect

on gastric acid secretion output. *Zhuàng Ér Yǐn Kǒu Fú Yè*—Children's Strengthening Oral Liquid could not only improve the physiological functions of the gastrointestinal tract, but also regulates physiological balance and promotes protein dissolution and absorption in the gastrointestinal tract, thus benefiting digestive system function and balance to enable recovery^[3].

Zhang Zhi-ping applied acupuncture and tuina therapy in 42 cases of childhood malnutrition using RN 12 (*zhōng wǎn*), EX-UE10 (*sì fēng*), and ST 36 (*zú sān lǐ*) needled with shallow insertion and the reinforcing method. Tui na techniques included clockwise pushing at *bā guà* (八卦), kneading of RN 12 (*zhōng wǎn*) for 1-2 minutes, and pinching along the spine. Treatment was given 3 times daily, with 10 days as one treatment course. The results showed 36 cases cured and 6 improved^[4].

[ETIOLOGY & PATHOMECHANISM]

There are many factors that can lead to malnutrition in children, the most common including inappropriate diet and feeding, nutrient imbalances, diseases, drug-related factors and congenital deficiencies. The primarily affected organs in malnutrition are the spleen and stomach, although through pathological transmission the other five *zang* may be involved.

The spleen and stomach are the foundation of the acquired constitution and the source of qi and blood production for providing energy. The harmony between these two with regular absorption and transportation contributes to the nourishment of organs, limbs, muscles, bones and skin hair. If the functions of the spleen and stomach are impaired, dysfunction of absorption and transformation will lead to a shortage of the source for qi and blood production, leading to deficiencies of qi, blood and body fluids. Consequently the *zang-fu* organs, muscles, tendons, bones skin and hair will all become poorly nourished, and as time passes there is malnutrition. The *Keys to Diagnosis and Treatment of Childhood Disease—Infantile Malnutrition* (*Xiǎo Ér Yào Zhèng Zhí Jué—Zhū Gān*) states, "Malnutrition in children is essentially an illness of the spleen and the stomach caused by depletion of body fluids".

Improper Diet Damaging the Spleen and Stomach

This is the most common cause for malnutrition in children. Children have weak transforming and transporting functions, their spleens are often insufficient, and they are often unable to control their food or milk intake. Infants should not be given food and drink that exceeds the capacity of their stomach and spleen to receive and transform. If provided with inappropriate amounts of even nourishing foods, or overfed with oily, greasy, cold or difficult to digest foods all result in a distressed stomach and lead to food accumulation and stagnation in the middle *jiao*.

Prolonged indigestion will impair the spleen and stomach, resulting in a relative lack of response of receiving and transforming. Then, neither food essence nor qi and blood will be generated, nor will the *zang-fu* organs or muscles be nourished, and malnutrition can occur. *Standards for the Diagnosis and Treatment—Infantile Diseases: Malnutrition* (*Zhèng Zhì Zhǔn Shéng—Yòu Kē: Gān*) states, "Food accumulation is the mother of malnutrition in children. There will be no malnutrition in children without food accumulation. If food accumulation is not treated, this will surely lead to a malnutrition syndrome in children."



Improper Feeding and Nutritional Imbalances

A child's normal growth relies on the comprehensive and rich nutrients in their food. Any of the following factors can cause nutritional imbalance: insufficient breast milk supply, over-diluted milk replacements, failure to add supplemental food in time, too little food in insufficient amounts, inappropriate food quality, and food preferences. Nutritional imbalances create an inadequate source for the spleen and stomach to generate acquired energy to meet their demands for growth and development, causing failure over a long period of time. The *zang-fu* organs, four limbs, muscles and bones suffer from a poor nutritional supply, thus qi and blood depletion will gradually result in malnutrition.

Depletion of Qi and Blood due to Chronic Illness

Malnutrition causes include chronic wasting diseases such as prolonged vomiting and diarrhea, recurrent exogenous pathogenic invasions, seasonal epidemic febrile diseases, lung consumption, intractable parasites, inadequately care, and misuse of purgative medicinals. These can all lead to the overconsumption of body fluids and qi and blood deficiency, withering muscles, and increasing weakness, which gradually becomes malnutrition.

Spleen and Stomach Weakness from Congenital Deficiency

Premature or multiple births, protracted illness during pregnancy, drug side effects damaging the fetus, and congenital malformations all may cause a congenital deficiency of the spleen and kidney with vital qi depletion. The poor functioning of the spleen and stomach causes inadequate food reception and transformation. When there is inadequate generation of food-essence and qi and blood insufficiency, there is poor nourishment of the *zang-fu* organs and muscles with emaciation and subsequent malnutrition.

In summary, the affected organs mainly involve the spleen and stomach. The primary pathological change lies in the spleen and stomach impairment, as well as an overconsumption of qi, blood and body fluids. Malnutrition in children often develops from basic to deep levels, from mild to severe, and from only the spleen and stomach being affected to impairment of other internal organs.

At its early stage, symptoms always involve the spleen and stomach, with spleen-stomach disharmony or a strong stomach paired with a weak spleen. Though the patient has a normal appetite but poor digestion, the absorption of water and grain essence fails to meet the needs of the body. Patients then have lusterless skin without signs of emaciation at the beginning. This relatively mild condition is called qi malnutrition.

If the patient is not treated properly at this stage, the disease will develop and damage the spleen and stomach with impaired food reception and transformation to cause accumulation and stagnation that blocks the qi mechanism and obstructs the channels. Malnutrition with accumulation appears as a pattern of deficiency mixed with excess. As the condition worsens, the spleen and stomach become weaker as body fluids, qi, blood and vital energy become exhausted. This leads to extreme emaciation, clinically known as dryness malnutrition.

Dryness malnutrition is a severe stage of malnutrition in children. Due to the severe damage, the spleen and stomach become a poor source for providing acquired energy and there is a depletion of qi, blood and body fluids with malnourishment of the related *zang-fu* organs. Apart from the accompanying symptoms involving the spleen itself, the condition may involve other organs with related accompanying symptoms.

Severe spleen deficiency with dysfunctional transformation and transportation will cause epigastric distention, vomiting and diarrhea.

Yang deficiency of the middle *jiao* with water retention under the skin due to yang qi failure in transforming water will lead to general edema known as malnutrition-related edema.

Spleen failing to govern blood, as seen with blood overflowing the vessels will manifest with purpura and various bleeding problems.

Should the original spleen condition affect the liver as characterized by liver hyperactivity and spleen deficiency, there will be irritability, finger-sucking and teeth grinding.

Liver yin deficiency will lead to malnourished eyes, which is due to the failure of the essential qi to ascend and nourish, known as “malnutrition involving the eyes”.

Should the spleen condition affect the heart, there will be deficient yin-blood with excess heart-fire, which follows the channel upwards to cause ulcers in the mouth and tongue.

Should the spleen affect the lung, there will be failure of Earth to promote Metal with poor lung function in fortifying the exterior and subsequent vulnerability to external pathogenic invasions as manifested by tidal fever and cough with wheezing.

Should the spleen condition affect the kidney, there will be a kidney-essence deficiency and poor nourishment of the bones. Eventually, there can be bone deformity.

The most severe cases of malnutrition in children will involve spleen qi collapse with complete vital qi depletion, and even sudden death due separation of yin and yang.

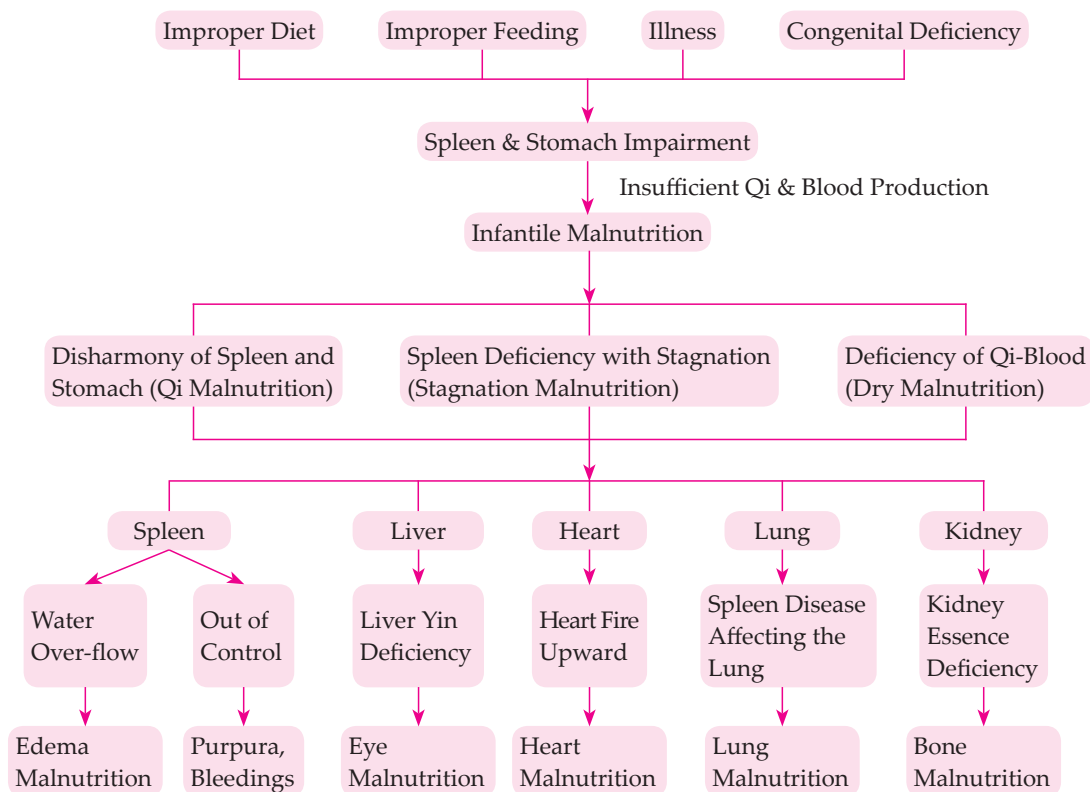


Fig. 19-1 Etiology and Pathomachnism of Malnutrition in Children



[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

a. Obvious manifestations of spleen and stomach dysfunction include a change of appetite, irregular bowel movements alternating between loose and dry, or epigastric and abdominal distention.

b. Emaciation: body weight lower than average weight by 15% or more with a lusterless complexion, and sparse withered yellow hair.

c. Accompanying signs and symptoms include general lassitude, irascibility, irritability, or a repeated tendency to rub the eyebrows and eyes, or finger-sucking and teeth grinding.

d. There is a history of inappropriate feeding or inadequate nursing care after illness, and emaciation developing over a long period of time.

e. Laboratory studies: Low Hb and red blood cell counts for patients with anemia; serum total protein below 45 g/L and serum albumin below 20 g/L for patients with malnutrition and lower limb edema. Malnutrition due to roundworms (*huí gān*) can be diagnosed by detecting roundworms in the stools via microscopic examination.

► Differential Diagnosis

Malnutrition in children should be differentiated from anorexia and food accumulation. See Table 18-1 in Chapter 18 *Food Accumulation*

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

1. IDENTIFYING THE MAIN PATTERNS OF DEFICIENCY OR EXCESS

The main pattern is identified according to eight principles with a focus on deficiency or excess. Malnutrition generally pertains to deficiency, however, such a deficiency can vary from mild to severe, and it may become mixed with signs of excess.

A main pattern is divided into three stages, i.e. qi malnutrition, malnutrition with accumulation, and dryness malnutrition; they are judged by duration, severity and their nature in terms of excess or deficiency. This condition is basically a deficiency pattern which develops from mild to severe. Accumulation or stagnation types of malnutrition are deficiency patterns complicated by excess.

Qi-type malnutrition is the first stage of malnutrition in children, and is a mild pattern of spleen-stomach disharmony. It manifests with a sallow complexion, sparse hair, poor appetite, slight physique, irregular bowel movements, and a normal spirit.

The accumulation-type occurs during the progression of the disease and manifests with significant weight loss, abdominal distention, irritability, and susceptibility to crying; this is a deficiency-excess complex pattern with spleen deficiency mixed with accumulation or stagnation.

The late-stage of malnutrition in children is dryness malnutrition. There are symptoms of general emaciation with the appearance of an elderly person, a sunken abdomen and listlessness. At this pathological stage, the spleen and stomach have deteriorated and body fluids are exhausted; this is the most severe deficiency pattern of malnutrition in

children.

2. IDENTIFYING CONCURRENT ZANG-FU ORGAN PATTERNS

Concurrent *zang-fu* patterns often appear in the severe stages of malnutrition in children especially during the dryness or accumulation stages of malnutrition; clinical manifestations will vary according to the particular organs affected.

A spleen condition affecting the heart has ulcers in the mouth and tongue, vexing heat in the five centers (chest, palms and soles) with possible involuntary tongue protrusion and twisting.

A spleen condition affecting the liver has red eyes with tears, abnormally dry eyes, xerosis and photophobia, night blindness, and corneal opacity.

A spleen condition affecting the lung presents with tidal fever, cough, panting and gurgling with sputum.

A spleen condition affecting the kidney manifests as retarded tooth development, sunken fontanelle, weakened bones, and humpback.

Spleen yang deficiency with overflow of water-dampness manifests as edema. Gum bleeding and purpura are malicious symptoms of malnutrition indicating the depletion of qi and blood and poor consolidation of the blood collaterals.

Extremely low spirits, reluctant speech and a completely absent appetite indicates deterioration of spleen and stomach and near-total exhaustion of the vital qi. This situation implies an impending separation of yin and yang and is critical.

► Treatment Principles

The main treatment principle is to fortify and regulate the spleen and stomach. By regulating spleen-stomach functions, improved food reception and transportation are able to replenish qi, blood and body fluids and nourish the skin. According to the different stages of malnutrition (qi, accumulation, dryness), different treatment methods are applicable.

For qi malnutrition, harmonization acts to regulate splenic transforming and transporting functions.

For malnutrition with accumulation, the elimination method or concurrent use of eliminating and reinforcing is applied to remove accumulation and regulate the spleen.

For dryness malnutrition, supplementation is used to supplement qi and boost blood.

At the early stage of infantile malnutrition, there is only disharmony between the spleen and stomach with poor transforming and transporting. Neither drastic dispersing nor reinforcing approaches are realistic because large dosages of reinforcing medicinals can block the qi mechanism, and strong dispersing can weaken healthy qi; moderate ingredients that fortify the spleen and assist digestion should be used. This approach is intended to reach the goal of dispersing within reinforcing so that healthy qi is not weakened; supplementing within dispersing is accomplished in order to avoid stagnation.

As malnutrition progresses into the middle stage where there is substantial accumulation characterized by predominant spleen deficiency mixed with excess accumulation, it is imperative to apply the dispersing method or the concurrent use of dispersing and reinforcing methods in order to remove the accumulation and regulate the spleen. It is apparent that substantial accumulation will not disappear by itself without

therapeutic elimination.

For a severe dryness malnutrition pattern in which the patient is extremely weak, it is imperative to apply the reinforcing method in order to boost both qi and blood.

Since malnutrition in children primarily ascribes to disorders of the spleen and stomach, it is important to assist the spleen-supplementing medicinals with some qi-moving ingredients so as to avoid causing stagnant qi. Similarly, over-dosage of dispersing ingredients should also be avoided as such ingredients deplete healthy qi when misused.

If the sub-patterns appear, treatment needs to address those conditions while still noting that the spleen and stomach are the main problem; the other conditions are only linked.

For malnutrition involving the eyes, treatment is mainly to nourish the blood, soften the liver, reinforce yin and brighten the vision.

For mouth ulcers related to malnutrition in children, treatment is mainly to clear heart heat, drain fire, nourish yin and generate fluids.

For edema related to malnutrition, treatment is mainly to strengthen spleen yang, promote urination and reduce swelling.

In addition to the methods prescribed, satisfactory treatment of malnutrition in children can be achieved by the reasonable use of nutritional supplements, adjusting problem eating habits, and active treatment of primary diseases.

► Classification of Patterns and Treatments

1. COMMON PATTERNS

Qi-Type Malnutrition

Signs and Symptoms

Manifestations include a thin physique, sallow and lusterless complexion, sparse hair, loss of appetite, listlessness, short temper, irritability, and loose stools or constipation. The tongue is pale with a thin slightly greasy coating; the pulse is thready and strong.

Pattern Differentiation

Qi-type malnutrition is seen in the early stage of malnutrition in children due to poor receiving and transforming with functional disharmony between the spleen and stomach. It is characterized by slight emaciation and a poor appetite. If it is not properly treated, the spleen will lose its transforming and transporting function, causing food accumulation that may progress into accumulation-type malnutrition.

Treatment Principles

Regulate the spleen to promote transportation.

Formula

Modified *Zī Shēng Jiàn Pí Wán*—Growth-Nourishing Spleen-Invigorating Pill

党参	<i>dǎng shēn</i>	Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
山药	<i>shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
薏苡仁	<i>yì yǐ rén</i>	Semen Coicis

泽泻	<i>zé xiè</i>	Rhizoma Alismatis
藿香	<i>huò xiāng</i>	Herba Agastachis
砂仁	<i>shā rén</i>	Fructus Amomi
扁豆	<i>biǎn dòu</i>	Semen Lablab Album
炒麦芽	<i>chǎo mài yá</i>	Fructus Hordei Germinatus Praeparata
焦神曲	<i>jiāo shén qū</i>	Massa Medicata Fermentata Praeparata
焦山楂	<i>jiāo shān zhā</i>	Fructus Crataegi

Dǎng shēn (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae) and *shān yào* (Rhizoma Dioscoreae) boost qì and fortify the spleen.

Fú líng (Poria), *yì yǐ rén* (Semen Coicis) and *zé xiè* (Rhizoma Alismatis) fortify the spleen and percolate dampness.

Huò xiāng (Herba Agastachis), *shā rén* (Fructus Amomi) and *biǎn dòu* (Semen Lablab Album) awaken the spleen, drain dampness, and increase the appetite.

Chǎo mài yá (Fructus Hordei Germinatus Praeparata), *jiāo shén qū* (Massa Medicata Fermentata Praeparata) and *jiāo shān zhā* (Massa Medicata Fermentata Praeparata) activate the spleen and promote digestion.

Modifications

For a poor appetite with abdominal distention and a thick greasy tongue coating, remove *dǎng shēn* (Radix Codonopsis) and *bái zhú* (Rhizoma Atractylodis Macrocephalae), add *cāng zhú* (Rhizoma Atractylodis), *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) and *hòu pò* (Cortex Magnoliae Officinalis) to regulate the spleen, remove dampness, disperse accumulation and eliminate distention.

For short temper, irritability and sleeplessness at night, add *gōu téng* (Ramulus Uncariae Cum Uncis) to inhibit liver-Wood and relieve restlessness.

For loose stools, add *páo jiāng* (Rhizoma Zingiberis Praeparatum) and *ròu dòu kòu* (Semen Myristicae) to warm spleen yang.

For constipation, add *huǒ má rén* (Fructus Cannabis) and *jué míng zǐ* (Semen Cassiae) to moisten the intestines and to free the bowels.

For profuse sweating and susceptibility to external pathogenic invasion, add *huáng qí* (Radix Astragali), *fáng fēng* (Radix Saposhnikoviae) and *duàn mǔ lì* (Calcined Concha Ostreae) to supplement qì and consolidate the exterior.

For dry mouth and skin, red and dry tongue, add *shā shēn* (Adenophora polyantha), *shí hú* (Caulis Dendrobii) and *bái sháo* (Radix Paeoniae Alba) to nourish stomach yin.

Chinese Patent Medicines

Jiàn Pí Bā Zhēn Gāo—Eight Gem Spleen-Fortifying Cake

Take 2 pieces of the herbal cake, melt in hot water and steam. Use 3 times daily.

For poor digestion, sallow complexion, abdominal distention, and loose stools.

Xiāng Shā Zhǐ Zhú Wán—Aucklandia, Amomum, Immature Bitter Orange and Atractylodes Macrocephala Pill

Take one bag twice daily for abdominal distention, loss of appetite and unsmooth bowel movements.

External Therapy

杏仁	xìng rén	10 g	Radix Codonopsis
桃仁	táo rén	10 g	Semen Asicae
栀子	zhī zǐ	10 g	Fructus Gardeniae
芒硝	máng xiāo	10 g	Natrii Sulfas
白胡椒	bái hú jiāo	7 pieces	Fructus Piais
葱白	cōng bái	7 pieces	Bulbus Allii Fistulosi

Mash all ingredients, add one duck eggwhite and 3 ml white wine to make a paste. Spread over the center of both soles and the umbilical area.

Change once every 24 hours, repeat 3 times as one course of treatment.

Tui na

Points	Repetitions	Method
Pí jīng (脾经)	200	Supplementing
Shèn jīng (肾经)	300	Supplementing
Nèi bā guà (内八卦)	100	Pushing
Bǎn mén (板门)	300	Kneading
ST 36 (zú sān lǐ)	1 minute	Kneading
BL 21 (wèi shù)	1 minute	Kneading
Abdomen	1 minute	Rubbing
Jǐ (spine, 脊)	3	Pinching

Supplement pí jīng 200 times and shèn jīng 300 times, push nèi bā guà 100 times, knead bǎn mén 300 times, knead ST 36 (zú sān lǐ) for one minute, knead BL 21 (wèi shù) one minute, rub the abdomen one minute, and pinch along the spine 3 times.

Treatment is given once daily, repeat 5 times as one treatment course.

Acupuncture

RN 12 (zhōng wǎn)	RN 6 (qì hǎi)	ST 36 (zú sān lǐ)
SP 5 (shāng qiū)	BL 20 (pí shù)	BL 21 (wèi shù)

Needle with supplementation. For those with accumulation, apply the even method or moderate stimulation without needle retention.

Treatment is given once daily, with 7 days as one treatment course.

Ear Point Therapy

Stomach (wèi)	Spleen (pí)	Small intestine (xiǎo cháng)
Sanjiao (sān jiāo)	Shen men (shén mén)	

After routine disinfection, put wáng bù liú xíng zǐ (Vaccaria Seed) or magnetic beads on

adhesive plaster centers, and then apply onto the selected ear points. Press each ear point for one minute, 3-5 times daily.

Replace once every 3-5 days, with 3 times as one treatment course.

Accumulation-Type Malnutrition

Signs and Symptoms

Manifestations include obvious emaciation, a sallow complexion, abdominal distention, or even with visible veins in severe cases, yellow dry sparse hair with small kinks, restlessness, disturbed sleep, or abnormal behavior such as repeatedly rubbing the eye brows, picking the nose, sucking the fingers, grinding the teeth in their sleep, poor or insatiable appetite (polyphagia), or indiscriminate eating of non-nutritious or harmful substances such as stones or clothing. The tongue is pale with a greasy coating; the pulse is deep, thready and slippery.

Pattern Differentiation

This pattern mainly develops from a qi-type malnutrition and is characterized by a primary deficient pattern mixed with excess symptoms due to the spleen-stomach depletion and prolonged internal accumulation and stagnation. This is a more complicated condition manifested by evident emaciation, malnourished thin limbs, abdominal distention, and restlessness.

To differentiate whether the malnutrition in children involves accumulation, one should note if the patient has abdominal distention; a distended abdomen and thin limbs are the typical signs.

If the patient manifests fullness in the abdomen and epigastrium, belching and loss of appetite, this is food accumulation.

If the abdomen is fully distended like a drum, this is qi accumulation.

There is parasite accumulation if there is an obvious mass in the abdomen that disappears upon palpation.

There is blood accumulation if there is a marked hard immobile abdominal mass even with palpation. There may be other sub-patterns involved in severe accumulation types of malnutrition. If accumulation type malnutrition progresses without proper care or treatment, it will exacerbate and become dryness-type malnutrition.

Treatment Principles

Disperse accumulation and regulate the spleen

Formula

Modified *Féi Ér Wán*—**Childhood Malnutrition-Rectifying Pill**

人參	<i>rén shēn</i>	Radix et Rhizoma Ginseng
白朮	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
焦神曲	<i>jiāo shén qū</i>	Massa Medicata Fermentata Praeparata
焦山楂	<i>jiāo shān zhā</i>	Fructus Crataegi Praeparata
炒麦芽	<i>chǎo mài yá</i>	Fructus Hordei Germinatus Praeparata
鸡内金	<i>jī nèi jīn</i>	Endothelium Corneum Gigeriae Galli
大腹皮	<i>dà fù pí</i>	Aicarpium Arecae



槟榔	<i>bīng láng</i>	Semen Arecae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
胡黄连	<i>hú huáng lián</i>	Rhizoma Picrorhizae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Rén shēn (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), and *fú líng* (Poria) fortify the spleen and boost qi.

Jiāo shēn qū (Massa Medicata Fermentata Praeparata), *jiāo shān zhā* (Fructus Crataegi), *chǎo mài yá* (Fructus Hordei Germinatus Praeparata) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) promote digestion and remove stagnation.

Dà fù pí (Aicarpium Arecae) and *bīng láng* (Semen Arecae) regulate qi and disperse accumulation.

Huáng lián (Rhizoma Coptidis) and *hú huáng lián* (Rhizoma Picrorhizae) clear heart fire and pacify the liver.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For food accumulation with epigastric distention, add *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) and *lái fú zǐ* (Semen Raphani) to promote digestion and resolve accumulation.

For significant abdominal distention, add *zhǐ shí* (Fructus Aurantii Immaturus) and *mù xiāng* (Radix Aucklandiae) to regulate qi of the middle *jiao*.

For constipation, add *má rén* (Fructus Cannabis) and *yù lǐ rén* (Semen Pruni) to moisten the intestines and to mildly purge and relax the bowels.

For restlessness with brow and nose rubbing, add *zhī zǐ* (Fructus Gardeniae) and *lián zǐ* (Plumula Nelumbinis) to clear heat and relieve restlessness.

For excessive desire to drink and eat, add *shí hú* (Caulis Dendrobii), *tiān huā fēn* (Radix Trichosanthis) to nourish stomach yin.

For nausea and vomiting, add *zhú rú* (Caulis Bambusae in Taenia) and *bàn xià* (Rhizoma Pinelliae) to sedate abnormal ascending qi and check vomiting.

For hypochondriac masses, add *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *yù jīn* (Radix Curcumae) and *chuān shān jiǎ* (Squama Manitis) to invigorate blood and dissipate masses.

For roundworms in the stools, add *kǔ liàn pí* (Cortex Meliae), *léi wán* (Omphalia), *shǐ jūn zǐ* (Fructus Quisqualis) and *fěi zǐ* (Semen Torreyae) to expel roundworms and eliminate stagnation.

During the course of treatment, pay attention to dispersing the accumulation; as soon as the medicinals that expel parasites become effective, they should be discontinued. This is only after the accumulation is cleared and the parasites are expelled that spleen and stomach functions can begin to regulate.

Chinese Patent Medicines

Xiǎo Ér Xiāng Jú Dān—Infant Fragrant Orange Pill

5-3 g, 3 times daily.

External Therapy

a.

焦神曲	<i>jiāo shén qū</i>	Massa Medicata Fermentata Praeparata
焦山楂	<i>jiāo shān zhā</i>	Fructus Crataegi
炒麦芽	<i>chǎo mài yá</i>	Fructus Hordei Germinatus Praeparata
鸡内金	<i>jī nèi jīn</i>	Endothelium Corneum Gigeriae Galli
莱菔子	<i>lái fú zǐ</i>	Semen Raphani
栀子	<i>zhī zǐ</i>	Fructus Gardeniae

Grind appropriate proportions into fine powder and mix with water to make a paste for external application on the navel.

Apply once daily, with 5 days as one treatment course.

b.

大黄	<i>dà huáng</i>	6 g	Radix et Rhizoma Rhei
芒硝	<i>máng xiāo</i>	6 g	Natrii Sulfas
栀子	<i>zhī zǐ</i>	6 g	Fructus Gardeniae
杏仁	<i>xìng rén</i>	6 g	Semen Armeniacae Amarum
桃仁	<i>táo rén</i>	6 g	Semen Asicae

Grind the above ingredients into a fine powder, mix with appropriate amounts of flour, eggwhite, a little *cōng bái* (Bulbus Allii Fistulosi) juice, vinegar, and white spirits to make a paste. Used for malnutrition with excessive abdominal distention.

Apply externally onto the navel area, once daily, 3-5 days for one treatment course.

c. Grind appropriate amounts of *lái fú zǐ* (Semen Raphani) and *ā wèi* (Resina Ferulae) into a fine powder, mix with *Shāng Shī Zhǐ Tòng Gāo*—Soothing Ointment for Dampness.

Apply to RN 8 (*shén què*) once daily, with 7 days as one treatment course.

d.

当归	<i>dāng guī</i>	6 g	Radix Angelicae Sinensis
白术	<i>bái zhú</i>	6 g	Rhizoma Atractylodis Macrocephalae
桔梗	<i>jié gěng</i>	6 g	Radix Platycodonis
陈皮	<i>chén pí</i>	6 g	Pericarpium Citri Reticulatae
玄明粉	<i>xuán míng fěn</i>	6 g	Natrii Sulfas Exsiccatus
大腹皮	<i>dà fù pí</i>	6 g	Aicarpium Arecae
莱菔子	<i>lái fú zǐ</i>	10 g	Semen Raphani

Grind the medicinals into a coarse powder, stir-fry with wheat bran until brown. The mixture is then sprinkled with vinegar and used as a warm compress on the navel.

Used for malnutrition in children with excessive abdominal distention.

Tui na

Points	Repetitions	Methods
<i>Pí jīng</i> (脾经)	200	Supplementing
<i>Wèi jīng</i> (胃经)	200	Clearing
<i>Xīn jīng</i> (心经)	100	Clearing
<i>Gān jīng</i> (肝经)	300	Clearing
<i>Xiǎo tiān xīn</i> (小天心)	100	Rubbing
RN 12 (<i>zhōng wǎn</i>)	50	Rubbing
Abdominal yin-yang	100	Pushing Aside

Supplement *pí jīng* (脾经) 200 times, clear *wèi jīng* 200 times, clear *xīn jīng* 100 times, and clear *gān jīng* 300 times. Rub *xiǎo tiān xīn* 100 times and RN 12 (*zhōng wǎn*) 50 times. Push aside abdominal yin-yang 100 times.

Treat once daily, with 5 days as one treatment course.

Acupuncture

a.

Main Points		
LI 4 (<i>hé gǔ</i>)	LI 11 (<i>qū chí</i>)	RN 12 (<i>zhōng wǎn</i>)
RN 6 (<i>qì hǎi</i>)	ST 36 (<i>zú sān lǐ</i>)	SP 6 (<i>sān yīn jiāo</i>)
Secondary Points		
BL 20 (<i>pí shù</i>)	BL 21 (<i>wèi shù</i>)	EX-B4 (<i>pǐ gēn</i>)

For mild malnutrition in children, apply medium stimulation without needle retention.

For restlessness and disturbed sleep, add HT 7 (*shén mén*) and PC 6 (*nèi guān*).

For spleen deficiency and accumulation with abdominal distention, add EX-UE10 (*sì fēng*).

For severe qi and blood deficiency, add RN 4 (*guān yuán*).

For loose stools, add ST 25 (*tiān shū*) and ST 37 (*shàng jù xū*).

Treat once daily, with 7 days as one treatment course.

b.

Main Points		
RN 12 (<i>zhōng wǎn</i>)	RN 6 (<i>qì hǎi</i>)	ST 36 (<i>zú sān lǐ</i>)
SP 5 (<i>shāng qīū</i>)		
Secondary Points		
BL 20 (<i>pí shù</i>)	BL 21 (<i>wèi shù</i>)	EX-B4 (<i>pǐ gēn</i>)

Apply the supplementing method without needle retention. For malnutrition with accumulation, the even method is applied with medium stimulation.

For restlessness and disturbed sleep, add HT 7 (*shén mén*) and PC 6 (*nèi guān*).

For spleen deficiency with accumulation marked by abdominal distention, add EX-UE10 (*sì fēng*).

For severe qi and blood deficiency, add RN 4 (*guān yuán*).

For loose stools, add ST 25 (*tiān shū*) and ST 37 (*shàng jù xū*).

For accumulation due to roundworms, add *bǎi chóng kē* (百虫窠).

For tidal fever, add SP 6 (*sān yīn jiāo*).

c. Use a three-edged needle at EX-UE10 (*sì fēng*) points; squeeze out some yellow fluid or one small drop of blood.

Treatment is given twice weekly, with 3 times as one treatment course.

Ear Point Therapy

Stomach (<i>wèi</i>)	Spleen (<i>pí</i>)	Small intestine (<i>xiǎo cháng</i>)
<i>Sanjiao</i> (<i>sān jiāo</i>)	<i>Shen men</i> (<i>shén mén</i>)	

After routine disinfection, attach *wáng bù liú xíng zǐ* (Vaccaria Seeds) or magnetic beads to the middle of an adhesive plaster, apply to selected ear points. Press each point for one minute, 3-5 times a day.

Change the plaster every 3-5 days, with 3 times as one treatment course.

Dryness-Type Malnutrition

Signs and Symptoms

Manifestations include extreme emaciation, dry and wrinkled skin, wasting and sagging of major masses of flesh, looking like an aged person, dried withered hair, pale face, poor spirits, weak crying, sunken abdomen, loss of appetite, loose stools or constipation. The tongue is pale and tender with a minimal coating; the pulse is weak and thready.

Pattern Differentiation

This pattern is the manifestation of the late-stage and is a severe condition due to the consequences of spleen-stomach deterioration and depletion of body fluids, qi, and blood. It is marked by extreme emaciation, listlessness, and loss of appetite. When disease develops to this stage, there will be general failure and exhaustion of qi and blood usually accompanied by various sub-patterns involving the five *zang* organs. Severe cases may have deteriorated complications at any time with exhaustion of qi and blood and collapsed yin and yang.

Treatment Principles

Supplement and boost qi and nourish blood.

Formula

Modified *Bā Zhēn Tāng*—Eight Gem Decoction

党参	<i>dǎng shēn</i>	Radix Codonopsis
熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
当归	<i>dāng guī</i>	Radix Angelicae Sinensis

白芍	<i>bái sháo</i>	Radix Paeoniae Alba
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
炒谷芽	<i>chǎo gǔ yá</i>	dry-fried Fructus Setariae Germinatus
炒麦芽	<i>chǎo mài yá</i>	dry-fried Fructus Hordei Germinatus

Formula Analysis

Sweet and warm *dāng shēn* (Radix Codonopsis) and *shú dì huáng* (Radix Rehmanniae Praeparata) reinforce healthy qi, boost qi, and nourish blood.

Bái zhú (Rhizoma Atractylodis Macrocephalae) and *fú líng* (Poria) fortify the spleen and eliminate dampness.

Dāng guī (Radix Angelicae Sinensis) and *bái sháo* (Radix Paeoniae Alba) nourish blood and harmonize the nutrient system to generate new blood.

Chǎo gǔ yá (dry-fried Fructus Setariae Germinatus) and *chǎo mài yá* (dry-fried Fructus Hordei Germinatus) awaken the spleen, promote digestion, and assist generation and transformation.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For cold limbs and loose stools, remove *shú dì huáng* (Radix Rehmanniae Praeparata) and *dāng guī* (Radix Angelicae Sinensis), add *ròu guì* (Cortex Cinnamomi) and *páo jiāng* (Rhizoma Zingiberis Praeparatum) to warm and supplement spleen and kidney.

For disturbed sleep at night, add *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) and *yè jiāo téng* (Caulis Polygoni Multiflori) to calm the heart and mind.

For a red tongue with a dry mouth, add *shí hú* (Caulis Dendrobii) and *wū méi* (Fructus Mume) to astringe yin and generate body fluids.

With a pale complexion, faint breathing, reversal cold of the hands and feet, and a feeble thready or impalpable pulse, urgently administer *Dú Shēn Tāng*—Sole Ginseng Decoction or *Shēn Fù Lóng Mǔ Jiù Nì Tāng*—Ginseng, Aconite, Dragon Bone, and Oyster Shell Rescue Counter-flow Decoction to restore yang to rescue from desertion; also seek Western medicine emergency treatment.

Chinese Patent Medicines

Shí Quán Dà Bǔ Wán—Far-Reaching Tonic Pill

Take 2-3 g, twice daily. For qi and blood deficiency.

Fù Fāng Ē jiǎo Jiāng—Compound Colla Corii Asini Syrup

Take 5-10 ml, twice daily. For patients with significant blood deficiency.

2. ACCOMPANYING SUB-PATTERNS

Malnutrition Involving the Eyes

Signs and Symptoms

Manifestations include abnormal dryness of the eyes, xerophthalmia, abnormal aversion to sunlight (photophobia), festering canthus, and possible corneal opacity or night blindness.

Patten Differentiation

This pattern is developed from spleen conditions affecting the liver leading to liver

blood insufficiency with inability to nourish the eyes. If the child is emaciated and has the aforementioned eye symptoms, this denotes the pattern, regardless of the actual severity.

Treatment Principles

Nourish blood, soften the liver, nourish yin and improve vision

Formula

Modified *Shí Hú Yè Guāng Wán*—*Caulis Dendrobii Noctilucent Pill*

石斛	<i>shí hú</i>	Caulis Dendrobii
天冬	<i>tiān dōng</i>	Radix Asparagi
生地黄	<i>shēng dì huáng</i>	Dried Rehmannia root
枸杞子	<i>gǒu qǐ zǐ</i>	Fructus Lycii
菊花	<i>jú huā</i>	Flos Chrysanthemi
白蒺藜	<i>bái jí lí</i>	Fructus Tribuli
蝉蜕	<i>chán tuì</i>	Aiostracum Cicadae
木贼草	<i>mù zéi cǎo</i>	Equisetum hiemale Linne
青箱子	<i>qīng xiāng zǐ</i>	Semen Celosiae
夏枯草	<i>xià kū cǎo</i>	Spica Prunellae
川芎	<i>chuān xiōng</i>	Rhizoma Chuanxiong
枳壳	<i>zhǐ qiào</i>	Fructus Aurantii

Formula Analysis

Shí hú (Caulis Dendrobii), *tiān dōng* (Radix Asparagi), *shēng dì huáng* (Dried Rehmannia root) and *gǒu qǐ zǐ* (Fructus Lycii) nourish liver and kidney.

Jú huā (Flos Chrysanthemi), *bái jí lí* (Fructus Tribuli), *chán tuì* (Aiostracum Cicadae) and *mù zéi cǎo* (Equisetum hiemale Linne) remove nebula to improve vision.

Qīng xiāng zǐ (Semen Celosiae) and *xià kū cǎo* (Spica Prunellae) clear the liver and brighten the eyes.

Chuān xiōng (Rhizoma Chuanxiong) and *zhǐ qiào* (Fructus Aurantii) regulate qi and activate blood.

Modifications

For disturbed sleep at night, add *yè jiāo téng* (Caulis Polygoni Multiflori) and *bái sháo* (Radix Paeoniae Alba) to nourish yin and calm the mind.

For night blindness, a modification of *Yáng Gān Wán*—Lamb Liver Pill may be used to clear the liver and brighten the eyes.

Malnutrition involving the eyes often results from a Vitamin A deficiency. Patients are advised to eat more supplementary foods from animals such as liver and also active carotenoids from vegetable sources to increase Vitamin A levels.

Chinese Patent Medicines

Míng Mù Dì Huáng Wán—Rehmannia Vision-Promoting Pill

Take 2-3 g, twice daily.

Tui na

Points	Repetitions	Methods
SJ 23 (<i>sī zhú kōng</i>)	20	Kneading
BL 1 (<i>jīng míng</i>)	20	Kneading
GB 1 (<i>tóng zǐ liáo</i>)	20	Kneading
ST 2 (<i>sì bái</i>)	20	Kneading
EX-HN5 (<i>tài yáng</i>)	20	Kneading
EX-UE 8 (<i>wài láo gōng</i>)	200	Kneading
<i>Sān guān</i> (三关)	300	Pushing
<i>Gān jīng</i> (肝经)	100	Clearing
Small strokes in the palms	100	Kneading

Knead *sī zhú kōng*, *jīng míng*, *tóng zǐ liáo*, *sì bái* and *tài yáng* 20 times and *wài láo gōng* 200 times. Push *sān guān* 300 times, clear *gān jīng* 100 times, and knead small strokes on the palms 100 times.

Treat once daily, with 5 days as one treatment course.

Single Medicinals and Empirical Formulas

Yáng Gān Sǎn—Lamb Liver Powder

羊肝	<i>yáng gān</i>	500 g	lamb's liver
白术	<i>bái zhú</i>	150 g	Rhizoma Atractylodis Macrocephalae
海螵蛸	<i>hǎi piāo xiāo</i>	150 g	Endoconcha Sepiae
茯苓	<i>fú líng</i>	100 g	Poria
山药	<i>shān yào</i>	100 g	Rhizoma Dioscoreae
鸡内金	<i>jī nèi jīn</i>	100 g	Endothelium Corneum Gigeriae Galli
甘草	<i>gān cǎo</i>	30 g	Radix et Rhizoma Glycyrrhizae

The lamb liver is steamed, dried, and then baked until yellow. Remove the hard shells from the *hǎi piāo xiāo* (Endoconcha Sepiae), slice them into the size of broad beans, and moderately bake until yellow. The rest of the ingredients are stir-fried over a low flame until yellow. Mix together and grind into a fine powder.

Children 1-2 years take 2-3 g; 3-4 years take 4-5 g; 5-6 years take 6 g; administer 2-3 times daily.

Mouth Malnutrition with Aphtha**Signs and Symptoms**

Manifestations include a single or group of small sores or ulcers of the mouth or tongue with possible erosion spreading over the oral cavity with a foul odor in severe cases. There is a red complexion, restlessness, disturbed sleep, and scanty dark urine. The tongue may be protruding and tremoring and red with a thin yellow coating; the pulse is thready and rapid.

Pattern Differentiation

This pattern is due to an original spleen condition affecting the heart which fails to

be nourished, thus causing heart-fire to flame upwards. There is emaciation along with aphthous stomatitis.

Treatment Principles

Clear heart heat and drain fire, nourish yin to promote fluids

Formula

Modified *Xiè Xīn Dǎo Chì Xǎn*—Heart Fire-Removing Heat-Guiding Powder

黄连	<i>huáng lián</i>	Rhizoma Coptidis
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
连翘	<i>lián qiào</i>	Fructus Forsythiae
灯心草	<i>dēng xīn cǎo</i>	Medulla Junci
竹叶	<i>zhú yè</i>	Folium Phyllostachydis Henonis
生地黄	<i>shēng dì huáng</i>	Dried Rehmannia Root
麦冬	<i>mài dōng</i>	Radix Ophiopogonis
玉竹	<i>yù zhú</i>	Rhizoma Polygonati Odorati

Formula Analysis

Huáng lián (Rhizoma Coptidis), *zhī zǐ* (Fructus Gardeniae) and *lián qiào* (Fructus Forsythiae) clear heart heat, drain fire, and subdue restlessness.

Dēng xīn cǎo (Medulla Junci) and *zhú yè* (Folium Phyllostachydis Henonis) clear heart fire and drain heat through the urine.

Shēng dì huáng (Dried Rehmannia Root), *mài dōng* (Radix Ophiopogonis) and *yù zhú* (Rhizoma Polygonati Odorati) nourish yin and promote fluid generation.

Modifications

For foul mouth odor and a thick greasy tongue coating, add *lú gēn* (Rhizoma Phragmitis), *lián qiào* (Fructus Forsythiae) and *shēng yì rén* (Semen Coicis).

For a red tongue with dry mouth, add *mài dōng* (Radix Ophiopogonis) and *yù zhú* (Rhizoma Polygonati Odorati).

At the same time, *Bīng Péng Sǎn*—Borneol and Borax Powder or *Zhū Huáng Sǎn*—Yellow Pearl Powder can be applied externally on the ulcerated areas.

Chinese Patent Medicines

Zhī Zǐ Jī Huā Wán—Fructus Gardeniae and Honeysuckle Flower

Take 3, once to twice daily.

Tui na

Points	Repetitions	Methods
<i>Tiān hé shuǐ</i> (天河水)	200	Clearing
<i>Liù fǔ</i> (六腑)	300	Pushing
<i>Xiǎo cháng</i> (小肠)	300	Clearing
<i>Nèi láo gōng</i> (内劳宫)	200	Kneading
<i>Sān guān</i> (三关)	200	Pushing
<i>Xīn jīng</i> (心经)	200	Clearing

Clear *tiān hé shuǐ* 200 times, push *liù fǔ* 300 times, clear *xiǎo cháng* 300 times, knead *nèi láo gōng* 200 times, push *sān guān* 200 times, and clear *xīn jīng* 200 times.

Treat once daily, with 3 days as one treatment course.

Malnutrition-Related Edema

Signs and Symptoms

Manifestations include edema of the legs and ankles possibly affecting the face or general body in severe cases, a pale lusterless complexion, general lassitude, cold limbs, and scanty urine. The tongue is pale with a thin white coating; the pulse is deep and slow.

Pattern Differentiation

Malnutrition-related edema is the consequence of an original spleen condition affecting the kidney leading to the insufficiency of yang qi with failure to transform water resulting in water-damp retention under the skin characterized by emaciation with pitting edema in the limbs.

Treatment Principles

Fortify the spleen and warm yang, promote urination to eliminate swelling.

Formula

Modified *Fáng Jǐ Huáng Qí Tāng*—Stephania Root and Astragalus Decoction with *Wǔ Lǐng Sǎn*—Five Substances Powder with Poria

黄芪	<i>huáng qí</i>	Radix Astragali
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
茯苓	<i>fú líng</i>	Poria
猪苓	<i>zhū líng</i>	Polyporus
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
防己	<i>fáng jǐ</i>	Radix Stephaniae Tetrandrae
桂枝	<i>guì zhī</i>	Ramulus Cinnamomi

Formula Analysis

Huáng qí (Radix Astragali), *bái zhú* (Rhizoma Atractylodis Macrocephalae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) fortify the spleen and boost qi.

Fú líng (Poria), *zhū líng* (Polyporus), *zé xiè* (Rhizoma Alismatis) and *fáng jǐ* (Radix Stephaniae Tetrandrae) fortify the spleen and eliminate water.

Guì zhī (Ramulus Cinnamomi) warms yang, moves qi and removes water.

Modification

For significant edema below the waist with cold limbs and mild signs of kidney yang deficiency, use a modification of *Zhēn Wǔ Tāng*—True Warrior Decoction.

[WESTERN MEDICINE THERAPIES]

1. GENERAL TREATMENT

A careful analysis of the individual condition is necessary to discover the actual cause

of malnutrition, and the priority is to treat the primary disease. If intestinal parasites are present, treatment should expel parasites when the condition permits. For chronic recurrent diarrhea or chronic dysentery, the infection must be controlled. Other diseases such as tuberculosis, chronic liver and kidney diseases or congenital malformations should be actively treated as well.

2. PROMOTE DIGESTIVE FUNCTION AND METABOLISM

Various digestive enzymes such as pepsin and pancreatin can be given to improve digestion. Malnutrition is often accompanied by insufficient vitamins and trace minerals or elements in the body.

Supplements of the Vitamin B group and Vitamin C can help to promote digestion as well as the metabolism. Vitamin A and D deficient patients also need to be given supplements.

Patients with an extremely poor appetite plus a low level of blood zinc need oral administration of 1% zinc sulfate.

With nutritional anemia in accordance with the different types of anemia, chalybeate, folic acid and Vitamin B12 can be given.

Children with severe malnutrition can be given protein anabolic hormones to promote protein synthesis and to boost the appetite. For severe malnutrition accompanied by obvious hypoproteinemia, repeated intravenous infusions of small amounts of albumin can be administered. Intravenous dripping of a high-energy lipid emulsion, multi-amino acids or glucose can also be given selectively.

[PREVENTION & NURSING CARE]

PREVENTION

1. Regular quantities and times are advised for feeding infants, with a gradual introduction to solid foods and supplements so that infants and children are provided with sufficient nutritional substance in order to meet the demands of growth and development.
2. Organize the daily life and ensure sufficient hours of sleep, frequent outdoor activities and physical exercise with fresh air and sunlight.
3. It is valuable to breastfeed infants on a regular basis and for children to eat a proper moderate diet. Any problem habits such as excessive drinking or eating, overindulgence in oily greasy foods, partiality for certain foods or snacks, irregular food intake or abusive use of tonics should be prevented to avoid spleen and stomach damage.
4. If infants and children fail to gain weight and have a decreased appetite, it is important to find out the actual causes and to give the appropriate treatment immediately. It is also important to provide an effective cure for the various digestive system disorders and chronic consumptive diseases, to correct congenital deformities, and to provide appropriate post-illness care in order to prevent malnutrition.

NURSING CARE

1. Children suffering from malnutrition have a poor digestive function due to spleen and stomach infirmity, so it is particularly important to provide a proper diet. Supplemental foods should not be added too quickly; they need to be included according to the individual



condition and digestive tolerance. Meat and vegetables that are rich in nutrition, fresh and easily digestible should be added in correct proportions. Follow the order of small amounts with lesser variety to larger amounts and more variety, as well as from thin to thick foods and from refined to coarse foods. Also encourage children to eat by themselves.

2. Maintain a good living environment and ensure a comfortable room temperature, with sufficient sunlight and fresh air. Malnourished children should be dressed in soft quality clothing to keep them warm; they should have good hygiene to prevent cross-infection. Adequate physical activities are also needed.

3. General nursing care is necessary for children with severe malnutrition. Care should be taken to keep the skin clean, prevent bedsores, maintain hygiene for the eyes, nose and mouth as well maintaining clean cutlery and utensils to prevent complications.

4. Assess and evaluate the child's height and weight regularly to monitor the progression of the disease, so that if there is a sudden deterioration in the patient's condition, a combination of Chinese medicine with Western medicine treatments can be administered promptly for an emergency situation.

[CASE STUDIES]

► Case #1

Male, age 18 months. Initial Visit: 4/10/1983

The boy had a pale complexion, a relatively thin physique, weight 9 kg, sparse yellow hair, listlessness, and frequent spontaneous sweating. He had diminished food intake and was only eating 3-5 spoons of rice porridge per meal; he liked to eat sweet foods, and was vulnerable to common cold and diarrhea. He had a fever 4 times in September, and defecated with a diluted paste-like stool mingled with undigested food often 12 times a day. He had pale tongue with a thin coating.

The pattern diagnosis was spleen and lung qi deficiency with poor transforming and transporting. The treatment principle was to fortify the spleen and promote transportation.

Formula

党参	dǎng shēn	10 g	Radix Codonopsis
茯苓	fú líng	10 g	Poria
淮山药	huái shān yào	10 g	Rhizoma Dioscoreae
陈皮	chén pí	4 g	Aicarpium Citri Reticulatae
焦山楂	jiāo shān zhā	10 g	Fructus Crataegi
焦神曲	jiāo shén qū	10 g	Massa Medicata Fermentata Praeparata

One daily dose.

After taking the formula, his appetite increased and his feverishness decreased. The formula was administered for one month, after which his capacity for eating was increased to 50-100 g each meal, and his tendency to catch colds was improved. His complexion became lustrous, and his spirit was vigorous. He had much less sweating, and his bowel movements were normal. His body weight increased to 10 kg, which indicated that he had

basically recovered from the malnutrition.

Analysis

The manifestations of a pale complexion, emaciation, general lassitude and increased loose bowels all indicated a pattern of spleen deficiency. Therefore, the treatment principle here is to fortify the spleen and promote transportation.

Dǎng shēn (Radix Codonopsis) and *huái shān yào* (Rhizoma Dioscoreae) were used to boost qi and fortify the spleen.

Jiāo shén qū (Massa Medicata Fermentata Praeparata) and *jiāo shān zhā* (Fructus Crataegi) were used to promote digestion and transportation.

Source: Wang SC. The Regulating the Spleen Treatment Method with Applications in Pediatric Practice [J] The Journal of Practical Medicine, 1986; 2(3): 33-34.

► Case #2

Male, age 3.

The child had been given an improper diet during weaning at age one year which damaged spleen-stomach functions. He then had successive diarrhea and a poor appetite. Though he had received different treatments and his diarrhea had partly improved, if he ate slightly more food, the diarrhea returned. This eventually developed into malnutrition.

He presented with a sallow complexion, emaciation, lassitude and a preference for lying down, abdominal and epigastric distention, a lack of subcutaneous fat, loose stools with undigested food and bowel movements 2-3 times a day. His tongue coating was thin and greasy; the pulse was thready.

This condition belongs to a pattern of spleen deficiency with accumulation and stagnation in which the spleen fails to govern transforming and transporting. The treatment principle was to fortify the spleen and promote transformation and transportation in order to remove accumulation and disperse stagnation.

Formula

太子参	<i>tài zǐ shēn</i>	6 g	Radix Pseudostellariae
炒白术	<i>chǎo bái zhú</i>	6 g	dry-fried Rhizoma Atractylodis Macrocephalae
云茯苓	<i>yún fú líng</i>	6 g	Poria
炒山药	<i>chǎo shān yào</i>	6 g	dry-fried Rhizoma Dioscoreae
山楂肉	<i>shān zhā ròu</i>	6 g	Fructus Crataegi
炒薏苡仁	<i>yì yǐ rén</i>	10 g	Semen Coicis
炒扁豆	<i>chǎo biǎn dòu</i>	10 g	dry-fried Semen Lablab Album
斑地锦	<i>bān dì jīn</i>	10 g	Spotted leaf Euphorbia Herb
田皂角	<i>tián zào jiǎo</i>	10 g	Common Aeschynomene Herb
广木香	<i>guǎng mù xiāng</i>	3 g	Radix Aucklandiae
炙鸡内金	<i>zhì jī nèi jīn</i>	3 g	Endothelium Corneum Gigeriae Galli Praeparata
炙甘草	<i>zhì gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle



Apart from the medicinal decoction, he also received acupuncture at EX-UE10 (*sì fēng*) with a disinfected three-edged needle where a small amount of thick fluid was removed.

After more than 30 doses in combination with six acupuncture treatments his condition started to improve and his stools gradually became well-formed. *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder was administered for maintenance treatment. After a six month follow-up he was seen again and no problems were reported.

Analysis

This case belongs to the pattern of spleen deficiency with accumulation and stagnation leading to the failure of transformation and transportation. As a typical case of deficiency-excess complex, treatment focused on fortifying the spleen and dispersing accumulation.

Tài zǐ shēn (Radix Pseudostellariae), *chǎo bái zhú* (dry-fried Rhizoma Atractylodis Macrocephalae), *yún fú líng* (Poria) and *chǎo shān yào* (dry-fried Rhizoma Dioscoreae) were used to fortify the spleen.

Bān dì jǐn (Spottedleaf Euphorbia Herb) and *tián zào jiǎo* (Common Aeschynomene Herb) were used to clear damp-heat and remove accumulation.

The medicinals were combined with needling the EX-UE10 (*sì fēng*) points to bring about an improved therapeutic effect.

Source: Lin L. Combining *Jiàn Pí Xiǎo Jī Tāng*—Spleen Fortifying and Dispersing Accumulation Decoction and Needling EX-UE10 (*sì fēng*) Points for Treatment of 50 Cases of Malnutrition in Children [J]. Zhejiang Journal of Traditional Chinese Medicine, 1983; 33(6): 260.

► Case #3

Male, age 15 months. Initial Visit: 10/4/1994

One month previously the boy had been admitted to the Children's Hospital with a fever and cough for one week and diarrhea for 3 days. The diagnosis was upper respiratory tract infection and malnutrition. After Western medicine treatment for nearly one month, the fever subsided and the coughing stopped.

He was brought in for consultation because he had a poor appetite, loose stools with bowel movements 5-6 times a day; he was irritable and prone to crying, and there was a rattling sound in the throat due to phlegm.

The main clinical findings were emaciation, a pale lustreless complexion, loss of appetite, rattling sounds in the throat, 5-6 bowel movements daily with loose greenish stools, frequent crying and irritability. His tongue was red with a white coating; there were purplish stagnant finger venules. The pattern identification here was spleen deficiency with liver hyperactivity.

Formula

Jiàn Pí Yǎng Gān Tāng—Spleen-Fortifying and Liver-Nourishing Decoction

兰花参	<i>lán huā shēn</i>	10 g	Wahlenbergia Marginata
炒白术	<i>chǎo bái zhú</i>	6 g	Dry-fried Rhizoma Atractylodis Macrocephalae
砂仁	<i>shā rén</i>	3 g	Fructus Amomi
白芍	<i>bái sháo</i>	3 g	Radix Paeoniae Alba

青皮	<i>qīng pí</i>	3 g	Aicarpium Citri Reticulatae Viride
钩藤	<i>gōu téng</i>	3 g	Ramulus Uncariae Cum Uncis
茯苓	<i>fú líng</i>	10 g	Poria
半夏	<i>bàn xià</i>	6 g	Rhizoma Pinelliae
山药	<i>shān yào</i>	10 g	Rhizoma Dioscoreae
薏苡仁	<i>yì yǐ rén</i>	10 g	Semen Coicis
甘草	<i>gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae

Second Visit: After 2 doses, bowel movements were reduced to 2-3 times daily and the stools turned to yellow. His spirits improved, he could fall asleep, and he had less wheezing sounds in the throat. *Chǎo mài yá* (Fructus Hordei Germinatus Praeparata) 10 g was added to the formula and continued for another 2 doses.

Third Visit: The child had an increased appetite, bowel movements twice daily with loose yellow stools, and was occasionally frightened at night. The formula was modified by removing *shā rén* (Fructus Amomi) and adding *chǎo chái hú* (dry-fried Radix Bupleuri) 3 g and *duàn lóng gǔ* (calcined Os Draconis) 10 g, and continued for more than 10 doses. He then showed a lustrous complexion and weight gain with all the symptoms resolved; he was considered close to a full recovery.

Analysis

The child was ill due to improper feeding after birth which damaged his spleen and stomach, the weakened spleen and stomach caused a poor source for production of qi and blood. His growth and development were therefore delayed and he failed to thrive, which gradually turned into malnutrition.

When the spleen becomes deficient, the liver will then subjugate the spleen. The more hyperactive the liver, the weaker the spleen will become. Therefore, even a slightly unsuitable diet of milk or food can simply cause food stagnation or diarrhea. A weakened spleen also cannot promote the lung, leading to lung qi deficiency. So, any abnormal weather made the boy vulnerable to external pathogens, which is why he had recurrent common colds. Although the external pathogens had been expelled with Western medicine, the malnutrition still remained. To treat the root cause, he was treated with a modification of *Jiàn Pí Yǎng Gān Tāng*—Spleen Fortifying Liver Nourishing Decoction.

Source: Chen WH & Zhang C. Professor Su Lian's Experience in Treating Malnutrition in Children [J]. Journal of Yunnan College of Traditional Chinese Medicine, 1998; 21(4): 40-41.

[QUESTIONS]

1. A 3-year-old child presented with significant emaciation, accompanied by a sallow complexion, abdominal distention, sparse and kinked hair, irritability, disturbed sleep, finger sucking, teeth grinding, abnormal behavior, poor appetite, and cravings for eating harmful substances (parorexia). His tongue was pale with a greasy coating; the pulse was deep, thready and slippery.



Which of the following formula is the best choice for treatment?

- A. *Fáng Jǐ Huáng Qí Tāng*—Stephania Root and Astragalus Decoction
- B. *Féi Ēr Wán*—Childhood Malnutrition-Rectifying Pill
- C. *Shí Quán Dà Bǔ Wán*—Far-Reaching Tonic Pill
- D. *Shēn Fù Lóng Mǔ Jiù Nì Tāng*—Ginseng, Aconite, Dragon Bone, and Oyster Shell Counterflow Decoction
- E. *Shí Hú Yè Guāng Wán*—Caulis Dendrobii Noctilucent Pill

2. A 2-year-old child presented with slightly emaciation, lusterless complexion, sparse hair, loss of appetite, irritability, and irregular, thin or dry stools. The tongue was slightly pale with a thin and slightly greasy coating; the pulse was thready but forceful.

Which the following is the best choice of patent medicine for this condition?

- A. *Xiāng Shā Zhǐ Zhú Wán*—Aucklandia, Amomum, Immature Bitter Orange, and Atractylodes Macrocephala Pill
- B. *Fù Fāng Ē Jiāo Jiāng*—Compound Colla Corii Asini Syrup
- C. *Shí Quán Dà Bǔ Wán*—Far-Reaching Tonic Pill
- D. *Zhī Zǐ Jīn Huā Wán*—Fructus Gardeniae and Honeysuckle Flower Pill
- E. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill

3. A 4-year-old child presented with dry eyes, photophobia, festering canthus, night blindness, emaciation, and a sallow complexion. His tongue was pale with a greasy coating; the pulse was deep, thready and slippery.

Which formula is the best choice?

- A. *Zī Shēng Jiàn Pí Wán*—Growth Nourishing and Spleen Invigorating Pill
- B. *Shí Hú Yè Guāng Wán*—Caulis Dendrobii Noctilucent Pill
- C. *Féi Ēr Wán*—Childhood-Malnutrition Rectifying Pill
- D. *Xiè Xīn Dǎo Chì Sǎn*—Heart-fire Removing and Red Guiding Powder
- E. *Fáng Jǐ Huáng Qí Tāng*—Stephania Root and Astragalus Decoction

4. A 3-year-old child presented with a sallow and lusterless complexion, sparse hair, loss of appetite, listlessness, irritability, and loose stools or constipation. The tongue was slightly pale with a slight greasy coating; the pulse was thready and forceful.

Which is the best tuina method for this child?

- A. Strengthen *pí jīng* (脾经) 200 times and *shèn jīng* (肾经) 300 times, push *nèi bā guà* (内八卦) 100 times, knead *bǎn mén* (板门) 300 times and ST 36 (*zú sān lǐ*) one minute, knead BL 21 (*wèi shù*) one minute, rub abdomen one minute.
- B. Strengthen *pí jīng* (脾经) 200 times, clear *wèi jīng* (胃经) 200 times, *xīn jīng* (心经) 100 times and *gān jīng* (肝经) 300 times, rub *xiǎo tiān xīn* (小天心) 100 times, rub RN 12 (*zhōng wǎn*) 50 times, push aside abdominal yin-yang 100 times.
- C. Knead SJ 23 (*sī zhú kōng*) 20 times, BL 1 (*jīng míng*) 20 times, GB 1 (*tóng zǐ liáo*) 20 times, ST 2 (*sì bái*) 20 times and EX-HN5 (*tài yáng*) 20 times.
- D. Clear *tiān hé shuǐ* (天河水) 200 times, push *liù fǔ* (六腑) 300 times, clear *xiǎo cháng* (小肠) 300 times, knead *nèi láo gōng* (内劳宫) 200 times, push *sān guān* (三关) 200 times and clear *xīn jīng* (心经) 200 times.
- E. Strengthen *pí jīng* (脾经) 200 times, clear *wèi jīng* (胃经) 200 times, clear *tiān hé shuǐ* (天河水) 200



times, push *liù fǔ* (六腑) 300 times, clear *xiǎo cháng* (小肠) 300 times.

5. A 3-year-old child had extreme emaciation with a dry wrinkled skin. He was skinny with only skin and bone, withered hair, pale complexion, poor spirit, abdominal depression, loose stools or constipation. His tongue was pale, tender and lacking any coating; the pulse was thready and weak.

Which pattern is the correct diagnosis?

- | | |
|------------------------------------|------------------------------|
| A. Qi malnutrition | B. Accumulation malnutrition |
| C. Dryness malnutrition | D. Malnutrition with edema |
| E. Mouth malnutrition with aphthae | |

[REFERENCES]

- [1] World Health Organization, Dept of Nutrition for Health and Development. Nutrition for health and development: A Global Agenda for Combating Malnutrition. World Health Organization 2000. Printed in France.
- [2] Qiu GX, Wang XQ, Jiang M, et al. A Study on the Treatment of 50 Cases of Malnutrition in Children with *Sháo Jú Sì Jūn Tāng*—Six Gentlemen Decoction [J]. Chinese Journal of Traditional Medical Science and Technology, 2005; 12 (4): 260-261.
- [3] Wang SC, Yu Xiaowei. A Clinical Mechanism Research on *Zhuàng Ēr Yīn Kǒu Fú Yè*—Infant Strengthening Oral Liquid for the Treatment of Malnutrition in Children [J]. The Journal of Medical Theory and Practice, 1996; 9(8): 345-347.
- [4] Zhang ZP. A Clinical Observation on Acupuncture and Tuina Therapy Treatment for Malnutrition in Children [J]. Hunan Guiding Journal of Traditional Chinese Medicine and Pharmacology, 2002; 8(7): 423-425.



Chapter 20

Nutritional Iron Deficiency Anemia

Nutritional iron deficiency anemia is a type of anemia resulting from a lack of iron that restricts the production of hemoglobin and other iron compounds. Lower than normal hematochrome and smaller (hypochromic microcytic) red cells are produced concurrently. The condition is characterized by a lack of storable iron in the bone marrow, liver and spleen, as well as decreased serum iron levels, transferrin saturation and a low serum ferritin. The major clinical manifestations are pale off-white or yellow skin and mucous membranes with fatigue and lack of strength, loss of appetite and irritability. TCM recognizes this condition as belonging to the category of blood deficiency.

With recent economic development and sanitation improvements, the numbers of people with nutritional deficiencies have dropped dramatically in some countries. However, nutritional iron deficiency anemia is still a threat to children's health. WHO lists it as one of the major public health issues for global prevention and control, with the highest risk among groups of pre-school children, infants, pregnant women and seniors. Although iron is the fourth richest substance in the world's reserve, iron deficiency conditions affect almost every race and approximately 15% of the world's population. The overall incidence rate is about 10% in developed countries and 50% in developing countries^[1]. In 2006, reports from the Chinese Ministry of Health reported an incidence rate of anemia in Chinese children of different ages as wavering from 10.6% to 38.3%^[2].

Anemia has no obvious seasonal trend and can occur at any time of the year and at any age, but is most common in children between 6 months and 3 years of age. The causes may relate to low iron storage levels inside the body, food with lower iron content such as dairy produce, and the young child's increasing physiological iron demand for rapid growth. The incidence remains equal in both sexes throughout childhood; however, anemia in girls is more prevalent than anemia in boys during adolescence.

There are several factors that contribute to the development of iron deficiency that include insufficient iron in the diet, poor iron absorption in the digestive tract, and chronic blood loss. Children with acute or chronic infections may develop secondary iron deficiency anemia as a result of poor appetite and impaired digestive tract absorption. Chronic anemia may affect the growth and mental development of children, lower their immunity response and even cause anemic heart disease with heart failure.

The majority of patients with mild to moderate conditions can be cured after treatment and often have a good prognosis; improving the diet and resolving the etiological factors can reduce recurrence remarkably. On the other hand, severe iron deficiency or chronic mild and moderate iron deficiency can lead to organ dysfunctions that affect the normal growth and development if not treated promptly. The resulting qi and blood insufficiency lowers the body's resistance, thus also increasing susceptibility to infectious disease.

TCM has a long history in treating this condition; the earliest recorded treatment used for blood deficiency employed melanterite, a substance rich in ferrous sulfate. Years of clinical practice have proven that treatments which fortify the spleen and supplement the kidney can improve spleen and stomach functions in order to accelerate iron absorption

and re-utilization. This approach can help the body to heal and re-form iron stores. Iron supplements combined with Chinese medicinals that fortify the spleen and boost qi concurrently can promote iron absorption and its utilization while also alleviating side effects from the iron supplement, in the alimentary canal.

In 120 cases, Chen Yin used *Jiàn Pí Bǔ Xuè Kǒu Fú Yè*—Spleen Invigorating Blood Nourishing Oral Liquid, which included *dǎng shēn* (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *chén pí* (Aicarpium Citri Reticulatae), *huáng qí* (Radix Astragali), *nǚ zhēn zǐ* (Fructus Ligustri Lucidi), *jī xuè téng* (Caulis Spatholobi) and *hé shǒu wū* (Radix Polygoni Multiflori). 95 cases (79.2%) were cured, 19 (15.8%) were effective and 6 (5%) were ineffective with a total effective rate reaching 95%. This clearly demonstrates the effect of this formula in improving the clinical symptoms, especially in recovering lost appetite ^[3].

Jiang Yu-ren divided 176 children with iron deficiency anemia into two groups, treating one group with Chinese traditional medicine and the other with Western medicine. The former group of 91 cases were treated with *Yùn pí Yǎng Xuè Sǎn*—Spleen Invigorating Blood Nourishing Powder, consisting of *cāng zhú* (Rhizoma Atractylodis), *chén pí* (Aicarpium Citri Reticulatae), *dà zǎo* (Fructus Jujubae) and *zào fán* (Melanterite), while compounded ferric ammonium citrate was given to the latter group of 85 cases. After 2 months observation, using the increased rate of hemoglobin (Hb) as the main index for evaluation, the clinical effects of the former group were superior to that of the latter group ^[4].

In another study, Yang Yue combined oral iron supplements with pediatric tuina and compared the results with a control group treated only with iron supplements.

The tuina techniques were to slightly bend the infant's thumb, then to gently use the thumb to push the spleen channel 100-500 times, push the kidney channel 100-500 times, knead *shàng mǎ* (上马) 100-300 times, and to use the index and middle fingers to directly push *sān guān* (三关) 100-300 times. Next, two hands are put on either side of the spine to treat from the top to the bottom along the spine; the index and middle fingers are put in front, while the thumb is behind, the three fingers firmly lifting up the skin and while pinching and loosening alternatively, then moving upwards until the back of the neck is reached. This was repeated 3-10 times. The results revealed a significant difference between the two groups, with 96% efficiency in the treatment group and 46.6% in the control group ^[5].

[ETIOLOGY & PATHOLOGY]

Modern medicine considers that a lack of iron is the most direct cause of deficiency anemia. Iron is an important ingredient for hemoglobin production; iron combines with protoporphyrin to form hemes and 4 hemes combine with 4 haptoglobins to form hemoglobin. Thus, a certain level of iron deficiency is certain to concurrently produce smaller red cells and lower hematochrome anemia. Iron deficiency is caused by lower innate iron stores, insufficient iron from the diet, malabsorption of iron in the digestive tract, or chronic blood loss.

Blood is the fundamental substance for maintaining human life and activity, and is closely associated with the functions of the spleen, kidney, heart and liver in generation and



transformation.

The spleen and stomach have acquired constitutions and are the resources for qi and blood generation and transformation. The heart controls blood circulation for maintaining normal organ function throughout the body, and also participates in blood generation. The liver stores blood, while the kidney stores essence. The blood stored in the liver and the essence stored in the kidney are of the same source. Sufficient blood stores can maintain the normal function of both the liver and kidney and also promote mutual transformation of the blood and essence.

Consequently, the normal functions of the spleen, kidney, heart and liver can be filled with abundant qi and blood to nourish the skin, flesh, tendon, bone and internal organs. If the internal organs are damaged due to an innate deficiency, improper feeding or other diseases, qi and blood dysfunction can occur to result in iron deficiency anemia.

Innate Deficiency

Nutritional anemia is common in premature babies, multiple births, twins or in those whose mothers have had severe anemia. The cause is related to an innate kidney essence deficiency with qi and blood deficiency. The fetus depends on the qi and blood nourishment from the mother to grow; with insufficient generation of qi and blood due to spleen and kidney deficiency in the mother, the essence-blood requirements of the fetus will not be fulfilled.

Anemia can occur in the child under the following conditions; the mother is constitutionally deficient during pregnancy with a lack of qi and blood, lack of proper care during gestation, dietary biases or unusual food preferences, insufficient nourishment, diseases that have damaged qi and blood, if the child is born prematurely, one of multiple births, or is an impaired fetus.

Improper Postnatal Feeding

The spleen is often insufficient with weakened transportation during the child's most rapid periods of growth. If the child has had an improper diet or particularly poor eating habits, or when the diet is often iron-deficient, vegetarian, or with a delay in introducing solid foods, or the mother's milk is poor and insufficient, or when diseases have impaired the spleen and stomach; all can cause spleen and stomach dysfunction with decreased qi and blood leading to anemia.

Over-Consumption of Qi and Blood by Illness

The internal organs of children are tender and delicate and without strong vitality, which makes them susceptible to attack by exogenous pathogenic factors. Blood loss can eventuate from long-term vomiting and diarrhea, illness from repeated external attacks that steadily consume essence and blood, from an unclean diet or poor hygienic habits with parasitic worm infections (especially with hookworm infestation causing intestinal blood loss). Long term disease can damage organs (i.e., spleen, kidney, heart, liver) and restrict the production of essence, blood and body fluids. Conditions which deplete iron supplies also exacerbate anemia such as traumatic bleeding, or chronic losses of small amounts of blood.

Anemia is generally a pathological result associated with a combination of various factors. The affected organs include the heart, liver, spleen, stomach and kidney, but more so the spleen and stomach. Weakness of the spleen and stomach result in insufficient reception and transformation of blood with failure in generating qi and blood.

Deficiency of qi and blood means that the organs are malnourished, so illness occurs. Malnourishment of the heart leads to heart-spleen deficiency and the failure to transform blood into essence, which can cause essence-blood deficiency. Therefore, failing to nourish the liver and kidney may show up as a liver-kidney yin deficiency. Spleen and kidney yang deficiency can also appear when yang qi depletion occurs; this is aggravated by yin depletion, as Fire fails to warm Earth. In severe cases, syncope-collapse syndrome results from qi collapse and blood loss.

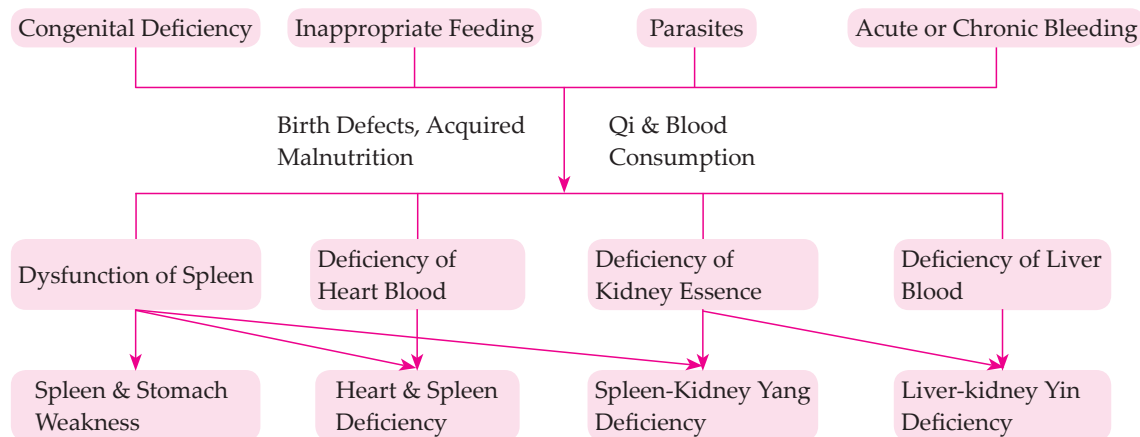


Fig. 20-1 Etiology and Pathomechanism of Nutritional Iron Deficiency Anemia

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

(1) **Clear history of iron deficiency:** insufficient ferrum supply, malabsorption, increasing iron demand or chronic blood loss.

(2) **Clinical manifestations:** slow outbreak, gradual yellowing or skin becoming paler particularly in the lips, oral mucosa and nail beds, lassitude and appetite loss. Older children may have symptoms of dizziness, tinnitus and poor eyesight. Some will have hepatosplenomegaly.

(3) Laboratory Examinations

a. The peripheral complete blood count (CBC) test indicates a decrease in hemoglobin and erythrocytes, but is especially low in hemoglobin (< 110 g/L in children aged 3 months to 6 years and < 120 g/L in children over 6 years, indicating as microcytic hypochromic anemia). The following values are also attained: Mean corpuscular hemoglobin concentration (MCHC) $< 31\%$, mean corpuscular volume (MCV) < 80 fl and mean corpuscular hemoglobin (MCH) < 27 pg. There are no significant differences observed in leukocyte and thrombocyte counts. Reticulocyte levels may be slightly decreased or the same. Peripheral blood smear yields different sized off-red blood cells with the majority being smaller than usual, with an extensive central pale area.

b. Iron metabolism examination: Decreases in serum iron < 10.7 $\mu\text{mol/L}$, increased total iron binding capacity (TIBC) > 62.7 $\mu\text{mol/L}$, decreased transferrin saturation (serum iron/iron binding capacity) $< 15\%$, elevation in free erythrocyte protoporphyrin (FEP) $>$

Table 20-1 Differential diagnosis of iron-deficiency anemia, nutritional megaloblastic anemia, aplastic anemia, Thalassemia (Cooley's anemia) Mediterranean anemia, infectious anemia, and infantile physiological anemia

Key Distinguishing Points	Nutritional iron deficiency anemia	Nutritional megaloblastic anemia	Aplastic anemia	Mediterranean anemia	Infectious anemia	Infantile physiological anemia
Peak Age	6 months-3 years	Only milk from mother or sheep	Childhood	Worst cases in infants	Infant	Several months to 3 years old
Other Manifestations	In severe cases, dizziness, tinnitus, giddiness, possible hepatosplenomegaly	Dysphoria, drowsiness, somnolence, slow responses, delayed intellectual development, or tremors, myasthenia, nervous system changes	Bleeding, infection	β -Mediterranean anemia, distinctive face development (large head & forehead, round convex occiput, low nasal bridge, etc), hepatosplenomegaly	Clinical manifestations after infection	Possible appetite loss, irritability
Anemia Characteristics	Microcytic hypochromic anemia	Macrocytic anemia	Normocytic anemia	Uneven red cells, expanding central light area, target erythrocytes	Microcytic hypochromic anemia	Microcytic normochromic anemia
Laboratory Examination	MCHC < 31% MCV < 80 fl MCH < 27 pg Serum iron < 10.7 $\mu\text{mol/L}$, total iron binding capacity > 62.7 $\mu\text{mol/L}$, saturation level of iron binding globulin < 15%. Free erythrocyte protoporphyrin > 0.9 $\mu\text{mol/L}$, serum ferritin < 16 $\mu\text{g/L}$	MCV > 94 fl MCH > 32 pg	Hemogram shows overall blood decrease	Serum iron & dyeable iron are increased; abnormal HB can be extracted by hemoglobin electrophoresis	Serum iron & iron-binding capacity are reduced	

0.9 $\mu\text{mol/L}$, and low serum ferritin $< 16 \mu\text{g/L}$.

(4) Iron supplementation treatment is effective. After treatment for 6 weeks, hemoglobin levels rise over 20 g/L.

(5) Stages of Disease Progression

a. Mild (the first) stage: hemoglobin level 90-110 g/L in children from 6 months to 6 years, 90-120 g/L in those above 6 years; erythrocyte count $3-4 \times 10^{12}/\text{L}$

b. Moderate (the second) stage: hemoglobin level 60-90 g/L; erythrocyte count $2-3 \times 10^{12}/\text{L}$

c. Severe (the third) stage: hemoglobin level 30-60 g/L; erythrocyte count $1-2 \times 10^{12}/\text{L}$

d. Extremely severe stage: hemoglobin level $< 30 \text{ g/L}$; erythrocyte count $1-2 \times 10^{12}/\text{L}$

► **Differential Diagnosis**

It is necessary to distinguish iron deficiency anemia from nutritional megaloblastic anemia, aplastic anemia, Thalassaemia (Cooley's anemia) Mediterranean anemia, infectious anemia and infantile physiological anemia. See Table 20-1.

Iron medication does not apply for nutritional megaloblastic anemia, aplastic anemia and Mediterranean anemia. When blood transfusion therapy is given for severe β -Mediterranean anemia, it should be carried out alongside iron removal treatment.

[PATTERN DIFFERENTIATION & TREATMENT]

► **Essentials of Pattern Differentiation**

The differentiation of iron deficiency anemia should combine disease identification with pattern recognition using the qi-blood, yin-yang, and *zang-fu* pattern classifications. The majority of clinical cases manifest as deficiency patterns, with the affected organs involving the heart, liver, spleen and kidney, with the most common being the spleen and kidney. The particular manifestations include four main patterns: spleen and stomach deficiency, heart-spleen deficiency, liver-kidney yin deficiency, and spleen-kidney yang deficiency. The following points should be noted during clinical pattern differentiation.

(1) Distinguish the Zang-Fu Location

The locations of disease are the heart, spleen, liver and kidney, where the spleen is the key and the kidney is the source. Usually, mild anemia can appear with a spleen deficiency pattern, while severe anemia can emerge as liver and kidney deficiency patterns.

Clinical manifestations depend upon where the disease is located, although a sallow or pale complexion is common to all with anemia. Disease in the spleen may also be indicated by less eating or a decreased appetite, lack of strength, and unregulated bowel movements. Clinical manifestations of disease in the heart include palpitations (may be severe), sleeping difficulties and a sluggish voice. Symptoms of disease in the liver include dizziness and dry eyes, tidal fever, night sweats, and dry fragile fingernails. Symptoms of disease in the kidney include back pain with weak legs, extreme chilliness and cold limbs, and slow growth.

(2) Differentiate Qi-Blood and Yin-Yang

It is important to differentiate qi and blood, and yin and yang. The heart, spleen, liver and kidney each manifest different clinical signs during the pathological changes of



iron deficiency anemia. The spleen often shows qi deficiency which could also manifest as spleen yang deficiency in the later stages. The kidney usually shows kidney-essence deficiency clinically magnified as kidney yin deficiency, kidney yang deficiency, or yin and yang dual deficiency. The heart commonly shows blood deficiency that can fail to nourish the heart itself. The liver usually shows blood deficiency and yin deficiency. Clinically, the relationship of qi and blood should be noted, with qi as the commander of blood and blood as the mother of qi. Blood deficiency is usually in combination with qi deficiency, and these should be treated together.

(3) Distinguish the Severity of the Disease

Diagnosis should be based upon clinical manifestations and laboratory examinations. Mild anemia presents with pale skin and mucosa as well as mild symptoms that can be nonspecific, whereas severe anemia shows greater evidence of impairment such as neurological symptoms, altered behavior, irritability, lassitude, decreased exercise tolerance, and a drop in intellectual and mental activity.

► Treatment Principles

Since this disease is mostly associated with deficiency, treatment should be based on the rule of “treating deficiency with supplementation”. The spleen and stomach are the source for the production and transformation of qi and blood, and the kidney stores essence. Essence can be transformed into blood, and both essence and blood have the same source. As a consequence, reinforcement of the spleen and kidney provide the most important aspects for supplementing deficiency. This is done to improve the function of spleen-stomach and kidney to enable production of sufficient essence and blood.

Spleen and stomach deficiency is treated by fortifying the spleen and generating blood; the prescription for other symptoms should also address the spleen and stomach. The proper formula should supplement without causing stagnation, and nourishment should not be too greasy.

During treatment it is important to note the concepts “qi correlates with blood”, “interdependence between yin and yang”, “supplement qi and engender blood” and “produce yang by replenishing yin”. When supplementing blood, concurrently boost qi; when supplementing yin, do not forget to supplement yang; also enrich and supplement to assist with transportation. Specific treatment and what to emphasize should be based on the degree of deficiency of the internal organs, blood, qi, yin and yang. Since supplementing and boosting herbs are easily cause spleen qi congestion and block the stomach, one should not only avoid overuse of anti-anemic drugs, but also use a reasonable selection of medicinals that act to regulate qi to promote transportation and harmonize the stomach. In this way, supplementation will neither become an obstacle nor harm the stomach.

Also advise the caregivers to change poor dietary habits, maintain balanced diet, and to actively participate in treatment with a positive attitude. To help in achieving an effective cure, it is very important to consider the cause and effect as well as the symptoms and root causes.

► Pattern and Treatment Classifications

Spleen and Stomach Deficiency

Main Signs and Symptoms

Manifestations include long-term loss of appetite, a pale or yellow complexion, pale

nails and lips, lassitude, emaciation and unregulated bowel movements. The tongue is pale with a white coating; the pulse is weak and thready, and there are light red finger venules.

Pattern Differentiation

Mild and moderate anemia conditions are caused by a weak spleen and stomach failing to transport and transform. Blood deficiency is the branch cause, with spleen and stomach weakness as the root cause. Thus, there is failure to transform the water and grain, essences cannot be transported and there is difficulty in generating qi and blood, which in turn fails to nourish the muscles. The key points of differentiation (excluding blood deficiency) are typical spleen deficiency patterns such as poor appetite, constipation or loose stools, and a pale or yellow complexion.

Treatment Principles

Fortify the spleen and stomach functions of transportation and transformation, boost qi and nourish blood.

Formula

Modified *Liù Jūn Zǐ Tāng*—Six Gentlemen Decoction

党参	<i>dǎng shēn</i>	Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
陈皮	<i>chén pí</i>	Aicarpium Citri Reticulatae
半夏	<i>bàn xià</i>	Rhizoma Pinelliae

Formula Analysis

Dǎng shēn (Radix Codonopsis) supplements qi, fortifies the spleen and nourishes the stomach.

Bái zhú (Rhizoma Atractylodis Macrocephalae) fortifies the spleen and dries dampness to promote digestion.

Fú líng (Poria) drains dampness and activates the spleen.

Zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) supplements qi and harmonizes the middle *jiao*.

Chén pí (Aicarpium Citri Reticulatae) and *bàn xià* (Rhizoma Pinelliae) replenish qi, harmonize the stomach and warm the middle *jiao*.

Modifications

For serious qi deficiency with fatigue, remove *dǎng shēn* (Radix Codonopsis) and add *rén shēn* (Radix et Rhizoma Ginseng) to fortify the spleen and boost qi.

For poor appetite, add *jiāo shān zhā* (Fructus Crataegi), *chǎo gǔ yá* (dry-fried Fructus Setariae Germinatus) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) to promote digestion and resolve accumulation.

For stagnation transforming into heat presenting with bad breath and/or heat in the palms and soles, add *hú huáng lián* (Rhizoma Picrorhizae) and *lián qiào* (Fructus Forsythiae) to clear internal heat.

For constipation, add *jué míng zǐ* (Semen Cassiae) and *huǒ má rén* (Fructus Cannabis) to

moisten the intestines and relieve constipation.

For loose stools containing undigested food, add *gān jiāng* (Rhizoma Zingiberis), *wú zhū yú* (Fructus Evodiae) and *shān yào* (Rhizoma Dioscoreae) to warm the middle *jiao* and check diarrhea.

For abdominal distention, add *bīng láng* (Semen Arecae) and *mù xiāng* (Radix Aucklandiae) to move qi and resolve food stagnation.

For hookworm anemia (hookworm eggs in the stools can be found by flowing saline over the stools), first administer *Guàn Zhòng Tāng*—Rhizoma Cyrtomii Decoction, composed of *guàn zhòng* (Rhizoma Cyrtomii), *kǔ liàn pí* (Cortex Meliae), *tǔ jīng jiè* (Herba Chenopodii) and *zǐ sū* (Aillae) to expel worms. Medicinals which fortify the spleen and nourish blood should be given next.

For repeated attacks by external factors, add *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder to boost qi, consolidate the exterior and remove pathogens.

The majority of anemia patients can be cured after proper treatment, although a proper diet with iron-rich supplementation must be emphasized due to the high possibility of recurrence. Meanwhile, the treatment course needs to be long enough to facilitate the yin and yang balance among the *zang fu* organs.

Chinese Patent Medicines

Bǔ Zhōng Yì Qì Wán—Center-Supplementing Qi-Boosting Pill.

2-3 g, 3 times daily.

Tui na

Points	Number of Times	Methods
KI 1 (<i>yǒng quán</i>)	100	Kneading
EX-UE8 (<i>wài láo gōng</i>)	300	Kneading
Èr rén shàng mǎ (二人上马)	200	Kneading
EX-UE10 (<i>sì fēng</i>)	100	Kneading
ST 40 (<i>fēng lóng</i>)	One minute	Kneading

Knead *yǒng quán* 100 times, *wài láo gōng* 300 times, *èr rén shàng mǎ* 200 times, *sì fēng* 100 times and *fēng lóng* for one minute.

Treat once daily, with 3 days as one course of treatment.

Heart and Spleen Deficiency

Signs and Symptoms

Manifestations include a yellow or pale complexion, pale nails and lips, thin yellow hair, occasionally dizziness, palpitations, difficulty sleeping, shortness of breath, deep soft voice, reticence, fatigue, and loss of appetite. The tongue is light red; the pulse is weak and thready. There are light red finger venules.

Pattern Differentiation

Aside from blood deficiency, usually there are accompanying signs and symptoms of the heart-blood failing to nourish. Because the heart governs blood circulation, heart-blood deficiency leads to blood failure to nourish the mind, exacerbating the pattern of heart and spleen deficiency.

The key points of diagnosis, besides anemia, are concurrent spleen qi and heart blood

deficiency marked by fatigue, appetite loss, dizziness, palpitations, poor sleep, and a deep voice.

Treatment Principles

Supplement the spleen and nourish the heart, boost qi and engender blood.

Formula

Modified *Guī Pí Tāng*—Spleen-Restoring Decoction

黄芪	<i>huáng qí</i>	Radix Astragali
龙眼肉	<i>lóng yǎn ròu</i>	Arillus Longan
人参	<i>rén shēn</i>	Radix et Rhizoma Ginseng
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
酸枣仁	<i>suān zǎo rén</i>	Semen Ziziphi Spinosae
茯神	<i>fú shén</i>	Sclerotium Poriae Paradicis
远志	<i>yuǎn zhì</i>	Radix Polygalae
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
木香	<i>mù xiāng</i>	Radix Aucklandiae

Formula Analysis

Acting together as chief medicinals, *huáng qí* (Radix Astragali) supplements the spleen and boosts qi, and *lóng yǎn ròu* (Arillus Longan) supplements the spleen and nourishes heart blood.

Rén shēn (Radix et Rhizoma Ginseng) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) fortify the spleen and boost qi.

Dāng guī (Radix Angelicae Sinensis) and *suān zǎo rén* (Semen Ziziphi Spinosae) nourish heart blood.

Fú shén (Sclerotium Poriae Paradicis) and *yuǎn zhì* (Radix Polygalae) calm the mind.

Zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) moderates the actions of the other medicinals, and *mù xiāng* (Radix Aucklandiae) regulates qi and enlivens the spleen to prevent the other formula medicinals from cloying.

The whole formula treats both heart and spleen and supplements both qi and blood. This formula embodies the idea that blood can self-engender when qi is flourishing, and that the heart becomes well-nourished when blood is sufficient.

Modifications

For significant blood deficiency, add *jī xuè téng* (Caulis Spatholobi) and *bái sháo* (Radix Paeoniae Alba) to supplement and nourish blood.

For appetite loss accompanied by thin loose stools, reduce the amount of *dāng guī* (Radix Angelicae Sinensis) and add *cāng zhú* (Rhizoma Atractylodis), *chén pí* (Aicarpium Citri Reticulatae) and *jiāo shān zhā* (Fructus Crataegi) to fortify the spleen and promote transportation.

For palpitations and constipation, add *bǎi zǐ rén* (Semen Platycladi) and *suān zǎo rén* (Semen Ziziphi Spinosae) to calm the mind and moisten the intestines.

For profuse sweating after a bowel movement, add *fú xiǎo mài* (Fructus Triticis Levis) and *duàn mǔ lì* (Concha Ostreae Praeparatum) to consolidate essence and check sweating.

For qi failure to control blood causing nose bleeding or bloody stools, add *ē jiāo* (Colla Corii Asini), *dì yú* (Radix Sanguisorbae) and *xiān hè cǎo* (Herba Agrimoniae) to nourish blood and stanch bleeding.

This pattern can also be treated with a modification of *Yǎng Róng Tāng*—Supporting and Nourishing Decoction to supplement heart qi and nourish heart blood to calm the mind.

For insufficiency of heart blood and heart yin impairment manifesting with palpitations, sleepless nights, *xū lǐ* (a heart apical pulse) palpable through the clothing, and a weak and rapid pulse, use a modification of *Shēng Mài Yīn*—Pulse-activating Decoction to boost qi and engender fluids.

Chinese Patent Medicines

Guī Pí Wán—Spleen-Restoring Pill

2-3 g, 3 times daily. For palpitations, shortness of breath, insomnia, dreaminess and loss of appetite.

Fù Fāng Ē jiāo Jiāng—Compound Colla Corii Asini Thick Liquid

5-10 ml, twice daily. For qi and blood deficiency, dizziness, palpitations and insomnia.

Rén Shēn Yǎng Róng Wán—Ginseng Supporting and Nourishing Pill

2-4 g, once or twice daily. For qi and blood deficiency, fatigue, emaciation, decreased appetite and thin loose stools.

Tuī na

Points	Repetitions	Method
<i>Pí jīng</i> (脾经)	300	Supplementing
ST 36 (<i>zú sān lǐ</i>)	2 minutes	Kneading
EX-UE 8 (<i>wài láo gōng</i>)	2 minutes	Kneading
<i>Xiǎo tiān xīn</i> (小天心)	1 minute	Kneading

Supplement *pí jīng* 300 times, knead ST 36 (*zú sān lǐ*) for 2 minutes, knead *wài láo gōng* for 2 minutes, and knead *xiǎo tiān xīn* for one minute.

Treat once daily, with 10 times as one course of treatment.

Liver and Kidney Yin Deficiency

Signs and Symptoms

Manifestations include a pale complexion, fragile thin pale nails, dry yellow hair, dizziness, tinnitus, slow growth, dry eyes, restlessness, insomnia, red cheeks, night sweats, trembling limbs with spasms, and back and knee weakness and soreness. The tongue is red with little or no coating; the pulse is wiry or thready and rapid.

Pattern Differentiation

Essence and blood and yin and blood share the same resource. This pattern is common in moderate and severe anemia cases, or in anemic infants with a congenital deficiency. It occurs because long-term blood deficiency involves the liver and kidney, and together with the essence and blood depletion, the muscles and skin fails to receive nourishment.

The key points of diagnosis are signs of significant blood deficiency combined with those of liver and kidney yin deficiency and yin failing to restrain yang. The

manifestations include dizziness, tidal fever and night sweats, dry fragile nails, impatient temperament, and possible tremor or muscle spasms. Liver yin deficiency symptoms present as restlessness, insomnia, dry eyes, fragile nails and tremors of all the limbs. While predominated by kidney yin deficiency, the manifestations are dizziness, hot red cheeks, night sweats, weak and aching back and knees, and slow growth.

Treatment Principles

Nourish the liver and kidney, boost essence and generate blood.

Formula

Modified *Zuǒ Guī Wán*—Left-Restoring Pill

龟板	<i>guī bǎn</i>	Plastrum Testudinis
鹿角胶	<i>lù jiǎo jiāo</i>	Colla Cornus Cervi
菟丝子	<i>tù sī zǐ</i>	Semen Cuscutae
牛膝	<i>niú xī</i>	Radix Achyranthis Bidentatae
熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
山药	<i>shān yào</i>	Rhizoma Dioscoreae
山茱萸	<i>shān zhū yú</i>	Fructus Corni
枸杞子	<i>gǒu qǐ zǐ</i>	Fructus Lycii
阿胶	<i>ē jiāo</i>	Colla Corii Asini
砂仁	<i>shā rén</i>	Fructus Amomi
山楂	<i>shān zhā</i>	Fructus Crataegi

Formula Analysis

Guī bǎn (Plastrum Testudinis), *lù jiǎo jiāo* (Colla Cornus Cervi), *tù sī zǐ* (Semen Cuscutae) and *niú xī* (Radix Achyranthis Bidentatae) strengthen and nourish the liver and kidney and promote essence-blood reproduction.

Shú dì huáng (Radix Rehmanniae Praeparata), *shān yào* (Rhizoma Dioscoreae), *shān zhū yú* (Fructus Corni), *gǒu qǐ zǐ* (Fructus Lycii) and *ē jiāo* (Colla Corii Asini) nourish yin and blood.

Shā rén (Fructus Amomi) and *shān zhā* (Fructus Crataegi) fortify the spleen and promote transportation.

Modifications

For tidal fever and night sweats, add *biē jiǎ* (Carapax Trionycis), *dì gǔ pí* (Cortex Lycii) and *bái wēi* (Radix et Rhizoma Cynanchi Atrati) to nourish yin and clear heat.

For slow growth, add *zǐ hé chē* (Placenta Hominis), *yì zhì rén* (Fructus Alpiniae Oxyphyllae) and *ē jiāo* (Colla Corii Asini) to boost essence and supplement blood while nourishing the kidney to open the orifices.

For dry eyes, add *shí hú* (Caulis Dendrobii) and lamb's liver to nourish the liver and promote vision.

For lassitude, add *huáng qí* (Radix Astragali) and *tài zǐ shēn* (Radix Pseudostellariae) to boost qi and reinforce healthy qi.

For limb tremors, add *shā yuàn jí lí* (Semen Astragali Complanati), *bái sháo* (Radix Paeoniae Alba), *gōu téng* (Ramulus Uncariae Cum Uncis) and *dì lóng* (Pheretima) to soften the liver and extinguish wind.

For dizziness, add *jú huā* (Flos Chrysanthemi) and *shí jué míng* (Concha Haliotidis) to pacify the liver and subdue yang.

For skin ecchymosis, hematemesis and bleeding, add *nǚ zhēn zǐ* (Fructus Ligustri Lucidi), *hàn lián cǎo* (Herba Ecliptae) and *mǔ dān pí* (Cortex Moutan) to enrich yin, cool blood and check bleeding.

For a lump below the costal region (enlarged liver), add *biē jiǎ* (Carapax Trionycis), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) and *é zhú* (Rhizoma Curcumae) to invigorate blood, dissolve stasis and resolve masses.

Tuī na

Points	Repetitions	Method
<i>Gān jīng</i> (肝经)	100	Clearing
<i>Èr rén shàng mǎ</i> (二人上马)	100	Kneading
KI 1 (<i>yǒng quán</i>)	100	Kneading

Clear *gān jīng* 100 times, knead *èr rén shàng mǎ* 100 times, and knead *yǒng quán* 100 times.

Treat once daily, with 10 times as one course of treatment.

Spleen and Kidney Yang Deficiency

Signs and Symptoms

Manifestations include pale lips, mouth and nails, fatigue and listlessness, loss of appetite, or loose stools, slow growth, dry and sparse hair and cold limbs. The tongue is pale with a white coating; and the pulse is deep, thready and weak. There are light finger venules.

Pattern Differentiation

This is a condition of severe iron deficiency anemia caused by long-term illness that consumes and exhausts essence and blood. As yin impairment affects yang, spleen and kidney yang deficiency will result. Severe blood deficiency manifests with a pale complexion, pale lips, tongue and nails and thin hair, as well as the accompanying signs and symptoms of spleen and kidney yang deficiency.

For spleen yang deficiency, there are chills, lassitude, poor appetite and loose stools. Kidney yang deficiency presents with chills, cold limbs and slow growth. If the condition worsens, it can develop into a critical condition of kidney yang debilitation with yang qi desertion. Therefore, for differentiation, one needs to be sure that the symptoms and signs of blood deficiency coincide with yang deficiency of the spleen and kidney and present with loose bowels, coldness of the four limbs, and delayed growth and development.

Treatment Principles

Warm and supplement the spleen and kidney, boost yin and nourish blood

Formula

Modified *Yòu Guī Wán*—Right-Restoring Pill

附子	<i>fù zǐ</i>	Radix Aconiti Lateralis Praeparata
肉桂	<i>ròu guì</i>	Cortex Cinnamomi
鹿角胶	<i>lù jiǎo jiāo</i>	Colla Cornus Cervi
熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
山茱萸	<i>shān zhū yú</i>	Fructus Corni
枸杞子	<i>gǒu qǐ zǐ</i>	Fructus Lycii
淮山药	<i>huái shān yào</i>	Sclerotium Poriae Paradicis
菟丝子	<i>tù sī zǐ</i>	Semen Cuscutae
杜仲	<i>dù zhòng</i>	Cortex Eucommiae
当归	<i>dāng guī</i>	Radix Angelicae Sinensis

Formula Analysis

Fù zǐ (Radix Aconiti Lateralis Praeparata), *ròu guì* (Cortex Cinnamomi) and *lù jiǎo jiāo* (Colla Cornus Cervi) reinforce original kidney yang by warming the interior and dispelling cold.

Shú dì huáng (Radix Rehmanniae Praeparata), *shān zhū yú* (Fructus Corni), *gǒu qǐ zǐ* (Fructus Lycii) and *huái shān yào* (Rhizoma Dioscoreae) supplement the kidney, nourish yin, and supplement essence and marrow.

Tù sī zǐ (Semen Cuscutae) and *dù zhòng* (Cortex Eucommiae) supplement liver and kidney and strengthen the back and knees.

Dāng guī (Radix Angelicae Sinensis) nourishes and harmonizes blood, supplements blood, and nourishes essence.

Yòu Guī Wán—Right-Restoring Pill embodies the idea of “seeking yang from within yin”; supplementation of yang must receive from yin. With the assistance of yin, yang gains an endless resource to generate material. The whole formula supports yin and yang and liver, spleen and kidney with an emphasis on warming kidney yang for the purpose of restoring original yang.

For chills and cold limbs, add *xiān líng pí* (Herba Epimedii) and *bā jǐ tiān* (Radix Morindae Officinalis) to warm and supplement kidney yang.

For late closing of the fontanelle, add *guī bǎn* (Plastrum Testudinis), *mǔ lì* (Concha Ostreae) and *lóng gǔ* (Os Draconis; Fossilia Ossis Mastodi) to supplement the kidney and strengthen bone.

For sparse hair, combine *dǎng shēn* (Radix Codonopsis) and *dāng guī* (Radix Angelicae Sinensis) to nourish blood and promote hair growth.

For loose stools, remove *shú dì huáng* (Radix Rehmanniae Praeparata), combine *bái zhú* (Rhizoma Atractylodis Macrocephalae), *ròu dòu kòu* (Semen Myristicae) and *páo jiāng* (Rhizoma Zingiberis Praeparatum) to warm yang and check diarrhea.

For edema below the waist, combine *fú líng* (Poria) and *zhū líng* (Polyporus) or choose a modification of *Zhēn Wǔ Tāng*—True Warrior Decoction to warm yang and excrete water to resolve edema.

For bleeding, combine *pào jiāng tàn* (Rhizoma Zingiberis Praeparatum), *ài yè* (Folium



Artemisiae Argyi) and *xiān hè cǎo* (Herba Agrimoniae) to warm the channels and dissipate cold to astringe blood.

For shortness of breath and reticence, combine sweet and warm *huáng qí* (Radix Astragali) and *dǎng shēn* (Radix Codonopsis) to replenish qi and invigorate the spleen.

For a faint pulse and cold extremities, yang qi going astray, *Shēn Fù Lóng Mǔ Jiù Nǐ Tāng*—Ginseng, Aconite, Dragon Bone and Oyster Shell Counterflow Decoction should be taken immediately to restore yang and rescue collapse.

For symptoms of extreme deficiency, *rén shēn* (Radix et Rhizoma Ginseng) acts to powerfully supplement original qi, generate body fluids, calm the spirit and benefit the mind. When combining larger amounts of supplementing medicinals, also take care to invigorate the spleen and stomach to directly replenish qi-blood by adding animal-based medicinals such as *ē jiāo* (Colla Corii Asini), *guī bǎn jiāo* (Colla Testudinis Plastris), etc. In extreme situations, blood transfusion therapy should be taken into consideration.

[WESTERN MEDICINE THERAPIES]

1. GENERAL TREATMENTS

Children with severe anemia should be well cared for with proper feeding of nutritious foods rich in iron, Vitamin C and protein. They may need more bed rest and protection of myocardial function.

2. ETIOLOGICAL TREATMENTS

Establishing and resolving the etiological factors without delay is the key point in treating anemia. For anemia caused by intestinal deformity, surgery is required, and for hookworm infestation causing intestinal blood loss, anthelmintic drugs are administered. Chronic blood loss cases should be focused on treating the primary disease to control the cause of the bleeding.

3. IRON SUPPLEMENTATION THERAPY

Iron supplements are specific drugs used for treating iron-deficiency anemia.

(1) Oral Administration of Iron Supplements

Increasing red meat in the diet and oral administration of iron supplements are economical, convenient and effective ways to treat iron-deficiency anemia. Divalent ferric salts are relatively easily absorbed; common preparations are ferrous sulfate (elemental iron 20%), ferrous fumarate (elemental iron 30%) and ferrous gluconate (elemental iron 11%).

An oral dose of 3 mg iron/kg/day is sufficient in most patients and should be adequate for maximal hematologic response. There needs to be no more than 6 mg/kg/day given under any circumstances. Administration is in divided doses, two or three times daily with meals and preferably with Vitamin C for better absorption results and less likelihood of gastrointestinal intolerance.

With effective iron treatment, the reticulocyte response is usually evident with an obvious rise after 3-4 days of therapy; it peaks in 7-10 days and drops to a normal level in 2-3 weeks. The response in hemoglobin is slow but easier to establish; its count should increase about 2 weeks after treatment, then followed by improved clinical symptoms. Most abnormalities are corrected within the first month of therapy, and normal values should be

reached after 2 months of therapy. However, it is desirable to maintain the iron treatment for 2 more months after the hemoglobin count reaches normal levels in order to replenish iron reserves.

During the treatment, it is better to monitor the amount of serum ferritin to avoid iron overloading. If there is still a failure to respond to the therapy after 3 weeks of oral iron, there could be a misdiagnosis or other factors that have affected treatment; in such cases, a more extensive diagnostic evaluation is indicated.

(2) Intramuscular Iron

Intramuscular iron is only used when previous iron supplementation has been unsuccessful, or when oral iron might aggravate an underlying intestinal disease, or digestive diseases influence the absorption of iron. Some common intramuscular forms of iron are iron dextran (Imferon), iron sorbitex and glucoferrum. Such injections are given deeply, and often painful when administered.

If intramuscular iron is used, the total dose of elemental iron (mg) can be calculated by the following methods: [The lower limit of the normal range of Hb (g/L) – the patients' Hb (g/L)] × weight (kg) × 0.4 g. This total dose is divided several times. The first dose should be reduced by half. Each intramuscular dose is no more than 5 mg of elemental iron per kilogram of body weight. The injections are distributed over several days and completed within 2-3 weeks, because this method is less painful than a large single injection. Iron injections are likely to cause reactions, so they are best avoided for infants and children whenever possible.

4. BLOOD TRANSFUSION TREATMENTS

Blood transfusions are rarely indicated as an adjunct to the treatment of iron deficiency. Their purpose is to correct extreme anemia faster than is possible with iron supplementation alone, especially for those with cardiac functional insufficiency or serious infection. To avoid cardiac functional insufficiency, more severe cases are administered smaller amount of blood and at a slower transfusion rate. Patients with hemoglobin at about 30-60 g/dL should be given 10 ml/kg blood each time, while patients with severe anemia with hemoglobin below 30 g/L should be given 5-7 ml/kg blood each time; quick-acting diuretics are also given to relieve the cardiac burden. For extremely affected children with heart failure, packed blood cells should be given.

[PREVENTION & NURSING CARE]

1. PREVENTION

(1) Anemia can be prevented in pregnant and lactating mothers through improved nutrition, disease prevention and early treatment. Balanced and nutritional diets are advised to ensure the health of the infant.

(2) Breastfeeding is recommended for infants, and the introduction of iron-rich foods such as liver, lean meats, fish, egg yolks, fresh vegetable smoothies when appropriate. Iron can be used to fortify baby food products, so that infants can consume sufficient amounts. In premature and low birth-weight infants, iron supplements in some form should start no later than 2 months after birth.

(3) To prevent injury to the stomach and spleen, correct picky eating habits and remove junk foods from the diet. Cow's milk may contribute to iron deficiency by increasing



gastrointestinal blood loss; to reduce intestinal bleeding caused by allergies, all milk should be heated before feeding.

(4) Infectious diseases need to be treated in time, especially digestive tract diseases, parasitic infestations and hemorrhagic diseases. To prevent nutritional anemia from reappearing, nursing care must be enhanced during illnesses with proper medication.

2. NURSING CARE

(1) To improving nursing care and prevent all kinds of infections, pay attention to hygiene, allow adequate rest, and provide suitable clothing according to changes in the weather.

(2) Provide children with rich nutritious and easily digestible foods. Encourage them to eat more iron-rich and high-absorption-ratio foods such as liver, lean meats and fish. Feed children sensibly and avoid overfeeding.

(3) During oral iron treatment, tea and fruits containing tannin should be avoided; also avoid adding cow's milk at the same time because milk can influence iron absorption.

(4) Children with severe anemia need proper care and bed rest with as little activity as possible. The condition should be watched closely so that dangerous conditions of collapse and bleeding can be quickly detected. With panting, cyanosis or an altered mental state, emergency treatment is required.

[CASE STUDIES]

► Case #1

Female, age 12 months. Initial Visit: 8/ 21/1981

The child had experienced a loss of appetite and feebleness for 20 days. She was lacking in spirit, tired and weak, often preferring to be cuddled. She had a pale complexion, paleness around the lips, poor appetite and restless nights. Her tongue was pale with only a thin layer of coating.

Blood examination showed: an RBC count of $3.5 \times 10^{12}/L$, Hb 80 g/L and normal total and differential WBC counts. She was diagnosed with nutritional iron deficiency anemia. The TCM diagnosis was a pattern of qi and blood deficiency; therefore, the treatment principle was to nourish blood and reinforce qi.

Formula

当归	<i>dāng guī</i>	5 g	Radix Angelicae Sinensis
党参	<i>dǎng shēn</i>	5 g	Radix Codonopsis
鸡血藤	<i>jī xuè téng</i>	5 g	Caulis Spatholobi
赤石脂	<i>chì shí zhī</i>	5 g	Halloysitum Rubrum
熟地黄	<i>shú dì huáng</i>	5 g	Radix Rehmanniae Praeparata
黄芪	<i>huáng qí</i>	5 g	Radix Astragali
太子参	<i>tài zǐ shēn</i>	3 g	Radix Pseudostellariae
白术	<i>bái zhú</i>	5 g	Rhizoma Atractylodis Macrocephalae
白芍	<i>bái sháo</i>	5 g	Radix Paeoniae Alba

After taking the formula for one month, the condition was improved. Her appetite increased and on re-examination her blood count was RBC $4.2 \times 10^{12}/L$, Hb 100 g/L.

The formula was consequently modified according to the previous prescription; *shú dì huáng* (Radix Rehmanniae Praeparata) and *tài zǐ shēn* (Radix Pseudostellariae) were removed, with *shān zhā* (Fructus Crataegi) 5 g and *mài yá* (Fructus Hordei Germinatus) 5 g added. After one more month she had fully recovered, with RBC $4.3 \times 10^{12}/L$ and Hb 120 g/L.

Analysis

The pale complexion and lips indicated blood deficiency, while fatigue and lassitude are manifestations of qi deficiency. Thus, she was treated with *dāng guī* (Radix Angelicae Sinensis), *jī xuè téng* (Caulis Spatholobi), *chì shí zhī* (Holloysitum Rubrum) and *shú dì huáng* (Radix Rehmanniae Praeparata) to nourish blood, and with *dǎng shēn* (Radix Codonopsis), *huáng qí* (Radix Astragali) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) to boost qi. These formula medicinals act to supplement both qi and blood, and therefore achieved an effective response.

Source: Wang L. Infant Medical Cases [M]. Jilin: Jilin Science and Technology Press, 2000; 62.

► Case #2

Male, age 5 years.

The problem gradually emerged over 2 years; he became obviously thinner than before with a pale complexion, decreased appetite, fatigue, shortness of breath, reticence, spontaneous sweating, sparse hair, pale lips, chills, cold limbs, loose stools with undigested food, and slowed growth. His tongue was pale and enlarged with thin white coating; he had a deep, thready and feeble pulse.

Lab examination showed RBC $3.1 \times 10^{12}/L$, Hb 70 g/L. Under the microscope, uneven sized red blood cells were seen with the majority being smaller-sized with a central pale expanded stained area.

The TCM diagnosis was spleen and kidney yang deficiency with failure to transport, and a lack of original source of qi and blood generation.

Formula

熟地黄	<i>shú dì huáng</i>	12 g	Radix Rehmanniae Praeparata
山药	<i>dǎng shēn</i>	10 g	Rhizoma Dioscoreae
菟丝子	<i>tù sī zǐ</i>	10 g	Semen Cuscutae
枸杞子	<i>gǒu qǐ zǐ</i>	10 g	Fructus Lycii
炒白术	<i>chǎo bái zhú</i>	10 g	Dry-fried Rhizoma Atractylodis Macrocephalae
仙灵脾	<i>xiān líng pí</i>	10 g	Herba Epimedii
补骨脂	<i>bǔ gǔ zhī</i>	3 g	Fructus Psoraleae
党参	<i>dǎng shēn</i>	10 g	Radix Codonopsis
黄芪	<i>huáng qí</i>	10 g	Radix Astragali
鸡内金	<i>jī nèi jīn</i>	10 g	Endothelium Corneum Gigeriae Galli
陈皮	<i>chén pí</i>	3 g	Aicarpium Citri Reticulatae

Second visit

After 6 doses, he had an increased appetite, uplifted spirits, and normal stools. Treatment was continued with the same formula but with added *dāng guī* (Radix Angelicae Sinensis) 9 g and *lù jiǎo jiāo* (Colla Cornus Cervi) 6 g (dissolved into a boiled solution). After taking 12 doses, his diet was back to normal. He slept quietly and peacefully, showing a lustrous complexion. His tongue was pale red with a thin coating; he had a strong and thready pulse. Blood examinations revealed RBC $3.7 \times 10^{12}/L$ while Hb 92 g/L. He continued with this formula for 4 weeks; RBC $4.6 \times 10^{12}/L$ and Hb 128 g/L were obtained, after which treatment was stopped.

Analysis

This child's condition was a result of spleen and kidney yang deficiency; the spleen and kidney failed to warm and nourish, with a failure to generate essence and blood. The main treatment principle here is to warm and supplement the spleen and kidney, boost qi, and nourish blood.

Shú dì huáng (Radix Rehmanniae Praeparata) nourishes the kidney to supplement essence, following the idea of treating yang from within yin as yin and yang are rooted in each other.

Xiān líng pí (Herba Epimedii), *bǔ gǔ zhī* (Fructus Psoraleae) and *tù sī zǐ* (Semen Cuscutae) warm and supplement kidney yang.

Sweet and warm *dǎng shēn* (Radix Codonopsis) and *huáng qí* (Radix Astragali) boost qi and supplement the spleen.

Gǒu qǐ zǐ (Fructus Lycii) and *dāng guī* (Radix Angelicae Sinensis) nourish the liver and supplement blood.

Huái shān yào (Sclerotium Poriae Paradicis) nourishes spleen yin.

Chǎo bái zhú (dry-fried Rhizoma Atractylodis Macrocephalae) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) fortify the spleen and stomach to prevent diarrhea.

Lù jiǎo jiāo (Colla Cornus Cervi) warms yang and benefits yin.

Chén pí (Aicarpium Citri Reticulatae) regulates qi and invigorates the spleen.

Source: Xu H, Song SC, Li BN. Experience in the Treatment of Children with Iron Deficiency Anemia [J]. Journal of Traditional Chinese Medicine, 2003; 44(9): 657-658.

► Case #3

Female, age 3 years

The child had been sick with repeated attacks of the common cold for 5 months. When she visited our hospital she had been eating less and had loose stools, a pale yellow complexion, lassitude, pale lack-luster lips and night sweating. Her tongue was pale with a thin white coating, and she had a feeble thready pulse. Blood examination revealed Hb 80 g/L. The TCM pattern differentiation was spleen and stomach deficiency.

Formula

党参	<i>dǎng shēn</i>	10 g	Radix Codonopsis
茯苓	<i>fú líng</i>	10 g	Poria
炒白术	<i>chǎo bái zhú</i>	10 g	Dry-fried Rhizoma Atractylodis Macrocephalae
炙甘草	<i>zhì gān cǎo</i>	5 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle

陈皮	<i>chén pí</i>	3 g	Aicarpium Citri Reticulatae
山药	<i>shān yào</i>	12 g	Rhizoma Dioscoreae
鸡内金	<i>jī nèi jīn</i>	10 g	Endothelium Corneum Gigeriae Galli
炒扁豆	<i>chǎo biǎn dòu</i>	10 g	Dry-fried Semen Lablab Album
焦山楂	<i>jiāo shān zhā</i>	10 g	Fructus Crataegi
焦神曲	<i>jiāo shén qū</i>	10 g	Massa Medicata Fermentata Praeparata
谷芽	<i>gǔ yá</i>	10 g	Fructus Setariae Germinatus
麦芽	<i>mài yá</i>	10 g	Fructus Hordei Germinatus

Second visit

After taking 14 doses, she had an increased appetite, so *jiāo shén qū* (Massa Medicata Fermentata Praeparata), *gǔ yá* (Fructus Setariae Germinatus) and *mài yá* (Fructus Hordei Germinatus) were removed from the formula. *Huáng qí* (Radix Astragali) 10 g, *dāng guī* (Radix Angelicae Sinensis) 10 g, *bái sháo* (Radix Paeoniae Alba) 10 g and *jī xuè téng* (Caulis Spatholobi) 30 g were added, with one dose given every two days.

10 doses later, her complexion had turned lustrous, her spirits were uplifted, and the night sweats disappeared. The formula was taken for a total of 2 months by which time her constitution had strengthened and Hb had reached up to 110 g/L. There was no evidence of the common cold recurring. After monitoring her health for one year, the Hb remained around 120 g/L.

Analysis

In this case the child presented with deficiency conditions of the lung and spleen, and her body's defensive qi was unconsolidated; this resulted in recurring common colds. Her weakened spleen and stomach were failing to transport, and there was not enough qi blood and essence generated and transformed to support the body. Treatment here was to fortify the spleen and boost qi by using a modification of *Yì Gōng Sǎn*—Special Achievement Powder.

The sweet and warm chief medicinal *dǎng shēn* (Radix Codonopsis) acts to boost qi and supplements the middle *jiao*.

The spleen prefers dryness and is adverse to dampness, so when spleen deficiency causes a failure to transport, dampness is easily generated. *Bái zhú* (Rhizoma Atractylodis Macrocephalae) and *biǎn dòu* (Semen Lablab Album) dry dampness and fortifies the spleen, while *fú líng* (Poria) drains dampness and fortifies the spleen.

Shān yào (Rhizoma Dioscoreae) reinforces the spleen and stomach.

Jī nèi jīn (Endothelium Corneum Gigeriae Galli) resolves accumulation and fortifies the stomach.

Chén pí (Aicarpium Citri Reticulatae) regulates qi and fortifies the spleen.

Jī xuè téng (Caulis Spatholobi) moves and nourishes blood, and sweet and warm *gān cǎo* (Radix et Rhizoma Glycyrrhizae) harmonizes the middle *jiao*.

The whole formula is warm but not drying, and supplementing without being cloying. It acts to fortify and move the spleen and stomach qi, boost qi, and generate blood.

Source: Xu H, Song SC, Li BN. Experience in Treatment of Children with Iron Deficiency



Anemia [J]. Journal of Traditional Chinese Medicine, 2003; 44(9): 657-658.

[QUESTIONS]

1. A 5-year-old child appears pale in the lips, nails and tongue. She is lethargic, and has a decreased appetite, loose stools, sparse hair and cold limbs. Her tongue is pale with a white coating, and she has a deep thready and feeble pulse.

What is the best formula for this case?

- A. *Guī Pí Tāng*—Spleen-Restoring Decoction
- B. *Liù Jūn Zǐ Tāng*—Six Gentlemen Decoction
- C. *Yòu Guī Wán*—Right-Restoring Pill
- D. *Zuǒ Guī Wán*—Left-Restoring Pill
- E. *Yì Gōng Sǎn*—Special Achievement Powder

2. A 4 year-old child appears pale in the lips, nails and complexion. She has sparse yellow hair, is sometimes dizzy, has palpitations, sleeps restlessly, is fatigued and has a decreased appetite. Her tongue is light red and she has a feeble thready pulse.

What is the best Chinese patent formula choice?

- A. *Yòu Guī Wán*—Right-Restoring Pill
- B. *Guī Pí Wán*—Spleen-Restoring Pill
- C. *Bǔ Zhōng Yì Qì Wán*—Center-Supplementing and Qi-Boosting Pill
- D. *Zuǒ Guī Wán*—Left-Restoring Pill
- E. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill

3. A 4-year-old child with a pale complexion has dry yellow hair, dizziness, tinnitus, slow growth, dry eyes, restlessness, insomnia, red cheeks, night sweats, and pain and soreness in the knees and back. The tongue is red with minimal coating and there is a thready rapid pulse.

What is the presenting pattern?

- A. Spleen-kidney yang deficiency.
- B. Liver-kidney yin deficiency.
- C. Heart and spleen weakness.
- D. Spleen and stomach deficiency.
- E. Kidney yin depletion.

4. A 2 year-old child with appetite loss has a pale yellow complexion, pale off-white lips and nails, fatigue, lassitude, emaciation, and thin loose stools. The tongue is pale with an off-white coating and there are light red finger venules.

If treated by tuina, what is the major tuina therapy?

- A. Supplement *pí jīng* (脾经) 300 times, knead *shèn dǐng* (肾顶) for 2 minutes, knead EX-UE 8 (*wài láo gōng*) for 2 minutes, knead *xiǎo tiān xīn* (小天心) for one minute.
- B. Knead EX-UE 8 (*wài láo gōng*) 300 times, knead *èr rén shàng mǎ* (二人上马) 200 times, push *sān guān* (三关) 200 times.
- C. Knead *shèn dǐng* (肾顶) 100 times, knead KI1 (*yǒng quán*) 100 times, knead EX-UE8 (*wài láo gōng*) 300 times, knead *èr rén shàng mǎ* (二人上马) 200 times, knead EX-UE10 (*sì fēng*) 100 times, knead ST 40 (*fēng lóng*) for one minute.
- D. Clear *gān jīng* (肝经) 100 times, knead *èr rén shàng mǎ* (二人上马) 100 times, knead KI 1 (*yǒng quán*) 100 times.
- E. Clear *gān jīng* (肝经) 100 times, push *gān guān* (三关) 200 times.

5. A 5 year-old child with long-term appetite loss has a pale yellow complexion, pale nails and



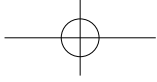
unregulated bowel movements. The tongue is pale with an off-white coating. Hookworm ovums are found during examination of the stools.

What is the first choice of formula?

- A. Select *Guān Zhòng Tāng*—Rhizoma Cyrtomii Decoction first to expel worms, then use *Liù Jūn Zī Tāng*—Six Gentlemen Decoction to boost qi and nourish blood.
- B. Select *Yòu Guī Wán*—Right-Restoring Pill to warm and supplement the spleen and kidney.
- C. Select *Zuǒ Guī Wán*—Left-Restoring Pill to nourish the liver and kidney.
- D. Select *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder to boost qi and consolidate the exterior.
- E. Select *Shēng Mài Yǐn*—Pulse Activating Decoction to boost qi and promote fluid generation.

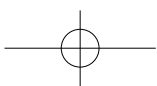
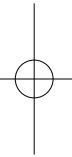
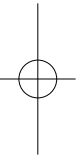
[REFERENCES]

- [1] Denic S, Agarwal MM. Nutritional Iron Deficiency: An Evolutionary Perspective [J]. *Nutrition* 2007; 23: 603-614.
- [2] The Ministry of Public Health of the People's Republic of China, United Nations Children's Fund, World Health Organization, United Nations Population Fund. *China Maternal and Child Survival Strategy Research*[R]. Beijing: The Ministry of Public Health of the People's Republic of China, 2006; 54.
- [3] Chen Y. 120 Cases of Treating Infantile Iron Deficiency Anemia through *Jiàn Pí Bǔ Xuè Kǒu Fú Yè*—Spleen Invigorating and Blood Nourishing Oral Liquid [J]. *Hunan Journal of Traditional Chinese Medicine*, 2004; 20(3): 95-96.
- [4] Jiang YR. Spleen Fortification Relies on Movement Instead of Supplementation [J]. *Shanghai Journal of Traditional Chinese Medicine*, 2002; 36(1): 4-7.
- [5] Yang Y, Zou P, Dong Y, et al. Clinical Analysis and Nursing Experiences in 60 Cases of Treating Infantile Iron Deficiency Anemia through Tuina Therapy [J]. *Harbin Medical Journal*, 2002; 22(1): 53.



Part IV

Heart-Liver Diseases



Chapter 21

Sweating Syndrome (*Hàn Zhèng*)

Sweating syndrome (*hàn zhèng*) refers to excessive or profuse sweating generalized or localized to specific parts of the body, occurring when a child is in a quiet state and a normal environment. It most often occurs in children under 5 years.

In modern medicine, child sweating syndrome usually involves a dysfunction of the autonomic nervous system which may result from many causes. This should be differentiated from excessive sweating as seen in Vitamin D deficiency rickets, tuberculosis (TB) or rheumatism.

Being a liquid originating from the skin, sweat nourishes and moistens the skin and harmonizes *ying* and *wei*. Children sweat more easily than adults do due to their underdeveloped physique, thin and loose striae and interstices, and the vigorous vitality that disperses clear yang. Excessive sweating caused by hot weather, too many clothes, hasty feeding, or strenuous exercise is not a pathological sign if not accompanied by other abnormal symptoms.

Child sweating syndrome can be divided into spontaneous sweating and night sweating. Sweating that occurs during sleep at night and stops when the child is awake is called night sweating and is often due to yin deficiency. Sweating without reason during the day as well as at night is called spontaneous sweating and is often due to yang deficiency.

Spontaneous sweating and night sweating often occur together in children so other signs and symptoms should be taken into account when differentiating the two. Sweating that is caused by warm febrile diseases or during the critical stage of yin exhaustion and yang collapse differs from sweating syndrome; these conditions will not be discussed in this chapter.

In traditional Chinese medicine, internal therapies, external therapies or combined internal and external therapies have been used to treat sweating syndrome with satisfactory results. Li Xiao-Lan applied integrated traditional Chinese and Western medicine to treat sweating syndrome that occurred after the fever in 60 children with respiratory tract infections. The group receiving *Shēng Mài Sǎn*—Pulse-Engendering Powder and *Mǔ Lì Yì Wèi Tāng*—Oyster Shell Stomach-Boosting Decoction together with Western medicine including Vitamin B1 and Oryzanol showed superior results compared to the group receiving only Western medicine.^[1]

In another study, Fu Pei-Pan et al. found that external application of *Wǔ Lóng Liǎn Hàn Sǎn*—Five Dragon Sweat-Astringing Powder consisting of *wǔ bèi zǐ* (*Galla Chinensis*), *má huáng gēn* (*Radix et Rhizoma Ephedrae*), *duàn lóng gǔ* (*Calcined Fossilia Ossis Mastodi*), *duàn mǔ lì* (*Calcined Concha Ostreae*) onto acupoint RN 8 (*shén què*) was more effective in reducing sweating due to Vitamin D deficiency rickets than the application of Vitamin D and calcium.^[2]

[ETIOLOGY & PATHOMECHANISM]

Sweat is the fluid of the heart. As one of the five kinds of thick fluids, sweat is steamed



and transformed from the body fluids by yang qi. *Basic Questions—Different Viewpoints about Yin and Yang* (Sù Wèn—Yīn Yáng Bié Lùn) states: “Sweating results when yang combines with yin.”

Yang refers to *wei* qi, and yin refers to *ying*-blood. If yin and yang are in balance, there will be no abnormal sweating. If yin and yang, the *zang* and *fu* or qi and blood are in disharmony or dysfunctional, *wei*-qi does not close the striae and abnormal sweating will occur. Frequently, sweating syndrome in children is often due to a weak constitution, mainly resulting from deficient fetal endowment or poor care after birth.

The main pathomechanisms are as follows:

Insecurity of Lung-Wei

The *zang-fu* organs of infants are delicate, the original qi is undeveloped, and the striae and interstices are thin and loose. Insufficiency of fetal endowment or disharmony of spleen and stomach after birth leads to deficiency of lung qi. The lung governs the skin and body hair, the spleen governs the muscles. If deficient lung and spleen qi cannot control the exterior, then a persistent flow of sweat may occur.

Children with recurrent respiratory infections often present with spontaneous sweating and night sweating due to exterior deficiency. If sweat is not wiped off immediately, the child may catch cold, leading to further respiratory tract infections.

Disharmony Between Ying and Wei Qi

The *ying* and *wei* are the essences extracted from water and grain, and are important for blood production. Under normal circumstances, *ying* stays in the channels and blood vessels, whereas *wei* enriches the spaces between the skin and the muscles and stays in the body surface. When *ying* and *wei* are insufficient or in disharmony, caused by various diseases or poor care after illness, *ying* qi cannot be held in the interior and the *wei* qi cannot secure the exterior, so body fluids will extravasate from the skin as in sweating syndrome.

Insufficiency of Qi and Yin

Qi belongs to yang while blood belongs to yin. Qi and blood are feeble in children and may become insufficient after severe or prolonged disease, while weak fetal endowment and poor nourishment after birth may also result in qi and yin deficiency; consequently, deficient qi is not able to constrain body fluids, while yin deficiency will cause vigorous fire that forces body fluids outward, leading to sweating syndrome.

Damp-Heat Steaming the Body

A child's spleen is generally deficient. If their diets are overly rich and fatty and with too many sweet foods, internally produced accumulation develops into stagnation, and then heat. Sweet diets produce dampness, and rich fatty diets produce heat. Dampness and heat obstruct the functions of the spleen and stomach resulting in the body fluids being steamed out of the skin; this is another possible cause.

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

(1) In a normal status and quiet environment, children present with excessive or profuse sweating in some areas of the body or over the whole body.

(2) Night sweating refers to sweating occurring during sleep which stops when the child is awake; spontaneous sweating refers to sweating for no reason during the day as

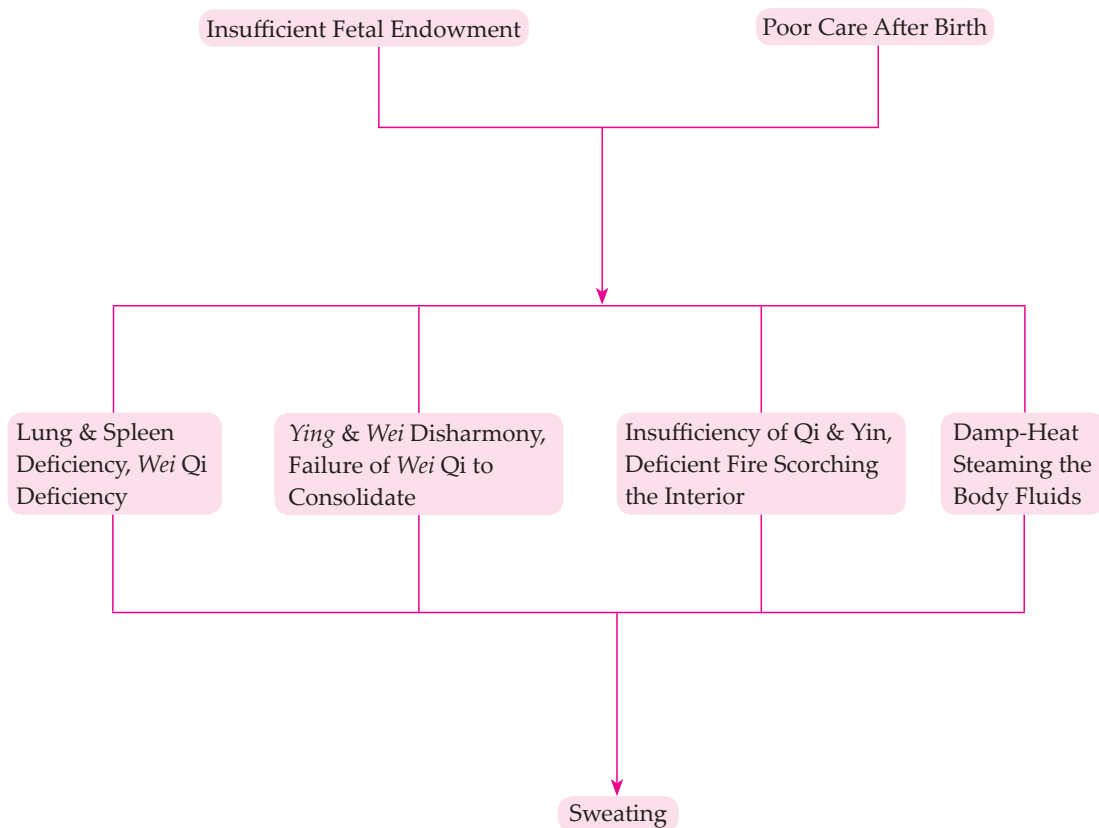


Fig. 21-1 Etiology and Pathomechanism of Child Sweating Syndrome

well as at night.

(3) Rheumatic fever, tuberculosis or other infectious diseases also cause sweating and this should also be differentiated.

Differential Diagnosis

Children with unusually excessive sweating can be one of the symptoms of numerous diseases. During clinical practice it is important to first identify and exclude other diseases that may present with excess sweating.

Table 21-1 compares sweating syndrome with three diseases in which excess sweating is a common symptom.

Table 21-1 Comparison of Sweating Syndrome, Rickets, Tuberculosis and Rheumatism

Identification Essentials	Sweating Syndrome	Rickets	Tuberculosis	Rheumatism
Onset Age	Under 5 years old	Under 3 years old	No limit	6-15 years old, school-age children
History	RRI children, weakness after disease, improper diet	Malnutrition or chronic diarrhea, insufficient sunlight	Without history of BCG vaccination, but with history of TB exposure	With history of upper respiratory tract infection 1-4 weeks prior to onset

Continued

Identification Essentials	Sweating Syndrome	Rickets	Tuberculosis	Rheumatism
Accompanying Symptoms	Susceptible to cold, white complexion, shortness of breath, no desire to speak, mental fatigue, lack of strength, poor appetite, loose stools, possible hot skin & foul breath	Dysphoria, restless sleep, easily awakens, crying at night, deformed skull, & with bone lesions	Low fever, emaciation, lack of strength, poor appetite, cough, lymphaden-ectasis, hepatosplenomegaly	Acute onset, pale complexion, multiple migratory arthritis, myocarditis, chorea, subcutaneous nodule, erythema annulare
Laboratory Examinations	No obvious abnormality	Normal or decreased serum calcium, decreased serum phosphate, significantly higher alkaline phosphatase	Tuberculin PPD, sputum culture examination and chest X-ray all show positive signs	Increased WBC and ASO, CRP (+); prolonged P-R interval of ECG

RRI: recurrent respiratory tract infections; BCG: Bacille Calmette-Guérin; TB: tuberculosis; PPD: purified protein derivative; WBC: white blood cell; ASO: Anti streptolysin-O; CRP: C-reactive protein; ECG Electrocardiogram.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

Childhood sweating syndrome has excess and deficiency patterns, with the latter being more common. The deficiency patterns includes insecurity of lung *wei*, disharmony of *ying* and *wei*, and deficiency of yin qi. The excess pattern refers to steaming of damp-heat.

Sweating due to insecurity of lung *wei* manifests as sweating on the head, neck, chest and back.

Sweating from *ying* and *wei* disharmony is often profuse and cool.

Sweating with qi and yin deficiency manifests as systemic sweating and has the signs and symptoms of deficient heat.

When sweating is due to damp-heat steaming, the skin does not cool down afterwards.

Spontaneous sweating is usually due to qi deficiency or/and yang deficiency while night sweating is commonly due to yin deficiency and blood deficiency.

► Treatment Principles

Deficiency is the most common cause of sweating syndrome, and the basic treatment principle is to supplement deficiency.

For insecurity of lung *wei*, boost qi and consolidate the exterior.

For *ying* and *wei* disharmony, harmonize *ying* and *wei*.

For qi and yin deficiency, boost qi and nourish yin.

For steaming damp-heat, clear heat and resolve dampness.

As adjunct therapies to the internal therapy, acupuncture treatment or external therapy applied to the navel may be chosen.

► Classification of Patterns and Treatments

Insecurity of Lung-Wei

Signs and Symptoms

These cases present with predominant spontaneous sweating, or accompanied with night sweating; sweating of the head, shoulders and back that is worse when active. There is also mental fatigue, lack of strength, lusterless complexion and susceptibility to cold. The tongue is pale with a thin white coating and there is a thready weak pulse.

Pattern Differentiation

This pattern is mainly seen in children with weak constitutions, the key signs being significant sweating on the head, shoulders and back, and increased susceptibility to exterior conditions.

Treatment Principles

Boost qi and consolidate the exterior

Formula

Modified *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder and
Mǔ Lì Sǎn—Oyster Shell Powder

黄芪	<i>huáng qí</i>	Radix Astragali
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
防风	<i>fáng fēng</i>	Radix Saposhnikoviae
牡蛎	<i>mǔ lì</i>	Concha Ostreae
浮小麦	<i>fú xiǎo mài</i>	Fructus Tritici Levis
麻黄根	<i>má huáng gēn</i>	Radix et Rhizoma Ephedrae

Formula Analysis

Huáng qí (Radix Astragali) is the primary medicinal in this formula used to boost qi and consolidate the exterior.

Bái zhú (Rhizoma Atractylodis Macrocephalae) fortifies the spleen and replenishes qi.

Fáng fēng (Radix Saposhnikoviae) resists external wind and harmonizes opening and closing.

Mǔ lì (Concha Ostreae) restrains yin and checks sweating.

Fú xiǎo mài (Fructus Tritici Levis) nourishes the heart and astringes sweating.

Má huáng gēn (Radix et Rhizoma Ephedrae) checks sweating.

Modifications:

For emaciation and lack of strength due to deficiency of the spleen and stomach, add *dǎng shēn* (Radix Codonopsis), *fú líng* (Poria) and *shān yào* (Rhizoma Dioscoreae) to fortify the spleen and harmonize the stomach.

For poor appetite and loose stools, add *chén pí* (Pericarpium Citri Reticulatae), *biǎn dòu* (Semen Lablab Album) and *shā rén* (Fructus Amomi) to fortify the spleen and improve splenic transportation.

Chinese Patent Medicines

Yù Píng Fēng Kǒu Fú Yè—Jade Wind-Barrier Liquid.

Dosage: 5-10 ml twice daily.

External Treatment

For persistent spontaneous sweating due to exterior deficiency, rub powdered *duàn lóng*

gǔ (calcined Os Draconis) and *duàn mǔ lì* (calcined Concha Ostreae) onto the skin every night before bed.

Acupuncture

LI 4 (<i>hé gǔ</i>)	KI 7 (<i>fù liū</i>)	BL 13 (<i>fèi shù</i>)
DU 14 (<i>dà zhuī</i>)	LU 7 (<i>liè quē</i>)	ST 36 (<i>zú sān lǐ</i>)

Needle LI 4 (*hé gǔ*) with drainage and KI 7 (*fù liū*) with supplementation to check sweating, or use moxibustion. This is the basic formula for treating sweating. Needle every point for 2-3 minutes with 20 minutes retention; once daily, 7 times as one treatment course for 1-2 courses.

Auricular Therapy

Sympathetic (<i>jiāo gǎn</i>)	Subcortex (<i>pí zhì xià</i>)	Endocrine (<i>nèi fēn mì</i>)
Shen men (<i>shén mén</i>)	Sanjiao (<i>sān jiāo</i>)	Heart (<i>xīn</i>)
Liver (<i>gān</i>)	Kidney (<i>shèn</i>)	

Auricular acupuncture: apply *wáng bù liú xíng* seeds (Semen Vaccariae) to the above points. Press the points for 3 minutes, 3 times a day, with 5 days as one treatment course.

Ying and Wei Disharmony

Signs and Symptoms

This manifests with spontaneous sweating as the main symptom, or with night sweating, cold sweat all over the body, aversion to cold and wind, and no fever; or with low fever, mental fatigue and a poor appetite. The tongue is light red with a thin white coating and the pulse is moderate.

Pattern Differentiation

This pattern is often seen in children with exterior deficiency following acute or chronic diseases in which the pathogens may have been eliminated but where healthy qi has not recovered, leading to disharmony of *ying* and *wei*. The key feature here is a cold sweat all over the body.

Treatment Principles

Harmonize *ying* and *wei*

Formula

Modified *Huáng Qí Guì Zhī Wǔ Wù Tāng*—Astragalus and Cinnamon Twig Five Substances Decoction

黄芪	<i>huáng qí</i>	Radix Astragali
桂枝	<i>guì zhī</i>	Ramulus Cinnamomi
芍药	<i>sháo yào</i>	Radix Paeoniae
生姜	<i>shēng jiāng</i>	Rhizoma Zingiberis Recens
大枣	<i>dà zǎo</i>	Fructus Jujubae
浮小麦	<i>fú xiǎo mài</i>	Fructus Triticis Levis
煅牡蛎	<i>duàn mǔ lì</i>	Concha Ostreae calcined

Formula Analysis

Huáng qí (Radix Astragali) replenishes qi and consolidates the exterior. *Guì zhī* (Ramulus Cinnamomi) supplements the heart and warms yang.

Sháo yào (Radix Paeoniae) astringes *yīng-yīn*, and *shēng jiāng* (Rhizoma Zingiberis Recens) and *dà zǎo* (Fructus Jujubae) harmonize *yīng* and *wei*.

Fú xiǎo mài (Fructus Triticis Levis) and *duàn mǔ lì* (Calcined Concha Ostreae) astringe yin and check sweating.

Modifications

For mental fatigue, poor appetite and lusterless complexion, add *dǎng shēn* (Radix Codonopsis) and *huái shān yào* (Rhizoma Dioscoreae) to fortify the spleen and replenish qi.

For dry mouth, yellow urine and restless sleep, add *suān zǎo rén* (Semen Ziziphi Spinosa), *shí hú* (Caulis Dendrobii) and *bǎi zǐ rén* (Semen Platycladi) to nourish the heart and calm the mind.

Chinese Patent Medicines

Lóng Mǔ Zhuàng Gǔ Kē Lì—Dragon Bone and Oyster Shell Bone-Strengthening Powder.

Mix the powder in boiled water for oral consumption.

Under 7 years old: 1 bag, 7 years old or above: 2 bags, 3 times daily.

Acupuncture

LI 4 (<i>hé gǔ</i>)	KI 7 (<i>fù liū</i>)	BL 15 (<i>xīn shù</i>)
BL 20 (<i>pí shù</i>)	LI 11 (<i>qū chí</i>)	DU 14 (<i>dà zhuī</i>)

Needle every point for 2-3 minutes with 20 minutes retention; treat once daily, with 7 times as one treatment course for 1-2 courses.

Auricular Therapy

Sympathetic (<i>jiāo gǎn</i>)	Subcortex (<i>pí zhì xià</i>)	Endocrine (<i>nèi fēn mì</i>)
Shen men (<i>shén mén</i>)	Sanjiao (<i>sān jiāo</i>)	Heart (<i>xīn</i>)
Liver (<i>gān</i>)	Kidney (<i>shèn</i>)	

Apply *wáng bù liú xíng* (Semen Vaccariae) seeds to all points; press them for 3 minutes, 3 times daily, with 5 days as one treatment course.

Qi and Yin Insufficiency

Signs and Symptoms

Excessive night sweating is the main symptom, often accompanied by spontaneous sweating, emaciation, profuse sweating, poor spirits, irritability, and insomnia; or with low fever, dry mouth, a hot feeling in the palms and soles, crying without strength, and light red lips. The tongue is pale with a peeled or scant coating, there is a weak thready or a rapid thready pulse.

Pattern Differentiation

This pattern is seen in children with constitutional qi and yin insufficiency or in those with qi and yin depletion following acute, prolonged or severe disease. It is mainly marked by emaciation and signs and symptoms of deficiency heat.

Treatment Principles

Boost qi and nourish yin

Formula

Modified *Shēng Mài Sǎn*—Pulse-Engendering Powder

人參	<i>rén shēn</i>	Radix et Rhizoma Ginseng
党参	<i>dǎng shēn</i>	Radix Codonopsis
麦冬	<i>mài dōng</i>	Radix Ophiopogonis
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
生黄芪	<i>shēng huáng qí</i>	Radix Astragali

Formula Analysis

Rén shēn (Radix et Rhizoma Ginseng) or *dǎng shēn* (Radix Codonopsis) boosts qi and promotes fluid production.

Mài dōng (Radix Ophiopogonis) nourishes yin and clears heat.

Wǔ wèi zǐ (Fructus Schisandrae Chinensis) astringes and checks sweating.

Shēng huáng qí (Radix Astragali) boosts qi and consolidates the exterior.

Modifications

For mental fatigue, poor appetite, poor sleep, frequent sweating and lusterless complexion due to qi and yang deficiency, omit *mài dōng* (Radix Ophiopogonis) and add *bái zhú* (Rhizoma Atractylodis Macrocephalae) and *fú líng* (Poria) to boost qi, fortify the spleen and consolidate the exterior.

For night sweating that stops upon waking, dry mouth, vexation, easily woken, and light red lips due to heart, spleen, qi, and blood deficiency, use *Guī Pí Tāng*—Spleen-Restoring Decoction with *lóng gǔ* (Os Draconis), *mǔ lì* (Concha Ostreae) and *fú xiǎo mài* (Fructus Triticis Levis) to supplement and nourish heart and spleen, boost qi, nourish blood, and astringe and check sweating.

For low fever, dry mouth, hot feeling in the palms and soles, add *bái sháo* (Radix Paeoniae Alba), *dì gǔ pí* (Cortex Lycii) and *mǔ dān pí* (Cortex Moutan) to clear deficient heat.

Chinese Patent Medicines

Shēng Mài Yīn Kǒu Fú Yè—Pulse-Engendering Liquid.

Dosage, 5-10 ml, twice daily.

External Treatment

Make a paste with powdered of *wǔ bèi zǐ* (Galla Chinensis) mixed with warm water or vinegar; apply to the umbilicus every night before bed for night sweating. The paste needs to be fixed with adhesive tape.

Acupuncture

LI 4 (<i>hé gǔ</i>)	KI 7 (<i>fū liū</i>)	RN 6 (<i>qì hǎi</i>)
KI 3 (<i>tài xī</i>)	HT 6 (<i>yīn xī</i>)	KI 6 (<i>zhào hǎi</i>)
ST 36 (<i>zú sān lǐ</i>)		

Needle every point for 2-3 minutes with 20 minutes retention; treat once daily, with 7 times as one treatment course for 1-2 courses.

Auricular Therapy

Sympathetic (<i>jiāo gǎn</i>)	Subcortex (<i>pí zhì xià</i>)	Endocrine (<i>nèi fēn mì</i>)
Shen men (<i>shén mén</i>)	Sanjiao (<i>sān jiāo</i>)	Heart (<i>xīn</i>)
Liver (<i>gān</i>)	Kidney (<i>shèn</i>)	

Apply *wáng bù liú xíng* (Semen Vaccariae) seeds to all points; press them for 3 minutes, 3 times daily, with 5 days as one treatment course.

Damp-Heat Steaming the Body

Signs and Symptoms

Spontaneous sweating or night sweating in the head or limbs with hot skin, yellow sweating stains, foul breath, thirst without desire to drink and yellow urine. The tongue is red with a greasy yellow coating, and there is a slippery rapid pulse.

Pattern Differentiation

Damp-heat of the spleen and stomach accumulates internally and heat forces body fluid outwards. The key features are sweating with hot skin and yellow sweat stains, in addition to general signs and symptoms of damp-heat accumulation.

Treatment Principles

Clear heat and drain the spleen

Formula

Modified *Xiè Huáng Sǎn*—Yellow-Draining Powder

生石膏	<i>shēng shí gāo</i>	Gypsum Fibrosum
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
防风	<i>fáng fēng</i>	Radix Saposhnikoviae
藿香	<i>huò xiāng</i>	Herba Agastachis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
麻黄根	<i>má huáng gēn</i>	Radix et Rhizoma Ephedrae
糯稻根	<i>nuò dào gēn</i>	Radix Oryzae Glutinosae

Formula Analysis:

Shēng shí gāo (Gypsum Fibrosum) and *zhī zǐ* (Fructus Gardeniae) clear accumulated heat in the spleen and stomach.

Fáng fēng (Radix Saposhnikoviae) disperses latent heat.

Huò xiāng (Herba Agastachis) resolves dampness and harmonizes the middle.

Gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) harmonizes the other medicinals in the formula.

Má huáng gēn (Radix et Rhizoma Ephedrae) and *nuò dào gēn* (Radix Oryzae Glutinosae) astringe and check sweating.

Modifications:

For scanty yellow urine, add *Liù Yī Sǎn*—Six to One Powder and *chē qián cǎo* (Herba Plantaginis) to clear heat and drain dampness.

For yellow sweat stains, add *yīn chén* (Herba Artemisiae Scopariae) and *pèi lán* (Herba Eupatorii) to clear heat and resolve dampness.

For foul breath and thirst, add *hú huáng lián* (Rhizoma Picrorhizae) and *mǔ dān pí* (Cortex Moutan) to clear stomach fire.

If food stagnation transforms into heat and the child presents with a burning sensation in the abdomen, foul breath, and a yellow greasy tongue coating, *Bǎo Hé Wán*—Harmony-Preserving Pill or *Shān Zhā Huà Zhì Wán*—Chinese Hawthorn Fruit Stagnation-Resolving Pill can be used to resolve accumulation and discharge heat. Once the accumulation is resolved, heat will be cleared and sweating will be checked.

Chinese Patent Medicines

Bǎo Hé Wán—Harmony-Preserving Pill or *Shān Zhā Huà Zhì Wán*—Chinese Hawthorn Fruit Stagnation-Resolving Pill.

1-2 pills, 1-2 times daily. For infants, melt the pill with warm water.

Acupuncture

LI 4 (<i>hé gǔ</i>)	KI 7 (<i>fū liū</i>)	LI 11 (<i>qū chí</i>)
SJ 5 (<i>wài guān</i>)	SP 9 (<i>yīn líng quán</i>)	BL 40 (<i>wěi zhōng</i>)

Needle every point for 2-3 minutes and retain needles for 20 minutes.

Once daily, 7 times as one treatment course for 1-2 courses.

Auricular Therapy

Sympathetic (<i>jiāo gǎn</i>)	Subcortex (<i>pí zhì xià</i>)	Endocrine (<i>nèi fēn mì</i>)
<i>Shen men</i> (<i>shén mén</i>)	<i>Sanjiao</i> (<i>sān jiāo</i>)	Heart (<i>xīn</i>)
Liver (<i>gān</i>)	Kidney (<i>shèn</i>)	

Apply *wáng bù liú xíng* (Semen Vaccariae) seeds to all points; press them for 3 minutes, 3 times daily, with 5 days as one treatment course.

[PREVENTION AND NURSING CARE]

1. PREVENTION

- (1) Encourage appropriate outdoor activities and physical exercises to strengthen the child's physique.
- (2) Take extra care after illness to avoid direct exposure to wind.
- (3) Carry out preventive vaccinations, treat any other diseases immediately.

2. NURSING CARE

(1) Pay attention to personal hygiene, change clothes and quilts regularly, keep the skin clean and dry, wipe sweat with soft towels or gauze. To avoid the child catching a cold, do not use wet cold towels.

(2) For children with qi and fluid consumption due to profuse sweating, supplement with water and nutritious foods that are easily digestible. Avoid spicy, fried, barbecued, fatty or sweet foods.

(3) The indoor temperature and humidity should be adjusted appropriately.

[CASE STUDIES]

► Case # 1.

Male, age 4 years 6 months. Initial visit 5/8/93.

There had been profuse sweating on the head for more than 3 months. Patient had been treated in other hospitals without success; medications previously used were unknown. The child had a weak physique and caught cold easily. He sweated profusely on the head, face, forehead, neck and back which worsened when physically active. Others signs and symptoms were a lusterless complexion, poor spirits and fatigue. He had a pale tongue with a thin and white coating and a thin weak pulse. He had neither cough nor fever, slept well, and his bowel movements and urination were normal.

Laboratory Examination: X-ray examination was unremarkable.

Formula

黄芪	<i>huáng qí</i>	30 g	Radix Astragali
白术	<i>bái zhú</i>	5 g	Rhizoma Atractylodis Macrocephalae
防风	<i>fáng fēng</i>	8 g	Radix Ligustici Brachylobi
桂枝	<i>guì zhī</i>	5 g	Ramulus Cinnamomi
甘草	<i>gān cǎo</i>	10 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
煅牡蛎	<i>duàn mǔ lì</i>	30 g	Concha Ostreae (calcined)
浮小麦	<i>fú xiǎo mài</i>	10 g	Fructus Tritici Levis

5 doses.

One decocted daily dose.

After 5 doses, the sweating stopped and other signs and symptoms were greatly improved. The condition was cured after taking another 10 doses. At a 12 month follow-up there had been no recurrence.

Analysis

The child complained of profuse sweating on the head, face, forehead, neck and back, which worsened when active. So the diagnosis was spontaneous sweating with the Western medicine diagnosis of autonomic nervous system dysfunction.

The X-ray showed no signs of tuberculosis (TB). Although not applied in this case, the tuberculin test can be carried out to exclude TB; ASO, ESR and GLU examination can be conducted to exclude rheumatic fever and hypoglycemia.

His lusterless complexion, poor spirits, fatigue, susceptibility to cold and pale tongue with thin, white coating, indicated a lung deficiency, underdevelopment of original qi and thin-loose striae. The pathogenesis included deficiency of lung-qi with insecurity of *wei*-exterior. It belonged to the pattern of insecurity of lung-*wei*. The treatment was to boost qi and consolidate the exterior.

The modified formula of *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder and *Mǔ Lì Sǎn*—Oyster Shell Powder were chosen.

Huáng qí (Radix Astragali) boosts qi and consolidates the exterior.



Bái zhú (Rhizoma Atractylodis Macrocephalae) fortifies the spleen and boosts qi.

Fáng fēng (Radix Saposhnikoviae) resists external wind and harmonizes opening and closing.

Mǔ lì (Concha Ostreae) astringes yin and checks sweating.

Fú xiǎo mài (Fructus Tritici Levis) nourishes the heart and astringes sweating.

And *guì zhī* (Ramulus Cinnamomi) harmonizes *yīng* and *wei*.

Source: Luo HG, Zeng LZ, Zhu QJ et al. *The Grand Compendium of Chinese Case Records of Famous Doctors—Pediatrics* [M] Beijing: Chinese Medical and Pharmaceutical Science and Technology Press, 2004; 344.

► Case #2

Male, age 4. Initial visit: 10/19/82.

His condition occurred one year ago with profuse sweating during the day that worsened at night. He was treated at several hospitals without success. In recent months, he again sweated profusely; his sweating giving the appearance of standing in the rain. He felt he was becoming weaker physically, lacked strength, had a poor appetite and weight loss with undigested food in the stools and scanty urine.

Formula

黄芪	<i>huáng qí</i>	10 g	Radix Astragali
当归	<i>dāng guī</i>	10 g	Rhizoma et Radix Araliae Cordatae
太子参	<i>tài zǐ shēn</i>	5 g	Radix Pseudostellariae
玉竹	<i>yù zhú</i>	10 g	Rhizoma Polygonati Odorati
五味子	<i>wǔ wèi zǐ</i>	5 g	Fructus Schisandrae Sphenantherae
白芍	<i>bái sháo</i>	10 g	Radix Paeoniae Alba
白术	<i>bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae
地榆	<i>dì yú</i>	10 g	Radix Sanguisorbae

One decocted daily dose.

A paste of vinegar and powdered *wǔ bèi zǐ* (Galla Chinensis) was applied to the umbilicus, once daily, with 7 days as one treatment course.

The symptoms improved greatly after 2 days, and the sweating stopped after 3 days. The treatment was continued for another 4 days to consolidate the results.

Formula

石斛	<i>shí hú</i>	10 g	Caulis Dendrobii
玉竹	<i>yù zhú</i>	10 g	Rhizoma Polygonati Odorati
白芍	<i>bái sháo</i>	10 g	Radix Paeoniae Alba
佛手	<i>fó shǒu</i>	10 g	Fructus Citri Sarcodactylis
山楂	<i>shān zhā</i>	10 g	Fructus Crataegi
麦冬	<i>mài dōng</i>	10 g	Radix Ophiopogonis
党参	<i>dǎng shēn</i>	10 g	Radix Codonopsis
苍术	<i>cāng zhú</i>	5 g	Rhizoma Atractylodis

A second formula was prescribed to harmonize the spleen and stomach.

The decoction was taken for 20 days and the patient was cured.

Analysis

This case was identified as a pattern of qi and yin insufficiency. If deficient qi cannot astringe yin, fluids leak outward from the skin; so treatment principle was to boost qi and nourish yin to consolidate and astringe.

Modified *Shēng Mài Sǎn*—Pulse-Engendering Powder was the selected formula.

Huáng qí (Radix Astragali), *tài zǐ shēn* (Radix Pseudostellariae) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) boost qi and consolidate the exterior.

Dāng guī (Radix Angelicae Sinensis), *yù zhú* (Rhizoma Polygonati Odorati) and *bái sháo* (Radix Paeoniae Alba) nourish yin and blood.

Wǔ wèi zǐ (Fructus Schisandrae Chinensis) and *dì yú* (Radix Sanguisorbae) astringe and check sweating.

The external use of *wǔ bèi zǐ* (Galla Chinensis) acts to astringe the exterior and check sweating.

The second formula was used to boost qi, nourish yin, fortify the spleen and assist transportation to supplement the foundation of acquired constitution so as to provide for qi and yin production.

Source: Wang L. Medical Records of Infants and Children. Chang Chun: Jilin Science and Technology Press, 2000; 227.

[QUESTIONS]

1. A 3-year-old child has had profuse sweating for half a year and presented with evident sweating on the head, shoulders and back, which worsened when active; also there was a weak body, susceptibility to cold, mental fatigue, lack of strength, and a lusterless complexion. The tongue was pale with a thin white coating and a thready weak pulse. What pattern is this?

- | | |
|---|-----------------------------------|
| A. Disharmony of <i>yīng</i> and <i>wei</i> | B. Insufficiency of qi and yin |
| C. Insecurity of lung- <i>wei</i> | D. Deficiency of heart and spleen |
| E. Damp-heat steaming the body | |

2. A 5-year-old child has had profuse sweating for more than 1 year. The sweating was profuse during the day and worsened after going to bed. Other symptoms were emaciation; poor spirits, a low fever, hot feeling in the palms and soles, a dry mouth, and red lips. The tongue was pale with little coating and there was a thready rapid pulse. What is the first choice of formula?

- Huáng Qí Guì Zhī Wǔ Wù Tāng*—Astragalus and Cinnamon Twig Five Substances Decoction
- Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder
- Mǔ Lì Sǎn*—Oyster Shell Powder
- Shēng Mài Sǎn*—Pulse-Engendering Powder
- Xiè Huáng Sǎn*—Yellows-Draining Powder

3. A 4-year-old child has had profuse sweating for 2 weeks which worsened at night. Sweating was mainly on the head and limbs, with feverish skin. The sweat stains were yellow. He had a foul breath, thirst and dry stools. His tongue was red with a yellow and greasy coating. His pulse was slippery and rapid. What is the treatment principle?



- A. Boost qì and consolidate exterior
- B. Harmonize *yīng* and *wēi*
- C. Boost qì and nourish yīn
- D. Supplement and nourish heart and spleen
- E. Clear heat and drain the spleen

4. A one-year-old child had spontaneous sweating for half a year. The child sweated more when active and had mental fatigue, lacked strength, and caught cold easily. There was a pale tongue with a thin white coating.

What is the first choice of formula?

- A. *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder
- B. *Guì Zhī Tāng*—Cinnamon Twig Decoction
- C. *Xiè Huáng Sǎn*—Yellows-Draining Powder
- D. *Shēng Mài Sǎn*—Pulse-Engendering Powder
- E. *Bǎo Hé Wán*—Harmony-Preserving Pill

5. A 2-year-old child had profuse sweating during the day for more than one week. He presented with a cold sweat all over the body, aversion to cold and wind, low fever, poor appetite, mental fatigue, a pale tongue with thin white coating, and a moderate pulse. What is the pathogenesis?

- A. Insecurity of lung-*wēi*
- B. Disharmony of *yīng* and *wēi*
- C. Insufficiency of qì and yīn
- D. Deficiency of heart and spleen
- E. Damp-heat steaming the body

[REFERENCES]

- [1] Li XL. 60 Cases of Children's Respiratory Infections Treated with Combined TCM and Western Medicine. *Yunnan Journal of Traditional Chinese Medicine*, 2002; 23(2): 19.
- [2] Fu PB, Zhou LP. *Wǔ Lóng Liǎn Hàn Sǎn* Applied to the Umbilicus to Treat 200 Cases of Sweating Syndrome in Children. *Henan Journal of Traditional Chinese Medicine*, 1999; 19 (4): 52.

Chapter 22

Attention Deficit Hyperactivity Disorder

Attention deficit hyperactivity disorder (ADHD) is also known as hyperkinetic syndrome, previously referred to as minimal brain damage, minimal brain dysfunction (MBD), hyperactive child syndrome, hyperactive reaction of childhood, and attention-deficit disorder. It is the most common behavioral disorder in childhood and one of the key causes of learning disability in children. While these children can display normal or nearly normal intelligence, their main clinical features include a shorter attention span than others in their age group as well as a lack of judgment and control, excessive motor activity, emotional instability, impulsiveness, excessive willfulness, and learning difficulties.

There are no specific records about this condition in ancient Chinese medical books. According to the symptoms of being easily distracted, over-talkative, overactive and impulsive, this disorder can be classified as “*zang zao*—visceral agitation” or “restless movement”. Children with ADHD usually have near-normal or completely normal intelligence, but they display hyperactivity, a lack of concentration and a tendency to become easily distracted which results in decreased academic performance, thus this disorder is also considered to be related to poor memory and a loss of intelligence.

Reports on ADHD incidence rates vary widely due to differences in research objectives, area, time, methods used, and the diagnostic criteria. The range is 1.3%-13.4% in China and 0.09%-14.30% in other areas^[1]. Most reports show that the incidence of ADHD in school-age children is higher than in pre-school children, highest in children aged 6-14 years. There are gender differences with ADHD incidence being higher in boys than girls, with a male and female ratio of (4-9):1.

The onset of this disorder relates to heredity, environment, and birth trauma. The clinical prognosis is relatively favorable as most of the cases may improve and recover with eventual disappearance of the symptomatology during adolescence. However, in some cases, the symptoms of overactivity may disappear, while other symptoms such as inattention and abnormal disposition may persist.

In the 9th edition of the *International Classification of Diseases* published by the World Health Organization in 1978, the disease is termed “Hyperkinetic Syndrome of Childhood” and divided into four types:

First Type:

Simple hyperactivity and attention defect disorder; clinically marked by a short attention span and overactivity with no obvious behavioral disorder or developmental retardation.

Second Type:

The hyperactivity is associated with developmental retardation such as speech retardation, physical awkwardness, reading difficulties or retardation of other skills.

Third Type:

Hyperactivity associated with behavioral disorders which have obvious abnormal behavioral patterns, but without any developmental retardation.



Fourth Type: Others

The 3rd edition of the “Diagnostic and Statistical Manual of Mental Disorders” published by the American Psychiatric Association in 1980, names the condition “Attention Deficit Hyperactivity Disorder” (see Table 4-2), which is classified into three sub-types: hyperactive-impulsive type, inattentive type and the combined hyperactive-impulsive and inattentive type^[2].

Until the present time, modern medical research on ADHD has mainly focused on its disease classification, etiology and diagnosis. While there is still a lack of effective and safe Western therapeutic methods, in recent years, Chinese medicine, acupuncture and moxibustion have made encouraging progress in ADHD treatment. TCM therapeutic measures are effective, safe, easy to apply, and with few side-effects. By regulating yin-yang balance and organ function, the general health of these children is also improved.

Ma Rong et al. chose the most widely used international ADHD animal model using spontaneously hypertensive rats. He observed the changes in the dopamine (DA) and norepinephrine (NE) levels in the tissue of the rat brain to explore the neurobiochemical mechanism of the empirical formula *Yì Zhì Níng Shén Kē Lì* (Intelligence-Improving and Spirit-Calming Granules), composed of *zǐ hé chē* (Placenta Hominis), *shú dì huáng* (Radix Rehmanniae Praeparata), *yuǎn zhì* (Radix Polygalae), *zé xiè* (Rhizoma Alismatis), *shí chāng pú* (Rhizoma Acori Tatarinowii) and *huáng lián* (Rhizoma Coptidis). They also compared “*Yì Zhì Níng Shén Kē Lì*” with Ritalin and *Jīng Líng Kǒu Fú Yè* (Spirit-Calming Oral Liquid). In these three groups, high, medium, and low-dosage subgroups were set separately within each group. The levels of dopamine (DA), norepinephrine (NE), high-aromatic acids and metabolites in the rats’ brains were measured in each group. The results showed that high doses of *Yì Zhì Níng Shén Kē Lì* could lower the DA and NE levels in the model rat brain, with DA and NE in a balanced condition. Its efficacy was superior to Ritalin and *Jīng Líng Kǒu Fú Yè*^[3].

Zhang Fangling et al. applied Chinese medicine together with acupuncture, moxibustion and tuina therapy in the treatment of 105 ADHD cases with the empirical formula *Zhì Dòng Tāng* (Activity-Controlling Decoction), composed of *yuǎn zhì* (Radix Polygalae), *shí chāng pú* (Rhizoma Acori Tatarinowii), *wǔ wèi zǐ* (Fructus Schisandrae Sphenantherae), *guī bǎn* (Plastrum Testudinis), *lóng gǔ* (Os Draconis), *zhēn zhū mǔ* (Concha Margaritiferae Usta), *lóng dǎn cǎo* (Radix et Rhizoma Gentianae), and *shēng gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), using one bag per day, 5 times as a treatment course, with a 2 day interval between courses. Acupuncture was applied to PC 6 (*nèi guān*), LV 3 (*tài chōng*), DU 14 (*dà zhuī*), DU 20 (*bǎi huì*) and BL 15 (*xīn shù*) twice per week. Tuina was applied with thumb pushing on the little finger from the root to tip, and on the index finger from the tip to the root repeated 100-500 times, twice per week. The control group included 80 ADHD cases treated with oral Ritalin. Both groups were treated for six months. The total effective rates were 98.1%, 85.0% respectively, with a significant difference of ($P < 0.01$)^[4].

[ETIOLOGY & PATHOMECHANISM]

The causes of this disease seem to be multifactorial and mainly appear due to congenital deficiencies, improper postnatal nursing, trauma, illness, emotional disorders, and other factors.



Congenital Deficiencies

This can develop from poor health and insufficient parental kidney qi or poor mental care of the pregnant mother leading to fetal congenital insufficiency with liver and kidney deficiency as well as essence and blood insufficiency, failure of brain marrow nourishment, and loss of the original spirit.

Blood Stasis and Qi Stagnation due to Birth Injury or Trauma

Birth injury and other trauma result in qi and blood stagnation and uneven movement through the channels leading to failure of the heart and liver to become nourished with a restless mind and spirit.

Improper Postnatal Nursing Care

Excessive intake of stir-fried, baked, roasted, or pungent and hot natured foods can cause vigorous liver and heart-fire. Overeating of sweet and greasy foods may generate damp-heat, phlegm and turbidity. Indulgence in cold or raw foods may damage the spleen and stomach. Inadequate care after illness, visceral injury, and qi and blood deficiency may all lead to failure to nourish the heart-mind with yin-yang disharmony presenting as mental unease, inattention, and hyperactivity.

Emotional Disorders

Children have undeveloped yin and yang, kidney essence is insufficient, and kidney qi is not abundant. Yin-essence is relatively insufficient due to rapid physical development and yin may fail to keep or barely be able to restrain yang, so that yang becomes predominant and hyperactive. The heart and spleen are often insufficient and these children can have unstable emotions. With inappropriate parenting such as being pampered and then becoming dissatisfied, these children will also have mental disturbances, restlessness, irritability, impulsiveness, poor memory, and forgetfulness.

The main pathogenesis of this disease is *zang-fu* and yin-yang disharmony with yang being dynamic and prone to hyperactivity and yin being insufficient and static. The location of the disease mainly lies in the heart, liver, spleen and kidney.

Yin governs the static and yang governs the dynamic, therefore it is only when yin and yang are in balance that there can be dynamic and static harmony. If there is any reason for yin-yang and *zang-fu* imbalance, yin fails to remain static in the interior and yang becomes restless at the exterior, also causing disordered emotions and activity.

As personal emotional activity has a close relationship with the internal organs, emotion must rely on the five organs' essential qi as the material basis. Dysfunction of the five organs will inevitably affect personal emotional states and result in emotional disorders.

When heart qi is insufficient and fails to nourish the heart, the spirit/mind of the heart will fail to keep its abode and lead to emotional imbalance with an inability to concentrate.

When kidney essence is insufficient and fails to generate marrow the brain will lack essence and lose intelligence.

When kidney yin is insufficient (water failing to nourish wood) then liver yang becomes hyperactive and ascends. This can present as hyperactivity and irritability.

When the spleen is deficient, there is a lack of calmness, diversified interests, brash speech, and forgetfulness. Spleen deficiency also allows for exuberant liver qi which may increase hyperactive and impulsive behaviors.

In short, the main pathomechanism of ADHD is yin-yang and *zang-fu* organ disharmony mainly involving four *zang* organs: the heart, liver, spleen and kidney. This condition is

associated with root-deficiency and branch-excess in that the root is yin deficiency while the branch is associated with patterns of yang hyperactivity, turbid phlegm, and static blood.

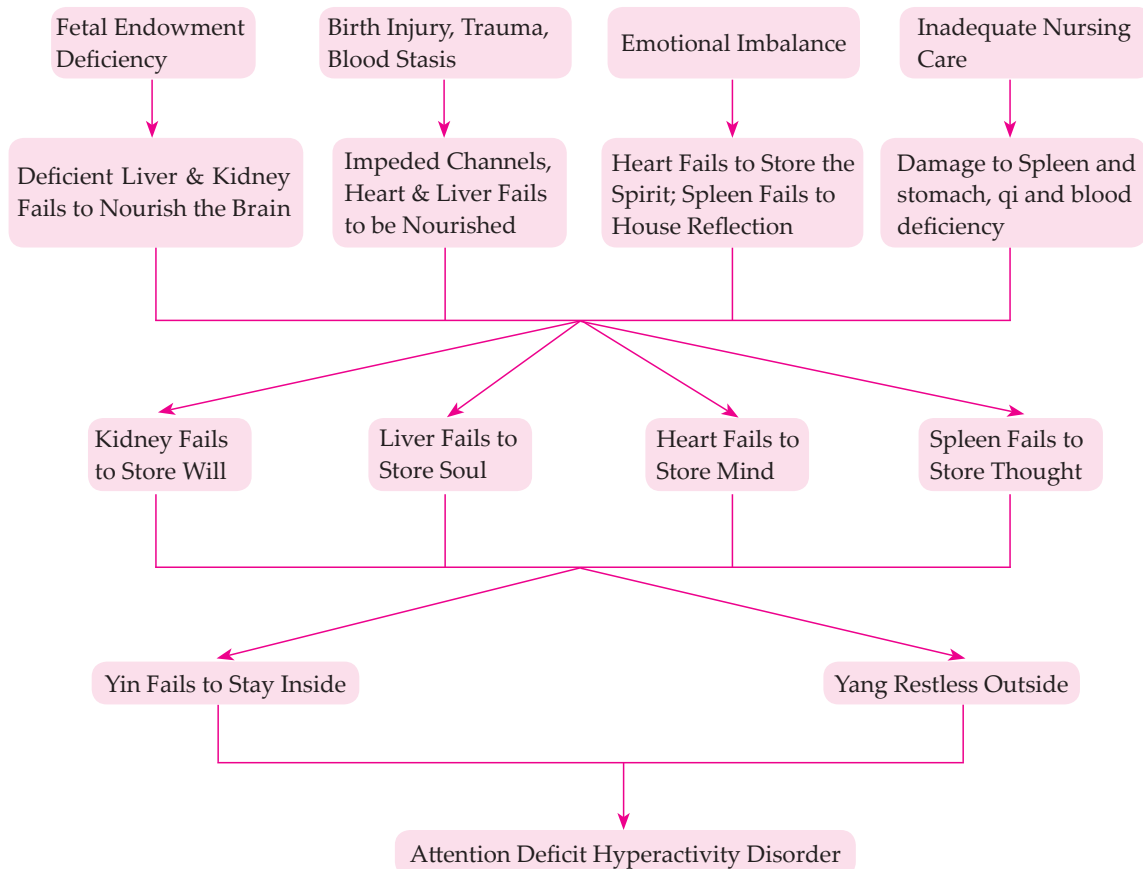


Fig. 22-1 Etiology and Pathomechanism of Attention Deficit Hyperactivity Disorder

[CLINICAL DIAGNOSIS]

The diagnosis of ADHD is mainly based on the history, physical examination and psychological test findings. A diagnosis can be considered if there is onset before the age of 7 with the course lasting more than 6 months together with continuous observational records by parents and teachers.

► Essentials of Diagnosis

- (1) More common in school-age children, more prevalent in boys.
- (2) Inattentiveness, distraction in class, restlessness, and frequent fidgeting.
- (3) Emotional instability, impulsive behavior, self-willed, clumsiness, and poor school performance but with normal intelligence.
- (4) Turning hand test, nose finger-pointing tests, finger to finger tests are positive.

There are no unified official international recommendations or diagnostic criteria for

ADHD. At present, the widely accepted diagnostic criteria for ADHD is from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)* published by the American Psychiatric Association in 1994. See Table 22-1.

Table 22-1 ADHD Diagnostic Criteria (DSM-IV, 1994)

1. Either (1) or (2)	
<p>(1) Inattention</p> <p>6 (or more) symptoms of inattention have persisted for ≥ 6 months to a degree that is maladaptive & inconsistent with developmental level.</p> <ol style="list-style-type: none"> 1) Often fails to pay close attention to details or makes careless mistakes in schoolwork, work, or other activities. 2) Often has difficulty sustaining attention in tasks or play activities. 3) Often does not seem to listen when spoken to directly. 4) Often does not follow through on instructions and fails to finish schoolwork, chores or workplace duties (not due to oppositional behavior or failure to understand instructions). 5) Often has difficulty organizing tasks & activities. 6) Often avoids, dislikes or is reluctant to engage in tasks that require sustained mental effort (such as school work or homework). 7) Often loses things necessary for tasks or activities (e.g. toys, school assignments, pencils, books, tools). 8) Often easily distracted by extraneous stimuli. 9) Often forgetful in daily activities. 	<p>(2) Hyperactivity/Impulsivity</p> <p>6 (or more) symptoms of hyperactivity-impulsivity have persisted for ≥ 6 months to a degree that is maladaptive & inconsistent with developmental level.</p> <ol style="list-style-type: none"> 1) Often fidgets with hands or feet or squirms in seat. 2) Often leaves seat in classroom or in other situations in which remaining seated is expected. 3) Often runs about or climbs excessively in situations in which it is inappropriate. 4) Often has difficulty in quietly playing or engaging in leisure activities. 5) Is often "on the go" or often acts as if "driven by a motor". 6) Often talks excessively. 7) Often blurts out answers before questions have been completed. 8) Often has difficulty awaiting his turn. 9) Often interrupts or intrudes on others (e.g. butts into conversations or games).
2. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present prior to 7 years of age.	
3. Some impairment from the symptoms is present in 2 or more settings (e.g. at school/work/home).	
4. There must be clear evidence of clinically significant impairment in social, academic or occupational functioning.	
5. Symptoms do not occur exclusively during the course of a pervasive developmental disorder, schizophrenia or other psychotic disorder & cannot be differentiated as another mental disorder (e.g. mood disorder, anxiety disorder, dissociative disorder, personality disorder).	

In this diagnostic criterion, attention deficit hyperactivity disorder is described emphatically as a disorder where overactivity, impulsivity and inattention have persisted to a degree that is maladaptive, inconsistent and out of the normal development level of children in the same age group. Therefore, if a child has physiological overactivity which corresponds to the same age level, a diagnosis of ADHD cannot be made.

If both criteria 1.(1) and 1.(2) are met for the first 6 months of the course, it is ADHD combined type.

If criterion 1.(1) is met but criterion 1.(2) is not met for the first 6 months of the course, it is predominantly ADHD inattentive type.

If criterion 1.(2) is met but criterion 1.(1) is not met for the first 6 months of the course, it is predominantly ADHD hyperactive-impulsive type.

► Differential Diagnosis

(1) Differentiate from Multiple Tic Disease as in Table 22-2

Table 22-2 Differential Diagnosis of Attention Deficit Hyperactivity Disorder & Multiple Tic Disease

Key Points for Identification	Attention Deficit Hyperactivity Disorder	Multiple Tic Disease
Medical History	Related to heredity, environment, birth trauma	Multiple factor interactions of genetic, neurobiochemical & metabolic abnormalities, social psychological factors, birth trauma & asphyxia
Age Predilection	School-age children	2-12 years
Clinical Features	Lacking concentration, poor self-control, overactivity, emotional instability, impulsivity, self-willed, accompanied by learning difficulties	Characterized by movement, speech & convulsions, commonly presenting as motor tics of head, trunk, upper & lower limbs & strange throat sounds or obscene words
Intelligence Test	Normal	Normal
Laboratory Examinations	No specific positive nervous system signs but alternative tests, finger-to-finger test, finger-pointing-nose test, and soft neurological sign may be positive	No special abnormality, normal EEG or with non-specific abnormalities

(2) Normal Misbehavior in Children:

Although sometimes inattentive, they learn normally most of the time and are able to finish their homework on time. They are attentive to discipline, have self-restraint, and can resist petty and mean behaviors in class when advised.

(3) Additional Differentiation:

In addition, differentiate the child that is easily being distracted in a classroom due to incorrect teaching methods and is overactive in line with their age group developmental level. Also differentiate those that are inattentive and have learning difficulties caused by mental retardation or visual, hearing, and sensory dysfunctions.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

Diagnosis of this disorder's pathological location is based on *zang-fu* and yin-yang pattern differentiation combined with deficiency and excess pattern identification.

(1) Zang-Fu Pattern Differentiation

If the disease is located in the heart, the patient manifests symptoms of inattention, emotional instability, irritability and dreaminess.

If the disease is located in the liver, the patient is impulsive, with a tendency towards activity rather than stillness, irritability, and decreased self-inhibitory capacity.

If the disease is located in the spleen, the patient is easily distracted, lacks persistence and has a poor memory.

If the disease is located in the kidneys, the patient is greatly disappointed about their intelligence, with low academic performance, poor memory, or they may have enuresis, sore back, and a lack of strength.

(2) Yin and Yang Pattern Differentiation

Yin deficiency fails to be still with symptoms of inattention, poor self-control, emotional instability and muddle-headedness.

Yang hyperactivity is over-dynamic, presenting with symptoms of overactivity, impulsivity, self-willed behaviors, irritability, and easily angered.

(3) Deficiency and Excess Pattern Differentiation

Deficiency patterns manifest with overactive actions that lack nimbleness, retardation, poor memory, emaciation and a pale complexion. Heart and spleen deficiency patterns are characterized by muddle-headedness, poor appetite, pale tongue with a thin and white coating; kidney yin deficiency patterns are characterized by thirst and preference for cold drinks, vexation, irritability, poor sleep and easily awakened, peeled tongue coating and a thready pulse.

Excess patterns manifest with sporadic, difficult to control overactivity, aggressive behavior, poor appetite, insomnia, red lips and bad breath. The tongue coating is yellow and greasy, and there is a slippery and rapid pulse.

The basis of this disease is a deficiency pattern, often presenting with signs of excess; deficiency-excess complex patterns are commonly seen in clinic.

► Treatment Principles

The basic treatment principle for this disease is to harmonize yin and yang.

For heart-kidney deficiency, supplement and boost the heart and kidney.

For kidney deficiency and hyperactivity of liver yang, enrich the kidney and pacify the liver.

For heart-spleen qi deficiency, supplement and boost the heart and spleen.

If there are accompanying symptoms such as turbid phlegm, phlegm-fire and blood stasis, the adjuvant therapeutic methods include dissolving phlegm, clearing heat or dispelling stasis. Aside from medication, it is also important to provide proper education and guidance.

► Classification of Patterns and Treatments

Liver-Kidney Yin Deficiency

Signs and Symptoms

Manifestations include overactivity, restlessness, irritability, impulsivity, overt self-willed, difficulty with self-control, muddle-headedness, inability to concentrate, and difficulty in sitting still; there may be poor memory and poor academic performance. Or there is enuresis with lumbar soreness and weakness, or vexing heat in the 5 centers, hot night sweats, and constipation. The tongue is red with a thin coating; the pulse is thready and wiry.

Pattern Differentiation

Characterized by irritability, impulsivity, self-willed behavior and vexing heat in the five centers. The tongue is red with a thin coating and the pulse is thready and wiry.

With kidney yin deficiency, there is vexing heat in the five centers, night sweats, poor memory and lumbar soreness and weakness.

With ascendant hyperactive liver yang, there is irritability, anger, impulsivity and self-willed behavior.

For kidney essence insufficiency, the patient presents with a loss of intelligence and difficulty in studying.

Treatment Principles

Nourish the liver and kidney, pacify the liver and subdue yang

Formula

Modified *Qǐ Jú Dì Huáng Wán*—Lycium Berry, Chrysanthemum and Rehmannia Pill

枸杞子	<i>gǒu qǐ zǐ</i>	Fructus Lycii
熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
山茱萸	<i>shān zhū yú</i>	Fructus Corni
山药	<i>shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
菊花	<i>jú huā</i>	Flos Chrysanthemi
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
青龙齿	<i>qīng lóng chǐ</i>	Dens Draconis
龟板	<i>guī bǎn</i>	Plastrum Testudinis

Formula Analysis:

Gǒu qǐ zǐ (Fructus Lycii), *shú dì huáng* (Radix Rehmanniae Praeparata) and *shān zhū yú* (Fructus Corni) nourish and supplement the liver and kidney.

Shān yào (Rhizoma Dioscoreae) and *fú líng* (Poria) fortify the spleen and nourish the heart.

Jú huā (Flos Chrysanthemi), *mǔ dān pí* (Cortex Moutan) and *zé xiè* (Rhizoma Alismatis) drain liver and kidney deficiency fire.

Qīng lóng chǐ (Dens Draconis) and *guī bǎn* (Plastrum Testudinis) calm the spirit and mind.

Modifications:

For poor sleep, add *suān zǎo rén* (Semen Ziziphi Spinosae) and *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) to nourish the heart and calm the mind.

For night sweats, add *fú xiǎo mài* (Fructus Triticis Levis), *duàn lóng gǔ* (calcined Os Draconis) and *duàn mǔ lì* (calcined Concha Ostreae) to secure and astringe sweat.

With anger and irritability, add *shí jué míng* (Concha Haliotidis) and *gōu téng* (Ramulus Uncariae Cum Uncis) to pacify the liver and subdue yang.

Chinese Patent Medicines

Jīng Líng Kǒu Fú Yè—Spirit-Calming Oral Liquid, 10 ml each bottle.

10 ml for age 6-14, twice daily.

Qǐ Jú Dì Huáng Wán—Lycium Berry, Chrysanthemum and Rehmannia Pill,
9 g each pill. 3-5 g, 2-3 times daily.

Zhī Bǎi Dì Huáng Wán—Anemarrhena, Phellodendron and Rehmannia Pill
Each 8 pills are equivalent to 3 g.

8 pills, 3 times daily.

For kidney yin deficiency associated with deficiency fire flaming upwards.

Tui na

Points	Repetitions	Methods
<i>Shèn jīng</i> (肾经)	100-500	Supplementing
<i>Gān jīng</i> (肝经)	100-500	Clearing

The practitioner uses the thumb to push the patient's fingers from the little finger root to the finger tip, and from the index finger tip to the finger root of the palm (finger-print) side. Repeat 100-500 times. Supplementing *shèn jīng* (肾经) and clearing *gān jīng* (肝经) can nourish liver yin and subdue liver yang.

Acupuncture

PC 6 (<i>nèi guān</i>)	HT 7 (<i>shén mén</i>)	DU 14 (<i>dà zhuī</i>)
DU 20 (<i>bǎi huì</i>)	LV 3 (<i>tài chōng</i>)	BL 18 (<i>gān shù</i>)
BL 23 (<i>shèn shù</i>)		

Needle PC 6 (*nèi guān*), HT 7 (*shén mén*), DU 14 (*dà zhuī*), DU 20 (*bǎi huì*) and LV 3 (*tài chōng*) with drainage, and needle BL 18 (*gān shù*) and BL 23 (*shèn shù*) with supplementation. No needle retention, treat once daily.

Heart and Spleen Deficiency

Signs and Symptoms

Manifestations include muddle-headedness, inattention, mental fatigue, lack of strength, thin body or puffiness, overactivity rather than temper, inappropriately talkative, lack of perseverance in doing and finishing tasks, lack of deep sleep and poor memory, also associated with spontaneous sweating, night sweating, food partiality, poor appetite, and a lusterless complexion. The tongue is pale with a thin and white coating; the pulse is weak.

Pattern Differentiation

This pattern is characterized by muddle-headedness, overactivity without irritability, poor memory, mental fatigue and lack of strength. The tongue is pale with a thin and white coating and the pulse is weak.

Children with a tendency to heart qi deficiency often present with a thin body, lack of deep sleep and associated spontaneous and night sweating.

Children with a tendency to spleen qi deficiency often present with physical puffiness, food partiality and a poor appetite, lusterless complexion and a poor memory.

Treatment Principles

Nourish the heart and calm the mind, fortify the spleen and replenish qi

Formula

Modified *Guī Pí Tāng*—Spleen-Restoring Decoction with *Gān Mài Dà Zǎo Tāng*—

Licorice, Wheat and Jujube Decoction

党参	<i>dǎng shēn</i>	Radix Codonopsis
黄芪	<i>huáng qí</i>	Radix Astragali
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
大枣	<i>dà zǎo</i>	Fructus Jujubae
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
茯神	<i>fú shén</i>	Sclerotium Poriae Paradicis
远志	<i>yuǎn zhì</i>	Radix Polygalae
酸枣仁	<i>suǎn zāo rén</i>	Semen Ziziphi Spinosae
龙眼肉	<i>lóng yǎn ròu</i>	Arillus Longan
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
浮小麦	<i>fú xiǎo mài</i>	Fructus Triticis Levis
木香	<i>mù xiāng</i>	Radix Aucklandiae

Formula Analysis

Dǎng shēn (Radix Codonopsis), *huáng qí* (Radix Astragali), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *dà zǎo* (Fructus Jujubae) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) supplement the spleen and boost qi.

Fú shén (Sclerotium Poriae Paradicis), *yuǎn zhì* (Radix Polygalae), *suǎn zāo rén* (Semen Ziziphi Spinosae), *fú xiǎo mài* (Fructus Triticis Levis), *dāng guī* (Radix Angelicae Sinensis) and *lóng yǎn ròu* (Arillus Longan) nourish the heart and calm the mind.

Mù xiāng (Radix Aucklandiae) rectifies qi and awakens the spleen.

Modifications:

For inattention, add *yì zhì rén* (Fructus Alpiniae Oxyphyllae) and *lóng gǔ* (Os Draconis) to nourish the heart and calm the mind.

For lack of deep sleep, add *wú wèi zǐ* (Fructus Schisandrae Chinensis) and *yè jiāo téng* (Caulis Polygoni Multiflori) to nourish the blood and calm the mind.

For poor memory, poor motor coordination with clumsy movements, and a thick greasy tongue coating, add *bàn xià* (Rhizoma Pinelliae), *chén pí* (Pericarpium Citri Reticulatae) and *shí chāng pú* (Rhizoma Acori Tatarinowii) to dissolve phlegm and open the orifices.

Chinese Patent Medicines

Rén Shēn Guī Pí Wán — Ginseng Spleen-Restoring Pill.

3-5 g, 2-3 times daily.

Bái Zǐ Yáng Xīn Wán — Arborvitae Seed Heart-Nourishing Pill.

3-5 g, 2-3 times daily.

Tui na

Points	Repetitions	Methods
<i>Pí jīng</i> (脾经)	200-300	Supplementing
PC 6 (<i>nèi guān</i>)	50-100	Kneading

Continued

Points	Repetitions	Methods
HT 7 (<i>shén mén</i>)	50-100	Kneading
DU 20 (<i>bǎi huì</i>)	50-100	Pressing and Kneading
Fù (abdomen)	50-100	Rubbing
ST 36 (<i>zú sān lǐ</i>)	100-200	Pressing and Kneading
BL 15 (<i>xīn shù</i>)	50-100	Kneading
BL 23 (<i>shèn shù</i>)	50-100	Kneading
DU 4 (<i>mìng mén</i>)	50-100	Kneading
Jǐ (spine)	5-10	Pinching
Dū Mài (督脉)	5-10	Scrubbing
The first lateral line of the bladder channel	5-10	Scrubbing

Supplement *pí jīng* 200-300 times; knead PC 6 (*nèi guān*) and HT 7 (*shén mén*) 50-100 times; press and knead DU 20 (*bǎi huì*) 50-100 times; rub fù—abdomen 50-100 times; press and knead ST 36 (*zú sān lǐ*) 100-200 times; knead BL 15 (*xīn shù*), BL 23 (*shèn shù*) and DU 4 (*mìng mén*) 50-100 times; pinch Jǐ 5-10 times; scrub the first lateral line of the BL channel 5-10 times.

Acupuncture

PC 6 (<i>nèi guān</i>)	HT 7 (<i>shén mén</i>)	DU 14 (<i>dà zhuī</i>)
DU 20 (<i>bǎi huì</i>)	BL 15 (<i>xīn shù</i>)	BL 20 (<i>pí shù</i>)
ST 36 (<i>zú sān lǐ</i>)	SP 6 (<i>sān yīn jiāo</i>)	

Supplement all points without needle retention once daily, 3 times as one treatment course.

Phlegm-Fire Harassing the Interior

Signs and Symptoms

Manifestations include overactivity, talkativeness, irritability, restlessness, impulsivity, self-willed behaviors with decreased self-control, easily distracted, inattentive, vexing heat in the chest, anguish with insomnia, poor appetite, a bitter taste in the mouth, constipation and dark urine. The tongue is red with a greasy yellow coating; the pulse is slippery and rapid.

Pattern Differentiation

Characterized by overactivity, talkativeness, irritability, restlessness, decreased self-control capacity, vexing heat in the chest, and anguish with insomnia. The tongue is red with a greasy yellow coating; the pulse is slippery and rapid.

Treatment Principles

Clear heat and drain fire, dissolve phlegm and calm the mind

Formula

Modified *Huáng Lián Wēn Dǎn Tāng*—Coptis Gallbladder-Warming Decoction

黄连	<i>huáng lián</i>	Rhizoma Coptidis
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
法半夏	<i>fǎ bàn xià</i>	Rhizoma Pinelliae Praeparatum
胆南星	<i>dǎn nán xīng</i>	Arisaema cum Bile
竹茹	<i>zhú rú</i>	Caulis Bambusae in Taenia
瓜蒌	<i>guā lóu</i>	Fructus Trichosanthis
枳实	<i>zhǐ shí</i>	Fructus Aurantii Immaturus
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii
茯苓	<i>fú líng</i>	Poria
珍珠母	<i>zhēn zhū mǔ</i>	Concha Margaritiferae Usta

Formula Analysis

Huáng lián (Rhizoma Coptidis) clears heat and drains fire.

Chén pí (Pericarpium Citri Reticulatae), *fǎ bàn xià* (Rhizoma Pinelliae Praeparatum) and *dǎn nán xīng* (Arisaema cum Bile) dry dampness and dissolve phlegm.

Zhú rú (Caulis Bambusae in Taenia) and *guā lóu* (Fructus Trichosanthis) clear heat and dissolve phlegm.

Zhǐ shí (Fructus Aurantii Immaturus) rectifies qi and dissolves phlegm, *shí chāng pú* (Rhizoma Acori Tatarinowii) dissolves phlegm to open the orifices (resuscitates).

Fú líng (Poria) and *zhēn zhū mǔ* (Concha Margaritiferae Usta) nourish the heart and calm the mind.

Modifications

With vexation, agitation and irascibility, add *gōu téng* (Ramulus Uncariae Cum Uncis) and *lóng dǎn cǎo* (Radix et Rhizoma Gentianae) to pacify the liver and drain fire.

For constipation, add *dà huáng* (Radix et Rhizoma Rhei) to unblock the bowels and drain fire.

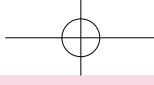
Chinese Patent Medicine

Niú Huáng Qīng Xīn Wán — Bovine Bezoar Heart-Clearing Pill

1.5 g, 1-2 times daily.

Tui na

Points	Repetitions	Methods
<i>Fèi jīng</i> (肺经)	100-200	Clearing
<i>Dàn zhōng</i> (膻中)	50-100	Pushing
<i>Zhōng wǎn</i> (中腕)	50-100	Kneading
<i>Fēng lóng</i> (丰隆)	50-100	Kneading
<i>Gān jīng</i> (肝经)	100-200	Clearing
<i>Dà cháng</i> (大肠)	100-200	Clearing
<i>Tiān hé shuǐ</i> (天河水)	100-200	Clearing
<i>Jǐ</i> (脊)	5-10	Pushing



Clear *fèi jīng*, *gān jīng*, *dà cháng* and *tiān hé shuǐ* 100-200 times, push *dàn zhōng* 50-100 times, knead *zhōng wǎn* and *fēng lóng* 50-100 times, and push *jǐ* 5-10 times.

Acupuncture

PC 6 (<i>nèi guān</i>)	HT 7 (<i>shén mén</i>)	DU 14 (<i>dà zhuī</i>)
DU 20 (<i>bǎi huì</i>)	ST 40 (<i>fēng lóng</i>)	LI 11 (<i>qū chí</i>)

Apply drainage to clear heat, drain fire, dissolve phlegm and calm the mind, no needle retention. Treat once daily.

[OTHER ACUPUNCTURE THERAPY]

a. Scalp Acupuncture:

MS1 (<i>é zhōng xiàn</i>)	MS5 (<i>dǐng zhōng xiàn</i>)
-----------------------------	--------------------------------

Use filiform needles with 60 minutes needle retention, once daily. 10 times as one treatment course.

b. Ear Acupuncture:

Heart (<i>xīn</i>)	<i>Shen men</i> (<i>shén mén</i>)	Sympathetic (<i>jiāo gǎn</i>)
Brain stem (<i>nǎo gān</i>)		

Shallow needle without needle retention, once daily, or press each acupoint with *wáng bù liú xíng* (Semen Vaccariae).

c. Jin's Three-Needles:

Needle the "four acupoints for the spirit" (*si shen zhen*, 四神针), acupoints for calming the spirit (*dìng shen zhen*, 定神针) and hand acupoints for intelligence (*shou zhi zhen*, 手智针). The needles are then connected to an electro-acupuncture device, with wave density and intensity adjusted according to the patient's tolerance. Treat once daily, with 10 days as one treatment course.

d. Wrist-Ankle Acupuncture (WAA):

Needle "upper acupoint one" bilaterally with a 1.5 milli-inch needle pointed towards the shoulder; retaining for 30 minutes. Treat on alternate days, 10 times as one treatment course.

[WESTERN MEDICINE THERAPIES]

Western medicine mainly uses psychoactive stimulants to treat this disorder while directing patients and families to the appropriate educational and remedial measures needed to improve cognitive deficits and behavioral issues.

Methylphenidate hydrochloride (Ritalin): 0.2-0.5 mg/kg/day. Some cases may use up to 0.7-1.0 mg/kg/day. Small doses are prescribed initially. If symptoms do not improve after 2-3 days, the dose maybe gradually increased to a maximum of 30 mg/day. The medication is taken every morning and afternoon, half an hour before classes. It should not take after 4 pm as it may affect sleep. Medication can also be withheld on Sundays and holidays. In addition, tricyclic antidepressants (e.g. imipramine) and monoamine oxidase inhibitors



may be prescribed.

Western medical treatment should be directed by physicians with regular follow-up and close observation of efficacy and side effects.

[PREVENTION AND NURSING CARE]

1. PREVENTION

- a. In order to prevent premature or difficult labor and neonatal asphyxia, pregnant women should maintain a pleasant mood, balanced nutrition, abstain from alcohol and smoking, and use medicines with caution.
- b. Prevent the child from brain injury, poisoning and central nervous system infections.
- c. Ensure a regulated lifestyle, and encourage positive behaviors.

2. NURSING CARE

(1) Care and sympathize with the patient, patiently helping and training them to improve their behavior and learning performances; guiding them to advance gradually in proper sequence and with steady progress. Avoid humiliation or physical punishment. Praise and encouragement are helpful.

(2) A structured environment with consistent discipline and reasonable demands should be established. Train the children to have a regular lifestyle including getting up, eating, and learning. Avoid overindulging the child and emphasize management and counseling to prevent offensive, destructive and dangerous behaviors.

(3) Ensure intake of nutritious foods, additional proteins, fruits and fresh vegetables; avoid stimulating food and drink.

[CASE STUDIES]

► Case #1. Male, age 9. Initial Visit: 3/97

Since the child's previous year at primary school he had failed to sustain attention in class, often fidgeting and squirming. He always raced to answer questions, showed a lack of patience when playing games and often acted out dangerously. Despite repeated admonitions, he was unable to control himself.

This year the child had frequent short-term involuntary twitches in his shoulders. His brain CT and EEG were normal. His symptoms had slightly improved after taking Ritalin, but the symptoms returned after drug withdrawal.

He had a slightly red complexion, a dry mouth with a bitter taste, and dry stools every 2-3 days; his manner was uneasy and over-talkative with fidgeting. His tongue was red with a thin yellow coating; the pulse was wiry and rapid.

He was diagnosed with ADHD. The pathogenesis here is gallbladder heat constraint and phlegm-fire harassing the interior.

Formula

Modified *Wēn Dǎn Tāng*—Gallbladder-Warming Decoction

制半夏	zhì bàn xià	10 g	Rhizoma Pinelliae (prepared)
胆南星	dǎn nán xīng	10 g	Arisaema cum Bile
茯苓	fú líng	10 g	Poria
远志	yuǎn zhì	10 g	Radix Polygalae
柴胡	chái hú	12 g	Radix Bupleuri
郁金	yù jīn	12 g	Radix Curcumae
竹茹	zhú rú	6 g	Caulis Bambusae in Taenia
陈皮	chén pí	6 g	Pericarpium Citri Reticulatae
甘草	gān cǎo	3 g	Radix et Rhizoma Glycyrrhizae

After 5 doses, the condition was improved, without twitching limbs. He was advised to have mental health treatment and to cultivate favorable habits. After 10 more packages, his behavior was close to normal. He was then given the above formula which was modified according to the situation for over one month, and the disease was resolved.

Analysis

This pattern is associated with phlegm-fire harassing the interior and the treatment is to clear heat, drain fire, dissolve phlegm, and calm the mind. A modification of *Wēn Dǎn Tāng*—Gallbladder-Warming Decoction was chosen.

In this formula, *chén pí* (Pericarpium Citri Reticulatae), *fǎ bàn xià* (Rhizoma Pinelliae Praeparatum) and *dǎn nán xīng* (Arisaema cum Bile) dry dampness and resolve phlegm.

Zhú rú (Caulis Bambusae in Taenia) clears heat and dissolves phlegm.

Zhǐ shí (Fructus Aurantii Immaturus) rectifies qi and dissolves phlegm.

Fú líng (Poria) and *yuǎn zhì* (Radix Polygalae) nourish the heart and calm the mind.

Chái hú (Radix Bupleuri) and *yù jīn* (Radix Curcumae) soothe the liver and drain the gallbladder. The formula can rectify qi and dissolve phlegm, clear the gallbladder and harmonize the stomach, relieve phlegm-heat, and harmonize the gallbladder.

Source: Ni ZH. Treating Children with ADHD According to Gallbladder Pattern Differentiation [J]. Zhejiang Journal of Traditional Chinese Medicine, 1998; (7): 294.

► Case #2. Male, age 10. Initial Visit: 4/ 93

The boy presented with a poor appetite, lusterless complexion, poor sleep, occasional shortness of breath, overactivity and restlessness, difficulty in completing homework on time, inattention, and low test levels. Normal defecation and urination, a pale tongue with little coating; his pulse was thready.

He was diagnosed with attention deficit hyperactivity disorder. The pattern differentiation was restlessness of the heart-spirit due to heart and spleen deficiency; the treatment principle is to supplement heart and spleen and calm the heart and mind.

Formula

党参	dǎng shēn	8 g	Radix Codonopsis
白术	bái zhú	6 g	Rhizoma Atractylodis Macrocephalae
茯苓	fú líng	20 g	Poria

黄芪	<i>huáng qí</i>	10 g	Radix Astragali
山药	<i>shān yào</i>	10 g	Rhizoma Dioscoreae
石菖蒲	<i>shí chāng pú</i>	10 g	Rhizoma Acori Tatarinowii
远志	<i>yuǎn zhì</i>	10 g	Radix Polygalae
酸枣仁	<i>suān zāo rén</i>	20 g	Semen Ziziphi Spinosae
钩藤	<i>gōu téng</i>	10 g	Ramulus Uncariae Cum Uncis
夜交藤	<i>yè jiāo téng</i>	10 g	Caulis Polygoni Multiflori
炙甘草	<i>zhì gān cǎo</i>	5 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
生龙骨	<i>shēng lóng gǔ</i>	15 g	Os Draconis
生牡蛎	<i>shēng mǔ lì</i>	15 g	Concha Ostreae
生稻芽	<i>shēng dào yá</i>	15 g	Fructus Oryzae Germinatus
焦麦芽	<i>jiāo mài yá</i>	15 g	Fructus Hordei Germinatus (scorch-fried)
焦山楂	<i>jiāo shān zhā</i>	15 g	Fructus Crataegi (scorch-fried)
焦神曲	<i>jiāo shén qū</i>	15 g	Massa Medicata Fermentata (scorch-fried)

After 14 doses, his appetite improved significantly. He had a better complexion and slept peacefully, but he was still unable to concentrate in class.

The above formula was modified by omitting *jiāo sǎn xiān* (*jiāo mài yá* (scorch-fried Fructus Hordei Germinatus), *jiāo shān zhā* (scorch-fried Fructus Crataegi) and *jiāo shén qū* (scorch-fried Massa Medicata Fermentata)) and *yè jiāo téng* (Caulis Polygoni Multiflori), and by adding *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) 6 g and *mài dōng* (Radix Ophiopogonis) 8 g [acting as *Shēng Mài Sǎn*—Pulse-Engendering Powder] to nourish the heart and astringe qi, and *zhēn zhū mǔ* (Concha Margaritiferae Usta) 15 g to calm the heart and mind.

After taking the modified formula for 30 doses, the parents said that he could now concentrate in class and complete homework by himself. At the second school examination, his testing level was normal.

Song WF. 100 Special TCM Practitioners in the 100 Year Series: Song Zuomin [M]. Beijing: China Traditional Chinese Medicine Press, 2001: 66.

Analysis

This pattern is a heart and spleen insufficiency, so the treatment principle is to nourish the heart and calm the mind, fortify the spleen, and boost qi. Modifications of *Guī Pí Tāng*—Spleen-Restoring Decoction and *Gān Mài Dà Zǎo Tāng*—Licorice, Wheat and Jujube Decoction were chosen.

For inattention, add *yì zhì rén* (Fructus Alpiniae Oxyphyllae) and *lóng gǔ* (Os Draconis) to nourish the heart and calm the mind.

For restless sleep, add *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) and *yè jiāo téng* (Caulis Polygoni Multiflori) to nourish the blood and calm the mind.

For poor memory, clumsy movements and thick and greasy tongue coating, add *bàn xià* (Rhizoma Pinelliae), *chén pí* (Pericarpium Citri Reticulatae) and *shí chāng pú* (Rhizoma Acori Tatarinowii) to dissolve phlegm to open the orifices.



[QUESTIONS]

1. Male, 9 years old.

He presented with the symptoms of overactivity, was difficult to calm, irritable, easily angry, impulsive, self-willed, no self-control, muddle-headedness, inability to concentrate, difficulty sitting quietly, poor memory, poor academic performance and enuresis. His tongue was red with a thin coating and he had a thready and wiry pulse.

What is the pathogenesis?

- A. Heat deficiency with loss of nourishment due to phlegm-fire harassing the interior
- B. Liver-kidney yin deficiency and water failing to nourish wood
- C. Spleen-kidney deficiency and failing to nourish the brain
- D. Effulgent heart-liver fire and liver fire flaming upwards
- E. Heart and spleen insufficiency with spleen deficiency and ascendant liver hyperactivity

2. Female, 7 years old.

She has symptoms of overactivity, over-talkativeness, vexation and agitation with restlessness, impulsivity, self-willed behavior, lack of self-control, diverse interests, inability to concentrate, vexing heat in the chest, vexation, insomnia, a bitter taste in the mouth, constipation and dark urine. The tongue is red with a yellow and greasy coating and the pulse is slippery and rapid.

Which is the first choice of formula?

- A. *Dí Tán Tāng*—Phlegm-Flushing Decoction
- B. *Gān Mài Dà Zǎo Tāng*—Licorice, Wheat and Jujube Decoction
- C. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill
- D. *Huáng Lián Wēn Dǎn Tāng*—Golden Thread Decoction for Warming the Gallbladder
- E. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill

3. Male, age 6.

He has symptoms of overactivity and restlessness, lack of concentration, mental agitation and frequent screaming during sleep. Treatments have not shown any effect so far. Now he presents with emaciation, a lusterless complexion, and overactivity. His tongue is pale with a white coating and he has a moderate pulse. Which are the best formulas of the following?

- A. *Sì Jūn Zǐ Tāng*—Four Gentlemen Decoction and *Gān Mài Dà Zǎo Tāng*—Licorice, Wheat and Jujube Decoction
- B. *Sì Jūn Zǐ Tāng*—Four Gentlemen Decoction and *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia
- C. *Tiān Má Gōu Tēng Yǐn*—Gastrodia and Uncaria Decoction and *Wēn Dǎn Tāng*—Gallbladder-Warming Decoction
- D. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill combined with *lóng gǔ* (Os Draconis) and *mǔ lì* (Concha Ostreae)
- E. *Guī Pí Tāng*—Spleen-Restoring Decoction and *Gān Mài Dà Zǎo Tāng*—Licorice, Wheat and Jujube Decoction

4. Male, age 11.

He has symptoms of overactivity, over-talkativeness, emotional irritability, easily made angry, difficulty in concentration, vexation and agitation with restlessness, dry stools, bowels movements once every 3-4 days and dark urine. His tongue is red with a light yellow greasy coating and the pulse is



slippery and rapid.

Which pattern is his syndrome?

- | | |
|---------------------------------------|---------------------------------|
| A. Heart and spleen deficiency | B. Liver-kidney yin deficiency |
| C. Phlegm-fire harassing the interior | D. Kidney essence insufficiency |
| E. Qi and blood deficiency | |

5. Female, age 9. The child presented with overactivity for several months. Her teachers reported that she could not concentrate in class and was unable to complete her homework on time. She has a lusterless complexion, often showing shortness of breath and flustered. Her sleeping is normal, but she has a poor appetite, and loose stools once daily. Her tongue is pale and her pulse is thready.

What pattern is her syndrome?

- | | |
|---------------------------------------|---------------------------------|
| A. Heart and spleen deficiency | B. Liver-kidney yin deficiency |
| C. Phlegm-fire harassing the interior | D. Kidney essence insufficiency |
| E. Qi and blood deficiency | |

[REFERENCES]

- [1] Liu J, Wang YF. The Treatment Progress in Attention Deficit Hyperactivity Disorder [J]. Chinese Journal of Psychiatry, 2001; 34 (4):247-249.
- [2] Wang SC, Yu JM. TCM Pediatric Clinical Research [M]. Beijing: People's Health Press, 2009: 291.
- [3] Ma R. The Effects of "Yi Zhì Níng Shén Kē Lì" on Spontaneously Hypertensive Rat Brain Tissue Models of Norepinephrine and Dopamine [J]. Tianjin Journal of Traditional Chinese Medicine, 2008; 25 (2): 6.
- [4] Zhang FL. Reviews of the Curative Effect of Empirical *Zhi Dong Tang* and Acupuncture and Tuina in Treating 105 Cases of Children with ADHD [J]. Clinical Journal of Anhui Traditional Chinese Medicine, 2000; 12 (3): 193.

Chapter 23

Tourette Syndrome (Multiple Tic Disease)

Tourette syndrome (also known as Tourette's, TS, Gilles de la Tourette syndrome or GTS), is a neuropsychiatric disorder characterized by chronic, rapid and fluctuating multiple motor tics associated with involuntary uttered noises and language. The main clinical manifestations include blinking, twitching, grimacing, and jerking sometimes involving all parts of the body; there are also vocal tics with repetitive speaking, sometimes with utterances of socially objectionable phrases or words.

In Chinese medicine, the condition can be classified under chronic infantile convulsion or convulsion disorder.

Tourette syndrome is a neuropsychiatric condition disorder believed to be associated with biogenic amine metabolism, usually beginning in childhood before the age of 12. Tourette's is a perplexing chronic neurological disorder that involves both movement and behavior often with concurrent semi-purposeful, repetitive movements that are usually expressed momentarily, sometimes accompanied by coprolalia (swearing or obscene language) ^[1].

The illness has become the focus of research and clinical concern because of its prolonged course, complicated variable symptoms, and the complexity or difficulty in treatment. At the 3rd International Symposium on Tourette syndrome held in New York in June 1999, it was pointed out that TS appears in people of different cultural and ethnic backgrounds with an overall prevalence of at least 0.5 ‰ ^[2-3]. Since then the incidence has apparently increased, particularly the more intractable cases. If the condition is not brought under control soon after the onset it can lead to learning disabilities and affect daily life. Because of the presence of physical and vocal tics, socializing becomes very stressful, often also causing the patient's family some degree of psychological stress as well. Therefore, Tourette's has attracted increasing attention from both professionals and the general public.

The incidence of Tourette syndrome is not influenced by season and often starts during childhood between 2-15 years old, affecting males about three times more than females. It has a chronic course generally over one year or may even persist into adult life. The disease can spontaneously resolve or have outbreaks and exacerbate.

As the etiology and neuro-chemical basis remains unknown, there is still no specific or effective treatment or cure in modern medicine. Most patients are treated with dopamine receptor blocking agents, but due to the occurrence of incapacitating side-effects and a high recurrence rate, (with the child often having a poor drug tolerance) many patients and parents abandon such treatment.

Chinese medicine can help by regulating yin-yang balance and *zang-fu* functions to improve the child's overall condition. TCM treatment methods are simple and usually effective, offering a safe and reliable treatment approach with few side-effects.

In the treatment of 285 children with Tourette syndrome, Wang SM et al. applied Chinese medicinals that calm the liver, fortify the spleen and resolve phlegm.

The formula consisted of *tài zǐ shēn* (Radix Pseudostellariae), *bái zhú* (Rhizoma



Atractylodis Macrocephalae), *fú líng* (Poria), *chén pí* (Pericarpium Citri Reticulatae), *bàn xià* (Rhizoma Pinelliae) and *tiān zhú huáng* (Concretio Silicea Bambusae) each 10 g, and 6 g *chán tuì* (Periostracum Cicadae), 10 g *jiāng cán* (Bombyx Batryticatus), 15 g *gōu téng* (Ramulus Uncariae Cum Uncis) and 20 g *bái sháo* (Radix Paeoniae Alba).

Patients with liver qi stagnation transforming into fire were also given *chái hú* (Radix Bupleuri), *yù jīn* (Radix Curcumae), *zhī zǐ* (Fructus Gardeniae) and *lóng dǎn cǎo* (Radix et Rhizoma Gentianae).

Patients with liver and kidney yin deficiency were also given *shú dì huáng* (Radix Rehmanniae Praeparata), *guī bǎn* (Plastrum Testudinis) and *lóng gǔ* (Os Draconis).

Patients with turbid-phlegm accumulation were also given 15 g *qīng méng shí* (Lapis Chloriti), 10 g *dǎn nán xīng* (Arisaema cum Bile) and 6 g *zhú rú* (Caulis Bambusae in Taenia).

Patients were administered one decocted daily dose divided into 3 portions, with 4 weeks as one course of treatment. The results showed 63 cases markedly effective, 181 effective and 41 ineffective, with a total effective rate of 85.6%^[4].

This study demonstrates that Chinese medicinals show a reasonable therapeutic effect for improving the symptoms of Tourette syndrome while also helping to reduce relapse rates.

[ETIOLOGY & PATHOMECHANISM]

Tourette syndrome has various causes related to congenital deficiency, birth trauma, asphyxia, exogenous pathogenic invasion, and emotional disturbance, commonly triggered by excess of the five minds, and internal wind-phlegm accumulation. The pathological location mainly involves the liver, but is also closely related to the heart, spleen and kidney.

The liver is the viscus of wind and wood that is yin in form but yang in function; the liver acts to store blood and maintain the free flow of qi. It also pertains to loud sound production, grasping and holding, and changes of movement.

The *Key to Diagnosis and Treatment of Children's Diseases—Discussions on Liver Wind* (Xiǎo Èr Yào Zhèng Zhí Jué—Gān Yǒu Fēng Zhě) states: "As far as a disease is concerned, whether old or new, it can still stir up liver wind. Once wind is stirred, it tends to affect the head and eyes. The eyes relate to the liver. When liver wind attacks the eyes as if blowing the eye upward, downward, and to the left and right in a moderate way, this leads to continuous blinking of the eyes."

Qi Stagnation Transforming into Fire

"Humans have five *zang* organs that transform the five types of qi to engender joy, anger, sorrow, worry and fear". The liver maintains the free flow of qi and prefers free activity.

When there is emotional disturbance with psychological tension, or if the five *zang* organs are in disharmony, the qi dynamic can become impaired. Prolonged qi constraint can further lead to internal fire which stirs liver wind that harasses upward to affect the orifices. Manifestations include grimacing, jerking movements, frowning, blinking, opening and twisting of the mouth, shaking of the head, and shoulder shrugging; also there may be uttering of strange noises or obscene words.

Moreover, qi stagnation transforming into fire will over-consume and damage yin-essence, leading to liver blood insufficiency with failure to nourish the sinews and vessels,

thus causing further stirring of deficiency wind internally. There will be excessive head movement with trembling of the limbs.

Spleen Deficiency with Phlegm Accumulation

Congenital deficiency or lack of care after illness may damage the spleen and stomach causing splenic failure to transport; this leads to water-dampness retention which further concentrates into phlegm. Subsequent binding of phlegm and stagnant qi may block the chest and cloud the heart-spirit manifesting as fullness in the chest, irascibility, eccentric temper, and vocal tics. The spleen governs the muscles and the four limbs. Spleen deficiency will allow for liver hyperactivity, liver wind will cause phlegm to stir upward and in all directions causing involuntary movements of the head and neck and muscle twitching in the four limbs.

Wind Disturbance due to Yin Deficiency

Constitutional yin deficiency, yin damage due to febrile disease, or liver diseases that affect the kidney can all cause kidney yin deficiency with insufficient water failing to nourish wood; this will further stir up deficiency wind leading to head shaking and muscular tics.

Yin deficiency leads to hyperactive deficiency fire. As liver-wood torments lung-metal, lung yin is damaged, also leading to the uttering of strange sounds such as throat clearing, coughing, snorts, hiccups or other noises (known as abnormal Metal sounds).

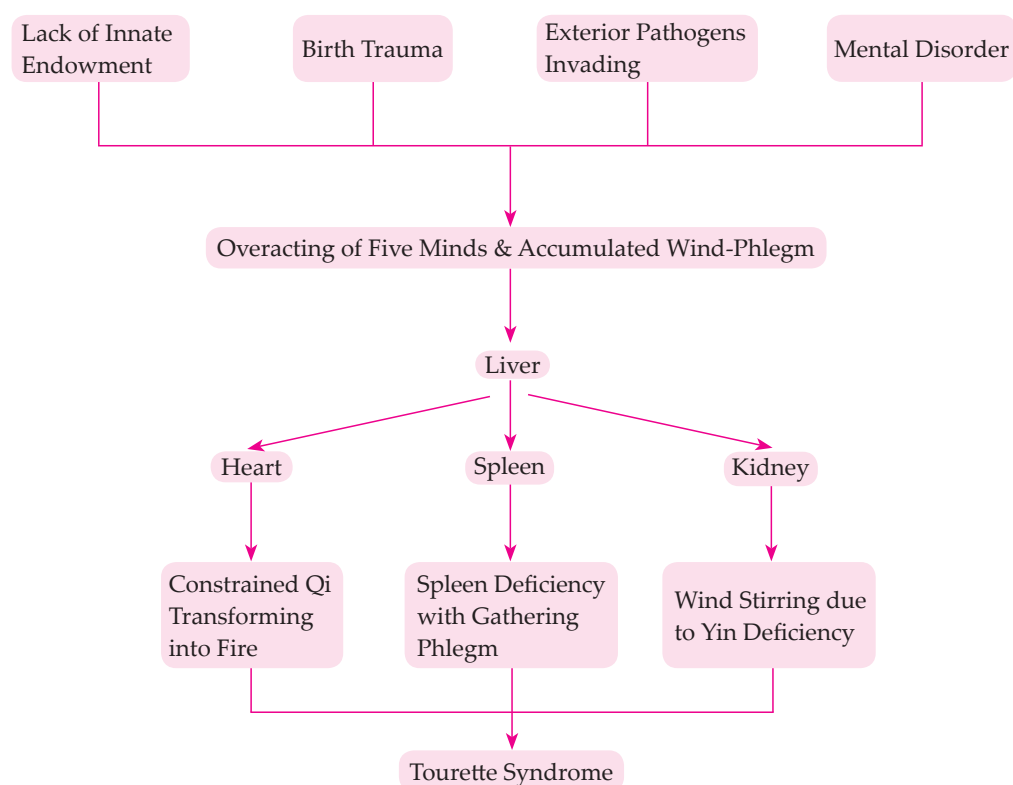


Fig. 23-1 Etiology and Pathomechanism of Tourette Syndrome



[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

1. WHO Diagnostic Criteria (1993, International Classification of Diseases) (ICD-10) for Tourette syndrome is as follows:

- (1) Multiple motor tics and one or more vocal tics that have been present at some time during the disorder, but not necessarily concurrently.
- (2) The frequency of tics must be many times daily, nearly every day for more than one year with no period of remission during that year longer than two months.
- (3) Onset before 18 years of age.

2. *Diagnostic Statistical Manual of Mental Disorders* (4th edition, 1994, USA) published diagnostic criteria as follows:

(1) Both multiple motor tics and one or more vocal tics must be present at the same time, although not necessarily concurrently: tics are sudden, rapid, repeated, non-rhythmic with often stereotyped movements or sounds.

(2) The tics must occur many times a day (usually in bouts) nearly every day or intermittently for over more than 1 year, during which time there must not have been a tic-free period of more than 3 consecutive months:

- (3) The age at onset must be less than 18 years.
- (4) The disturbance must not be due to the direct physiological effects of a substance and drugs (e.g. stimulants) or a general medical condition (e.g. Huntington's disease or post-viral encephalitis).

3. Chinese Medicine Clinical Diagnostic Criteria

(1) The age of onset is from 2-12 years old, with the child developing multiple tics. Patients may have inducing factors such as illness and mental disorders or a family history.

(2) Rapid and involuntary muscle movements involve the eyes, face, neck, and shoulders as well as the upper and lower limbs, with identical, repetitive contractions without rhythm which disappear during sleep. When the tics occur, some unusual sounds such as giggling, coughing, or groans are made, or even repetitive coprolalia (speaking of obscene words, swearing) and spitting.

(3) Tics have a semi-purposeful character and can be controlled or temporarily suppressed by the patient to some degree.

(4) The condition displays a chronic process, with obvious fluctuations in the severity of disease.

(5) Laboratory studies are nonspecific. EEG is normal, or with non-specific abnormalities. Intelligence tests are basically normal.

► Differential Diagnosis

Tourette syndrome needs to be differentiated from rheumatic chorea and myoclonus. See Table 23-1.

Table 23-1 Differential Diagnosis of Tourette Syndrome, Rheumatic Chorea and Myoclonus

Key Points of Identification	Tourette Syndrome	Rheumatic Chorea	Myoclonus
Age, Sex Predilection	2-15 years old, common in boys	After age 6, more in girls	Age 3-18, no significant gender difference
History	Related to genetics, neural & biochemical factors, social psychology, birth trauma, asphyxia	History of streptococcal infection	Related to genetics, birth trauma, asphyxia
Clinical Features	A variety of motor tics & one or more vocal tics. Tics are a sudden, rapid, repeated, non-rhythmic, stereotyped movement or sound. Commonly begins with repeated blinking, gradually affecting the neck, shoulders, limbs & body. Lacks specific treatment	Limbs appear more substantial, aimless & irregular dance-like movements. Patients lack the ability of self-care. Muscle tension reduces. No vocal tics or coprolalia. Anti-rheumatic treatment is effective	A type of epilepsy, sudden tics of a group of muscles, Patients may show a sudden leaning forward or backwards flexion or extension of limbs. No strange throat sounds or obscene words. Anti-epilepsy treatment is effective
Accompanying Symptoms	Accompanied by elaborate gestures, involuntarily repetition of words or imitating actions of others	Carditis, arthritis, annular erythema, subcutaneous nodules	Often accompanied by a disturbance of consciousness
Assistant Examination	Mostly no special abnormalities, normal EEG, or with non-specific abnormalities, non-epileptic discharge waves. Intelligence tests normal	Elevated ESR, positive ASO	During attacks, multi-spike & slow wave, spike & slow wave, sharp slow wave on EEG

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

The key point of Tourette syndrome pattern identification involves eight-principle pattern identification combined with *zang-fu* pattern identification. The priority is mainly to distinguish yin from yang, and deficiency from excess. The symptomatic branch (*biao*) of Tourette's lies in wind, fire, phlegm and dampness, while the root-cause (*ben*) lies in the liver, spleen and kidney, with a particularly close relationship to the liver channel. The symptoms of Tourette's often involve three *zang* organs; the liver, spleen and kidney. At the same time there is often a concurrent deficiency-excess pattern with coexisting wind, fire, phlegm, dampness, and other multiple pathological progressions.

For those with liver qi stagnation transforming into fire, the early stage of the disease is often with signs of hyperactive liver yang manifesting as an excess pattern with red face and ears, irritability and impetuosity, and strong frequent tics. The tongue is red with a yellow coating.



For those with spleen deficiency and phlegm accumulation, the disease manifests with *ben*-spleen deficiency and *biao* excess, or a deficiency-excess complex. The clinical manifestations include a yellow complexion, emaciation, fullness in the chest, cough, and weak tics which stop from time to time. The tongue is pale with a white or greasy white coating.

In those with yin deficiency and wind flaring upward, there is liver and kidney insufficiency manifesting with emaciation, flushed cheeks, weak tics, and a red tongue with little to no coating.

► Treatment Principles

The basic treatment principle is to pacify the liver and extinguish wind. For constrained liver qi transforming into fire, the treatment is clear liver heat, drain fire, extinguish wind, and suppress fright. For spleen deficiency with phlegm accumulation the treatment principle is to fortify the spleen, dissolve phlegm, pacify the liver, and eliminate wind. For stirring of wind due to yin deficiency the treatment is to nourish yin, subdue hyperactive yang, soften the liver, and extinguish wind.

Apart from oral decoctions, acupuncture, moxibustion, and Chinese patent medicines are also commonly applied. In order to achieve an improved therapeutic effect, treatment should be coordinated with concurrent psychotherapy. If there are inadequate results, severe symptoms, or prolonged duration that impair daily life and study, Western medical treatment should be attempted.

► Classification of Patterns and Treatments

Constrained Qi Transforming into Fire

Signs and Symptoms

Manifestations include a red face and ears, irritability, a short temper, grimacing, frowning and blinking, opening and twisting of the mouth, head shaking and shoulder shrugging. The attacks are frequent with forceful tics with strange noises or obscene words, and there is constipation with scanty dark urine. The tongue is red with a yellow coating; the pulse is wiry and rapid.

Pattern Differentiation

The pattern is characterized by an abrupt onset and relatively short duration with red face and ears, irritability, a short temper and frequent forceful tics. The tongue is red with a yellow coating; there is a wiry rapid pulse. For those cases complicated with phlegm-fire, symptoms may include repetitive utterances of obscene words, swearing, moodiness, and restless sleep. The tongue is red with a yellow greasy coating; the pulse is slippery rapid.

Treatment Principles

Clear the liver, drain fire, extinguish wind, and suppress fright

Formula

Qīng Gān Dá Yù Tāng—Liver-Clearing Constraint-Expelling Decoction

梔子	zhī zǐ	Fructus Gardeniae
菊花	jú huā	Flos Chrysanthemi
牡丹皮	mǔ dān pí	Cortex Moutan

柴胡	<i>chái hú</i>	Radix Bupleuri
薄荷	<i>bò he</i>	Herba Menthae
青橘叶	<i>qīng jú yè</i>	Folium Citri Reticulatae
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
蝉蜕	<i>chán tuì</i>	Periostracum Cicadae
琥珀	<i>hǔ pò</i>	Succinum
茯苓	<i>fú líng</i>	Poria
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Zhī zǐ (Fructus Gardeniae), *jú huā* (Flos Chrysanthemi) and *mǔ dān pí* (Cortex Moutan) clear the liver and drain fire.

Chái hú (Radix Bupleuri), *bò he* (Herba Menthae) and *qīng jú yè* (Folium Citri Reticulatae) soothe the liver and relieve qi constraint.

Gōu téng (Ramulus Uncariae Cum Uncis), *bái sháo* (Radix Paeoniae Alba) and *chán tuì* (Periostracum Cicadae) pacify the liver and extinguish wind.

Hǔ pò (Succinum) and *fú líng* (Poria) calm the heart and mind.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For hyperactive liver fire, add *lóng dǎn cǎo* (Radix et Rhizoma Gentianae) to clear and drain liver fire.

For constipation, add *bīng láng* (Semen Arecae) and *guā lóu rén* (Semen Trichosanthis) to regulate qi and move stagnation.

For moodiness and phlegm in the throat, add *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii) and *zhú rú* (Caulis Bambusae in Taenia) to clear heat and dissolve phlegm.

Chinese Patent Medicines

a. *Dāng Guī Lóng Huì Wán*—Chinese Angelica Dragon Aloe Pill

6 g per 100 pills. 2-3 g, twice daily.

b. *Xiè Qīng Wán*—Green-Draining Pill

3-5 g, 2-3 times daily.

Acupuncture

a. Standard Acupuncture

LV 3 (<i>tài chōng</i>)	GB 20 (<i>fēng chí</i>)	DU 20 (<i>bǎi huì</i>)
EX-HN 3 (<i>yìn táng</i>)	ST 2 (<i>sì bái</i>)	ST 4 (<i>dì cāng</i>)
DU 26 (<i>shuǐ gōu</i>)	LV 2 (<i>xíng jiān</i>)	HT 7 (<i>shén mén</i>)

The drainage method is applied without needle retention. Treatment is given once daily; 5 times as one treatment course.

b. Ear Acupuncture

Subcortex (<i>pí zhì xià</i>)	Shen men (<i>shén mén</i>)	Heart (<i>xīn</i>)
Liver (<i>gān</i>)	Spleen (<i>pí</i>)	Kidney (<i>shèn</i>)

3-4 points from the above are selected for each treatment with embedded needles or *wáng bù liú xíng* (Semen Vaccariae). Press each point for 5 minutes, 2-3 times daily. Alternate ear points each treatment and administer acupuncture twice weekly.

c. Scalp Acupuncture

MS6 (<i>dǐng niè qián xié xiàn</i>)	MS1 (<i>é zhōng xiàn</i>)	MS5 (<i>dǐng zhōng xiàn</i>)
MS10 (<i>niè qián xiàn</i>)		

Filiform needles are inserted at these points and connected to an electric stimulator for 20 minutes. Treat once daily.

Spleen Deficiency with Phlegm Accumulation**Signs and Symptoms**

Manifestations include a yellow complexion, emaciation, poor spirit, chest tightness with cough, abnormal throat sounds, grimacing with frowning and blinking, mouth corner and limb tics, irregular bouts, eccentric temper, restless sleep, and poor appetite. The tongue is pale with a white or greasy white coating; the pulse is deep and slippery, or deep and moderate.

Pattern Identification

This type is characterized by a yellow complexion, emaciation, listlessness, chest tightness, poor appetite, a pale tongue with white or greasy white coating, and a slippery pulse.

Treatment Principles

Fortify the spleen, dissolve phlegm, pacify the liver and extinguish wind

Formula**Shí Wèi Wēn Dǎn Tāng—Ten Ingredients Gallbladder-Warming Decoction**

党参	<i>dǎng shēn</i>	Radix Codonopsis
茯苓	<i>fú líng</i>	Poria
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
枳实	<i>zhǐ shí</i>	Fructus Aurantii Immaturus
远志	<i>yuǎn zhì</i>	Radix Polygalae
枣仁	<i>zǎo rén</i>	Semen Ziziphi Spinosae
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
石决明	<i>shí jué míng</i>	Concha Haliotidis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Dǎng shēn (Radix Codonopsis) and *fú líng* (Poria) fortify the spleen and enhance transportation.

Chén pí (Pericarpium Citri Reticulatae) and *bàn xià* (Rhizoma Pinelliae) dry dampness and dissolve phlegm.

Zhǐ shí (Fructus Aurantii Immaturus) regulates qi and dissolves phlegm.

Yuǎn zhì (Radix Polygalae) and *suān zǎo rén* (Semen Ziziphi Spinosae) dissolve phlegm and calm the heart.

Gōu téng (Ramulus Uncariae Cum Uncis), *bái sháo* (Radix Paeoniae Alba) and *shí jué míng* (Concha Haliotidis) pacify the liver and extinguish wind.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For severe phlegm-heat, remove *bàn xià* (Rhizoma Pinelliae) and add *huáng lián* (Rhizoma Coptidis) and *guā lóu pí* (Pericarpium Trichosanthis) to clear heat and dissolve phlegm.

For poor appetite and anorexia, add *jiāo shén qū* (Scorch-fried Massa Medicata Fermentata), *chǎo mài yá* (dry-fried Fructus Hordei Germinatus) to regulate the spleen and increase appetite.

Chinese Patent Medicines

Hǔ Pò Bào Lóng Wán — Amber Hold Dragon Pill

1.8 g each pill. 1 pill, twice daily. Infants take 1/3 pill after melting, twice daily.

Acupuncture

a. Standard Acupuncture

LV 3 (<i>tài chōng</i>)	GB 20 (<i>fēng chí</i>)	DU 20 (<i>bǎi huì</i>)
EX-HN 3 (<i>yìn táng</i>)	ST 2 (<i>sì bái</i>)	ST 4 (<i>dì cāng</i>)
DU 26 (<i>shuǐ gōu</i>)	PC 6 (<i>nèi guān</i>)	ST 40 (<i>fēng lóng</i>)
ST 36 (<i>zú sǎn lǐ</i>)		

Apply filiform needles with supplementation for 5 minutes with or without needle retention. Treat once daily, with 5 times as one treatment course.

b. Ear Acupuncture

Subcortex (<i>pí zhì xià</i>)	Shen men (<i>shén mén</i>)	Heart (<i>xīn</i>)
Liver (<i>gān</i>)	Spleen (<i>pí</i>)	Kidney (<i>shèn</i>)

Select 3-4 points each time with embedded needles or use *wáng bù liú xíng* (Semen Vaccariae). Press each point for 5 minutes 2-3 times a day. Alternate ear points each treatment and administer acupuncture twice weekly.

c. Scalp Acupuncture

MS6 (<i>dǐng niè qián xié xiàn</i>)	MS1 (<i>é zhōng xiàn</i>)	MS5 (<i>dǐng zhōng xiàn</i>)
MS10 (<i>niè qián xiàn</i>)		

Apply filiform needles on the above points and connect to an electric stimulator for 20



minutes. Treat once daily.

Stirring of Wind Due to Yin Deficiency

Signs and Symptoms

Manifestations include emaciation, flushed cheeks, hot sensation in the palms and soles, impatience, speaking obscene words, grimacing with frowning and blinking, shrugging shoulders, shaking head, limb tremors, restless sleep, dry hard stools. The tongue is red and crimson with a peeled coating; the pulse is thready rapid.

Pattern Differentiation

This pattern is characterized by emaciation, red cheeks, a hot sensation in the palms and soles, a crimson red tongue with a peeled coating and a thready rapid pulse.

Treatment Principle

Enrich yin and subdue yang, soften the liver and extinguish wind.

Formula

Dà Dìng Fēng Zhū—Major Wind-Stabilizing Pill

龟板	<i>guī bǎn</i>	Plastrum Testudinis
鳖甲	<i>biē jiǎ</i>	Carapax Trionycis
生牡蛎	<i>shēng mǔ lì</i>	Concha Ostreae
生地	<i>shēng dì</i>	Radix Rehmanniae
阿胶	<i>ē jiāo</i>	Colla Corii Asini
鸡子黄	<i>jī zǐ huáng</i>	Egg Yolk
麦冬	<i>mài dōng</i>	Radix Ophiopogonis
麻仁	<i>má rén</i>	Fructus Cannabis
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Guī bǎn (Plastrum Testudinis), *biē jiǎ* (Carapax Trionycis) and *shēng mǔ lì* (Concha Ostreae) enrich yin and subdue yang.

Shēng dì (Radix Rehmanniae), *ē jiāo* (Colla Corii Asini), *jī zǐ huáng* (Egg Yolk), *mài dōng* (Radix Ophiopogonis), *má rén* (Fructus Cannabis) and *bái sháo* (Radix Paeoniae Alba) soften the liver and extinguish wind.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For restless heart and mind with palpitations, add *fú shén* (Sclerotium Poriae Paradicis), *gōu téng* (Ramulus Uncariae Cum Uncis) and *chǎo zǎo rén* (dry-fried Semen Ziziphi Spinosae) to nourish the heart and calm the mind.

For blood deficiency, add *hé shǒu wū* (Radix Polygoni Multiflori), *yù zhú* (Rhizoma Polygonati Odorati), *shā yuàn zǐ* (Semen Astragali Complanati) and *tiān má* (Rhizoma Gastrodiae) to nourish blood and soften the liver.

Chinese Patent Medicines

Qǐ Jú Dì Huáng Wán—Lycium Berry, Chrysanthemum and Rehmannia Pill



3-6 g, 2-3 times daily.

Acupuncture

a. Standard Acupuncture

LV 3 (<i>tài chōng</i>)	GB 20 (<i>fēng chí</i>)	DU 20 (<i>bǎi huì</i>)
EX-HN3 (<i>yìn táng</i>)	ST 2 (<i>sì bái</i>)	ST 4 (<i>dì cāng</i>)
DU 26 (<i>shuǐ gōu</i>)	BL 18 (<i>gān shù</i>)	BL 23 (<i>shèn shù</i>)
KI 3 (<i>tài xī</i>)		

Needle once daily without retention; 5 times as one treatment course.

b. Ear Acupuncture

Subcortex (<i>pí zhì xià</i>)	Shen men (<i>shén mén</i>)	Heart (<i>xīn</i>)
Liver (<i>gān</i>)	Spleen (<i>pí</i>)	Kidney (<i>shèn</i>)

Select 3-4 points each time with embedded needles or use *wáng bù liú xíng* (Semen Vaccariae). Press each point for 5 minutes, 2-3 times daily. Alternate ear points each treatment and administer acupuncture twice weekly.

c. Scalp Acupuncture

MS6 (<i>dǐng niè qián xié xiàn</i>)	MS1 (<i>é zhōng xiàn</i>)	MS5 (<i>dǐng zhōng xiàn</i>)
MS10 (<i>niè qián xiàn</i>)		

Apply filiform needles to the above points and connect to an electric stimulator for 20 minutes. Treat once daily.

[WESTERN MEDICINE TREATMENT]

a. Drug Treatment

Pharmacotherapy is mainly focused on controlling the symptoms of physical and vocal tics. Haloperidol is believed to act by blocking dopamine receptors. The starting dosage is 0.05 mg/kg/day divided into 2-3 doses per day. After 5-7 days, progressively increase the dosage to 0.1 mg/kg each time, 2-3 times per day until the desired effect is obtained and the symptoms are under control. The daily dose ranges from 2-8 mg in general. The most common side-effects are extrapyramidal reactions such as dyskinesia and tremors. If side effects appear, further upward titration of the dose should be suspended until the side-effects ease or disappear.

Tiapride is a new synthetic neuropsychic tranquilizer that blocks the dopamine receptor function perhaps in the basal ganglia. Though the anti-tic action of tiapride is slightly weaker than haloperidol, tiapride has fewer side-effects. The dosage is 4-8 mg/kg/day divided into 2-3 doses per day, with a maximum dosage of up to 300 mg a day.

b. Psychotherapy

The essentials of treatment include supportive psychological therapy and behavioral therapy for the affected child and medical advice for the parents. Through such treatment both affected children and their parents can put the disease into perspective, relieve

psychological stress, and also help with patient and family compliance.

[PREVENTION AND NURSING CARE]

1. PREVENTION

a. Parents are advised to address family education and socialization in a normal and positive manner, to monitor the child's psychological status, to maintain a routine lifestyle and cultivate beneficial daily life habits.

b. It is important to prevent overindulgence in spicy or barbecued foods and stimulating drinks.

2. NURSING CARE

a. Parents should show kindness and encouragement to help the child comprehend the disease in the right perspective in order to help relieve their psychological stress. Any kind of verbal or physical abuse should be prohibited.

b. The diet should be a bland, avoiding any excitatory or stimulating food or drink.

c. Ensure adequate rest. Avoid stressful, adventurous or stimulating television programs. TV, computers, and video games should not be used for long periods of time.

[CASE STUDIES]

► Case #1. Male, age 11. Initial Visit: 10/23/1997

The boy had been making involuntary grimacing movements with frowning, blinking, facial and mouth twitching, head nodding and shoulder shrugging for 5 months. When the symptoms first appeared his parents just considered it to be bad behavior. As the condition gradually worsened, they took him to see a neurologist in a local hospital and 2 months later he was diagnosed with Tourette syndrome. However, after three months of treatment his condition showed no obvious improvement. Therefore, he was send to this hospital.

He presented with the same symptoms mentioned above during the first visit. There was a red tongue with a thin yellow coating and a wiry thready and rapid pulse. He was diagnosed with Tourette syndrome associated with liver wind disturbing upward. The treatment principle here is to pacify the liver, extinguish wind, and calm the mind.

Formula

蝉蜕	<i>chán tuì</i>	10 g	Periostracum Cicadae
僵蚕	<i>jiāng cán</i>	10 g	Bombyx Batryticatus
菖蒲	<i>chāng pú</i>	10 g	Rhizoma Acori Tatarinowii
钩藤	<i>gōu téng</i>	12 g	Ramulus Uncariae Cum Uncis
栀子	<i>zhī zǐ</i>	12 g	Fructus Gardeniae
菊花	<i>jú huā</i>	12 g	Flos Chrysanthemi
白芍	<i>bái sháo</i>	12 g	Radix Paeoniae Alba
天竺黄	<i>tiān zhú huáng</i>	12 g	Concretio Silicea Bambusae



郁金	yù jīn	12 g	Radix Curcumae
茯苓	fú líng	15 g	Poria
龙齿	lóng chǐ	20 g	Dens Draconis (decocted first)
甘草	gān cǎo	6 g	Radix et Rhizoma Glycyrrhizae

The above ingredients were prescribed to be taken as a decoction, one bag per day for three days. After 3 doses, his tics had obviously reduced. The above formula was modified slightly according to symptoms. 20 doses more were taken, by which time he was symptom-free. Follow-up visits of more than one year showed no relapse.

Analysis

This case of Tourette syndrome belongs to the pattern of qi stagnation turning into fire. The treatment methods used were to clear liver-heat, drain fire, extinguish wind and calm the mind. A modification of *Qīng Gān Dá Yù Tāng*—Liver-Clearing and Constraint-Expelling Decoction was given.

Zhī zǐ (Fructus Gardeniae) and *jú huā* (Flos Chrysanthemi) clear liver heat and drain fire.

Shí chāng pú (Rhizoma Acori Tatarinowii) and *tiān zhú huáng* (Concretio Silicea Bambusae) resolve phlegm and open the orifices.

Yù jīn (Radix Curcumae) soothes the liver and relieves qi stagnation.

Gōu téng (Ramulus Uncariae Cum Uncis), *jiāng cán* (Bombyx Batryticatus), *bái sháo* (Radix Paeoniae Alba) and *chán tuì* (Periostracum Cicadae) pacify the liver and extinguish wind.

Lóng chǐ (Dens Draconis) and *fú líng* (Poria) calm the heart and mind.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Source: Xiao XT, Liu HX. Clinical Curative Effects & Observations of 46 Cases of Tourette Syndrome in Children Treated with Wind-Extinguishing and Mind-Calming Decoctions [J]. New Journal of Traditional Chinese Medicine, 2001; 33(10): 20.

► Case #2. Male, age 9.

The boy had presented with frequent facial muscle tics and blinking and was swearing and fighting with fellow students for more than half a year. There was also hyperactivity, poor concentration, attention-deficit disorder, an inability to obey class orders, and poor academic achievement. The symptoms were often made worse by psychological tension. Four months previously, he was diagnosed with Tourette syndrome and treated with large doses of Haloperidol and Artane for 3 months without a satisfactory curative effect. At his initial visit, his symptoms were the same as before. He had a red tongue with a thin white coating and a thready, wiry and rapid pulse.

Formula

炙鳖甲	zhì biē jiǎ	15 g	Carapax Trionycis Liquid (prepared) (decocted first)
龟板	guī bǎn	15 g	Plastrum Testudinis (decocted first)
生牡蛎	shēng mǔ lì	15 g	Concha Ostreae (decocted first)
白芍	bái sháo	15 g	Radix Paeoniae Alba

炙甘草	<i>zhì gān cǎo</i>	15 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
桂枝	<i>guì zhī</i>	5 g	Ramulus Cinnamomi
鸡子黄	<i>jī zǐ huáng</i>	One	Egg Yolk
全蝎	<i>quán xiē</i>	3 g	Scorpion
茯神	<i>fú shén</i>	10 g	Sclerotium Poriae Pararadicis
钩藤	<i>gōu téng</i>	10 g	Ramulus Uncariae Cum Uncis
阿胶	<i>ē jiāo</i>	10 g	Colla Corii Asini (melted in decoction)
石菖蒲	<i>shí chāng pú</i>	10 g	Rhizoma Acori Tatarinowii
丹参	<i>dān shēn</i>	10 g	Radix et Rhizoma Salviae Miltiorrhizae

The above formula was prescribed as a decoction of one dose per day for 7 days. After 7 doses, his motor and vocal tics and coprolalia were noticeably reduced. Because the formula was effective, it was repeated with slight modifications and over 30 doses were given to consolidate the curative effect. After that, the boy recovered. He maintained follow-up visits for half a year without any relapses.

Analysis

This case belongs to the pattern of internal wind stirring due to yin deficiency with yin failing to nourish the sinews and vessels.

Guī bǎn (Plastrum Testudinis), *biē jiǎ* (Carapax Trionycis) and *shēng mǔ lì* (Concha Ostreae) enrich yin and subdue yang.

Shēng dì huáng (Radix Rehmanniae), *ē jiāo* (Colla Corii Asini), *jī zǐ huáng* (Egg Yolk), *mài mén dōng* (Radix Ophiopogonis), *má rén* (Fructus Cannabis) and *bái sháo* (Radix Paeoniae Alba) soften the liver and extinguish wind.

Fú shén (Sclerotium Poriae Pararadicis), *gōu téng* (Ramulus Uncariae Cum Uncis), *shí chāng pú* (Rhizoma Acori Tatarinowii) and *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) nourish the heart and calm the mind.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Source: Li A.K. Prof. Liu Bi-chen, Treatment of Two Cases of Tourette Syndrome [J]. New Journal of Traditional Chinese Medicine, 1993; (2): 2.

[QUESTIONS]

1. A 9-year-old boy presents with frequent attacks of irritability, irascibility, grimacing movements with frowning and blinking, head shaking and shrugging of the shoulders, frequent and forceful tics, and making an occasional “keke” sound. He also has scanty dark urine. His tongue is red with a yellow coating; the pulse is wiry and rapid.

Which is the pattern in this case?

- A. Constrained qi transforming into fire
- B. Spleen deficiency with phlegm gathering
- C. Phlegm and blood stasis obstructing the collaterals

- D. Stirring of internal wind due to yin deficiency
- E. Spleen and kidney yang deficiency

2. A male patient, age 8. He developed some strange movements without reason such as involuntarily head shaking, stretching his neck, opening his mouth, and shaking his shoulders. He had poor concentration, reduced academic achievement, listlessness, general fatigue and a poor appetite. Bowel movements and urination were normal. His tongue was pale with a white greasy coating.

Which of the following formulas is appropriate for treatment?

- A. *Èr Chén Tāng*—Two Matured Substances Decoction
- B. *Dí Tán Tāng*—Phlegm-Flushing Decoction
- C. *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder
- D. *Qī Wèi Bái Zhú Sǎn*—Seven Ingredients Atractylodes Macrocephalae Powder
- E. *Shí Wèi Wēn Dǎn Tāng*—Ten-Ingredient Decoction for Clearing Gallbladder Heat

3. A female, age 7, presented with the following symptoms without any obvious causes. They included grimacing movements with frowning and blinking, shrugging her shoulders and shaking the head, twitching limbs, uttering obscene words, and irritability. On clinical examination she had a thin body, red cheeks, restless sleep and constipation. Her tongue was dark red with a peeled coating; the pulse was thready and rapid.

Which of the following therapeutic methods is most appropriate?

- A. Clear heat and drain fire, pacify the liver and extinguish wind
- B. Reinforce spleen and kidney, nourish the heart and calm the mind
- C. Nourish yin and subdue yang, soothe the liver and extinguish wind
- D. Strengthen the spleen and dissolve phlegm, pacify the liver and extinguish wind
- E. Nourish liver and kidney, nourish the heart and calm the mind

4. A male child, age 5, suffered for 5 months with symptoms of grimacing, frowning and blinking, facial muscle and mouth corner tics, nodding of the head and shrugging shoulders. Clinical examination showed a red face, blinking, frowning, opening and twisting of his mouth, making noises and saying obscene words, head shaking and shrugging shoulders. His tongue was red with a yellow coating; his pulse wiry and rapid.

Which formula is most appropriate?

- A. *Xiāo Yáo Sǎn*—Free Wanderer Powder
- B. *Qīng Gān Dá Yù Tāng*—Liver-Clearing and Constraint-Expelling Decoction
- C. *Xiè Qīng Wán*—Green-Draining Pill
- D. *Lóng Dǎn Xiè Gān Tāng*—Gentian Liver-Draining Decoction
- E. *Tiān Má Gōu Téng Yǐn*—Gastrodia and Uncaria Beverage

5. A male, age 13. For 6 months he presented with grimacing movements, frowning and blinking, shrugging shoulders and head shaking, limb tics, uttering of obscene words, tidal fever at night, a hot sensation in the palms and soles, irritability, and disturbed sleep. His tongue is red with minimal coating; the pulse wiry, thready and rapid.

Which formula of the following is the best choice?

- A. *Xiè Qīng Wán*—Green-Draining Pill



- B. *Wēn Dǎn Tāng*—Gallbladder-Warming Decoction
- C. *Qīng Gān Dá Yù Tāng*—Liver-Clearing and Constraint-Expelling Decoction
- D. *Dà Dīng Fēng Zhū*—Major Wind-Stabilizing Pill
- E. *Shí Wèi Wēn Dǎn Tāng*—Ten Ingredients Gallbladder-Warming Decoction

[REFERENCES]

- [1] Wang XF. Integrated Chinese and Western Medicine Pediatrics [M]. Beijing: Chinese TCM Publisher, 2005: 177.
- [2] Liu ZS. Highlights of the 3rd International Conference on Tourette Syndrome [J]. Journal of Practical Clinical Pediatrics, 2000, 15 (6): 344-345.
- [3] ALibin RL. Recent Research Advances in Tourettes Syndrome [J]. Tends Neurosci, 2006; 29 (3): 178.
- [4] Wang SM, Wu LQ, Cui X, et al. Treating 285 Cases of Tourette Syndrome with the Methods of Pacifying the Liver and Fortifying the Spleen [J]. Liaoning Journal of Traditional Chinese Medicine, 2006, 33(11): 1431.

Chapter 24

Infantile Convulsions (*Jīng Fēng*)

Infantile convulsions are a common, acute and serious disorder clinically marked by seizures and unconsciousness that may occur as a result of many pediatric conditions, with a high incidence among infants and young children aged one to 5 years old. The major clinical manifestations experienced during convulsions are classified into eight different types, i.e., “eight manifestations of infantile convulsions” as termed by ancient physicians: *chù* (convulsions of the limbs), *nuò* (convulsions of the fingers), *chè* (twitching of the shoulders and arms), *chàn* (body tremors), *fǎn* (opisthotonos), *yǐn* (arms extended like a bow), *cuàn* (blinking eyes) and *shì* (staring eyes).

Infantile convulsions are divided into acute and chronic types; the former belongs to a yang / excess pattern marked by sudden onset, while the latter belongs to a yin / deficiency pattern involving a deficiency of middle qi due to prolonged disease. If chronic infantile convulsions show critical symptoms of pure yin without yang, this is termed “*màn pí fēng*” (chronic convulsions due to spleen disorder). Since ancient times, convulsive disorders have been determined as one of the four main pediatric conditions, and acute convulsions are still commonly encountered clinically. In countries with improved socio-economic development, most patients with acute convulsions can be diagnosed early and receive appropriate treatment, which leads to a significantly decreased incidence of chronic convulsive conditions.

Table 24-1 Differential Diagnosis of Acute Convulsions and Chronic Convulsions

	Onset	Course of Disease	Eight Signs	Nature of Disease
Acute Convulsions	Sudden	Short	Rapid, powerful, strong	Usually yang patterns of heat & excess
Chronic Convulsions	Slow	Long	Slow, feeble tremors	Usually yin patterns of cold & deficiency

In Western medicine, convulsive/seizure disorders are common emergency conditions in pediatric clinical practice occurring often during the course of many primary diseases, and there are many possible causes involved, often complex.

Seizures accompanied by fever are mostly caused by infection, including intracranial infectious diseases such as meningitis, encephalitis and brain abscess, and also extracranial infectious diseases such as toxic bacillary dysentery, toxic pneumonia, and septicemia that can result in toxic encephalopathy.

Convulsive seizures not accompanied by fever are generally caused by non-infectious diseases. These can be intracranial diseases, more common in head injury and hemorrhages, congenital malformations, and structural lesions of the nervous system such as intracranial space-occupying lesions, etc. Other diseases involving this type of seizure include extracranial diseases such as hypoxic ischemic encephalopathy, metabolic disturbances such as severe dehydration, low blood sugar (hypoglycemia) and low blood calcium, genetic metabolic diseases, drug toxicity, and food poisoning. This type can also occur during the



convalescence stage in various types of encephalitis, meningitis and toxic encephalopathy.^[1]

Febrile seizures are one of the most common emergency complaints in the general pediatric population. 3%-4% of children have at least one occurrence of a febrile seizure. The seizures are age-dependent, usually occurring in 2%-5% of children between the ages of 6 months and 5 years old, rarely appearing prior to 6 months or after 6 years of age. The causes and pathogenesis of febrile seizures are unknown. However, because infants and young children are in a period of strong growth with an undeveloped central nervous system, there is poor control of the cerebral cortex and relatively weak inhibition processes, which frequently can lead to overstimulation. Fever can increase the excitability of the central nervous system; high fevers are especially prone to provoking convulsions in infants and young children.

During fever, the general body temperature is between 38-39°C. When greater than 39°C the child is likely to appear restless, have delirious speech, hallucinate and even have hand and feet spasms. Serious cases may show general tonic convulsions with the eyes suddenly turning upward, trismus, and unconsciousness. A febrile seizure can be diagnosed only after other causes have been excluded.

The recurrence rate of febrile convulsions is very high and has been reported to be 15%-70%.^[2] The single most important factor in predicting recurrence is the age of the child at the first seizure. The younger the child has the initial attack, the more likely they are to have a relapse. There are more recurrences in girls than in boys. As time progresses, the recurrences will gradually reduce, but special attention is needed to prevent a recurrence taking place within two and a half years of the first seizure attack. Recurrent febrile seizures can cause brain damage and mental retardation; the more frequent the attacks, the greater the brain damage will be. If febrile seizures are not well-controlled, there is an increased risk of developing epilepsy; any child with a febrile seizure requires close observation and follow-up in order to instigate appropriate prevention and treatment.

Diseases that cause acute convulsions are mostly infectious and mainly viral. At present there are very few Western anti-viral drugs, and these have certain side effects and limited clinical applications. Chinese medicine in this regard has obvious advantages, and the application of medicinal injections in recent years has made up for the reduced efficacy of other options when treating acute conditions.

Shang Li-li et al. applied *Xiǎo Ér Huí Chūn Dān*—Children's Return-of-Spring Elixir on rats to prevent febrile seizures. The results showed that the group taking *Xiǎo Ér Huí Chūn Dān* and the group taking valium were both able to reduce the rats' incidence of seizures, prolong the seizure incubation period, and slow the rate of increase of rectal temperature ($P < 0.01$ or $P < 0.05$) associated with febrile seizures with a significant preventive effect^[3].

Li Jun-fang et al. treated 51 cases of infantile febrile seizures by comprehensive treatment using acupuncture points DU 26 (*rén zhōng*) and if necessary KI 1 (*yǒng quán*) as well as taking Chinese medicinals for clearing heat and extinguishing wind to prevent seizure recurrence on awakening. Results: 90.2% of the children had stopped convulsions within one minute, and 96.1% of children were able to check the convulsion occurrences by varying degrees. Conclusion: Immediate primary use of acupuncture was a reasonably successful technique to stop seizures, while taking Chinese medicinals to clear heat and extinguish wind could reduce recurrence^[4].



Section 1 Acute Infantile Convulsions (*Jí Jīng Fēng*)

Acute infantile convulsions with sudden onset are more common in externally-contracted febrile diseases, and they are characterized by the four patterns of heat, phlegm, fright and wind. They often present with high fever, convulsive seizures and unconsciousness as the main clinical symptoms, and are often caused by invasion of seasonal pathogens, accumulation of damp-heat internally and sudden attack of fright and nervousness.

[ETIOLOGY & PATHOMECHANISM]

External Contraction of Seasonal Pathogens

Seasonal pathogens include six pathogenic factors and pestilence. If the weather suddenly alternates between cold and warm in winter and spring, children are liable to be invaded by wind-cold pathogens or wind-heat pathogens due to their delicate skin and muscles and weak defensive qi.

The external pathogens invade through the skin and muscle or from the mouth and the nose, transmit easily and change, constraining and transforming into heat; and this extreme heat produces wind. Children have weak original qi and insufficient true yin, so they are likely to be invaded by summer-heat pathogens, which belong to yang. These can then transform quickly into fire, transmitting and changing rapidly, inwardly invading the *jue yin* and stirring liver wind.

Summer-heat pathogens are usually accompanied by dampness, dampness accumulation and steaming heat transforming into turbid phlegm and clouding the heart orifice. When the phlegm moves, it generates wind. If invaded by pestilence, there will be sudden onset, transforming into heat and fire with reversing and transmitting into the pericardium to develop extreme fire generating wind.

Internal Accumulation of Damp-Heat

Exposure to toxins through ingesting dirty or toxic food cause the damp-heat epidemic toxins to accumulate in the intestines and bowels, inwardly invade the heart and liver and disrupt the mind, leading to dysentery with foul smelling stools, high fever, fainting, and persistent convulsions. The worse cases can have cold limbs and a hidden pulse, with cold exhaled air from the nose and mouth and mottled skin.

Sudden Exposure to Fright and Nervousness

Children have insufficient original qi and weak spirit qi, so if they unexpectedly see strange things, or suddenly hear extraordinary sounds, or carelessly fall down and have a sudden attack of fright, they become fearful. This fright then causes qi to be disordered and fear causes qi to sink, leading to the heart failing to keep its abode and the spirit failing to keep its attachment. In mild cases they have a restless mind, are anxious and twitching, while in severe cases the heart spirit fails to govern, there is congesting of phlegm-drool and this stirs up liver wind causing infantile convulsions.

In short, the nature of acute infantile convulsions belongs to heat, excess and yang, the main illness locations are in the heart and liver. Heat, phlegm, fright and wind are the center of pathogenesis and the main clinical manifestations.

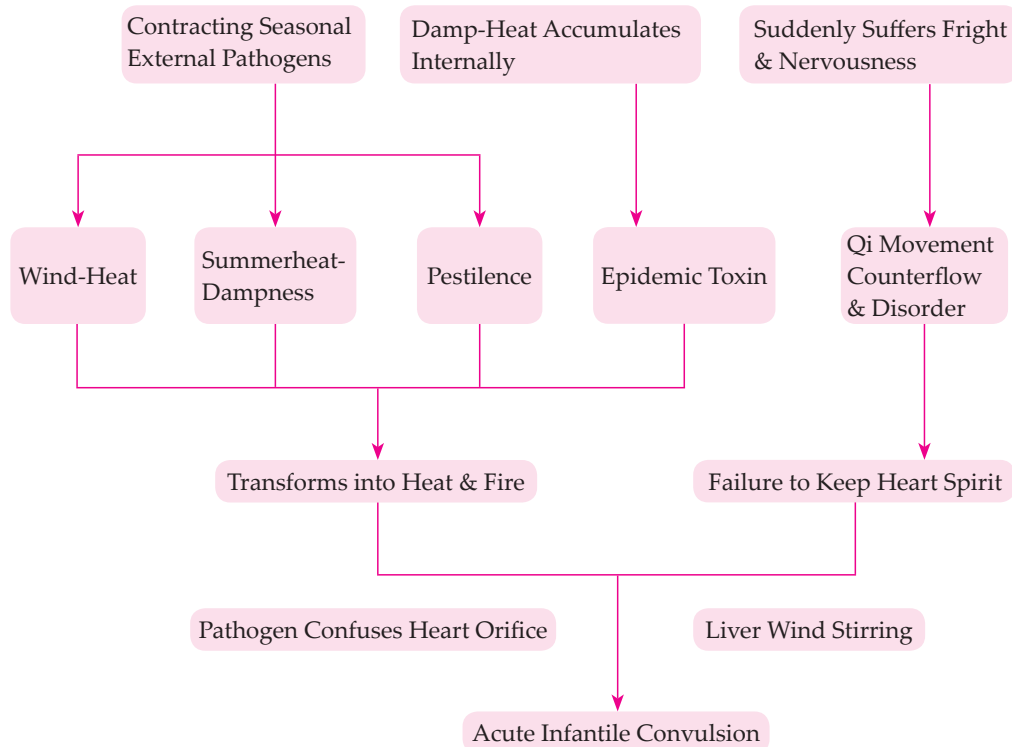


Fig. 24-1 Etiology and Pathomechanisms of Acute Infantile Convulsions

[CLINICAL DIAGNOSIS]**► Essentials of Diagnosis**

- More common in infants and young children under 3 years old, gradually reduced after 5 years of age.
- Sudden onset and exhibiting the four syndromes of acute infantile convulsions such as heat, phlegm, fright and wind; and the eight manifestations of infantile convulsions (more than three manifestations occur). The main clinical manifestations are convulsions of the four limbs, neck rigidity, opisthotonos and mental confusion.
- There is a history of exposure to epidemic toxins or a history of sudden fear and fright.
- There is an obvious primary disease, such as common cold, pneumonia with dyspnea and cough, epidemic toxic dysentery, epidemic parotitis/mumps, epidemic encephalitis B and so on. Neurological examinations show that the pathological reflex is positive in patients with central nervous system infections.
- Laboratory studies should be undertaken selectively depending on the results of the clinical assessments. If necessary, do routine stool tests, stool bacterial culture, blood culture or cerebrospinal fluid examination to help make the diagnosis.

► Differential Diagnosis

The disease needs to be differentiated from epilepsy. See Table 24-2.

Table 24-2 Differential Diagnosis between Acute Infantile Convulsions and Epilepsy

Differentiation Essentials	Acute Infantile Convulsion	Epilepsy
History	Often has history of infection	Often has history of repeated attacks, & relevant family history
Age of Onset	Any age, more common under 5 years old	Any age, more common in older children
Fever	Present	Generally absent
Clinical Manifestations	Could have prodromes during attack; convulsions & coma, somnolence, vexation & agitation, vomiting & delirium	Suddenly throwing themselves around, unconsciousness, limbs convulsing, frothing at the mouth or with animal noises, a minute later, convulsions stop, mental state is normal, episodes come in various forms
Number of Attacks	Many times, but febrile seizures will have only one seizure during a febrile illness	Repeated many times
Pathological Signs of Nervous System	Positive or negative	Negative
Laboratory Examinations	Examination of cerebrospinal fluid could show normal or abnormal, EEG mostly shows normal	Examination of cerebrospinal fluid could show normal, EEG shows epileptiform waves

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

a. Identify the premonitory symptoms of acute infantile convulsions.

Even though the acute infantile convulsions occur abruptly, they often have the premonitory symptoms of fever, vomiting, vexation and agitation, shaking head and wiggling tongue, or grinding teeth, often crying with fear, or coma and somnolence before the onset. But the premonitory symptoms only last for a short time, so they should be carefully observed in order to accurately define the disease.

b. Identify infantile convulsions due to external contraction; distinguish the season and its primary diseases.

With regards to the six pathogenic factors causing the disease, spring warmth is the major one in spring and is concurrently associated with fire-heat. It often presents with symptoms of high fever, convulsions, coma, vomiting and eruptions. Summer-heat is the major one in summer and is inevitably accompanied by dampness. Summer patterns are likely to involve the heart; the main symptoms are high fever, coma and are concurrently associated with seizures often manifesting with the three syndromes of heat, phlegm and wind.

If it is summer and the patient presents with high fever, convulsions and coma, diarrhea with pus and bloody stools, this is damp-heat epidemic toxin with inward invasion into the



jueyin channels.

c. Identify heat, phlegm and wind patterns

Identify exterior heat and interior heat.

Exterior heat patterns can be identified; if coma and convulsions are transient and resolve by themselves after the fever has dropped, they are often caused by exterior heat. Persistent high fever, repeated convulsions and coma are often caused by interior heat.

Identify phlegm-heat, phlegm-fire and phlegm-turbidity.

They can be identified by the following symptoms. If there is mental confusion, coma, high fever and rales, this is caused by phlegm-heat clouding upwards to the clear orifices. If there is delirium and excessive agitation with restlessness, it is caused by phlegm-fire harassing upwards to the clear facial orifices, and if there is deep coma and somnolence with no movement, this is caused by a turbid-phlegm inward invasion of the pericardium confusing the heart spirit.

Identify external wind and internal wind.

For external wind patterns, the pathogen is lodged in the fleshy exterior, so this can be treated and relieved by clearing, expelling, ventilating and releasing the muscle. As the febrile seizures are transient, the convulsions will be relieved when the fever has dropped. In internal wind patterns, the location of the illness lays in the heart and liver, and it often combines with heat, phlegm and wind syndromes. This presents with the symptoms of repeated convulsions and unconsciousness.

d. Identify mild and severe cases

Generally the mild cases can be classified if they are characterized by a single convulsion of less than 5 minutes (and do not occur in a series that has a total duration greater than 5 minutes), do not have significant focal features, and have not disturbed the consciousness after the attack. In severe cases there are more attacks (2 or more episodes), or longer lasting convulsions and focal and mental confusion after the original attack. This is especially applicable when there is a persistent high fever and repeated series of convulsions; the primary disease should always be identified. By analyzing the clinical data, the clinician should be able to decide the origin of the seizure and instigate a treatment as soon as possible to control the seizure onset; otherwise, the condition may become life threatening.

► **Treatment Principles**

a. Treatment of acute infantile convulsions should follow the principles of initially “treat the branch (secondary) symptoms during an emergency and then treat the root (primary) symptoms when there is less urgency”. Infantile convulsion attacks require effective first aid measures. If necessary, anti-convulsing treatments with Western medicine are combined to quickly relieve the convulsions.

b. In response to the main patterns of heat, phlegm, fright and wind, the basic treatment principles are to clear heat, eliminate phlegm, suppress fright and extinguish wind. For severe heat, first clear heat; for phlegm congestion, eliminate phlegm; for severe fright, suppress fright and calm the mind; for wind exuberance, quickly extinguish wind. However, the heat of acute infantile convulsions can be either external heat or internal heat patterns, and phlegm can be phlegm-fire and turbid-phlegm patterns. Wind can be exterior

wind or interior wind patterns, while in fright patterns there is a deficiency pattern with the symptoms of fear and panic with trembling, and the excess pattern with the symptoms of startled jumps and howling.

Therefore, the different clearing heat methods are to release the muscles and expel pathogens through the exterior, or remove toxins with bitter cold medicinals. To eliminate phlegm, the method can be to open the orifices with aromatics or to clear heart-heat and phlegm. The treatment to suppress fright can be to pacify the liver and suppress fright, or nourish blood and calm the mind. Wind can be treated by dispelling exterior wind or extinguishing interior wind.

c. In the treatment principles of acute infantile convulsions, aside from the actions which extinguish wind and suppress fright, it is also important to treat the primary disease, distinguish between primary and secondary, give treatment with a combination of pattern differentiation and disease differentiation, and treat the root and branch simultaneously.

► Classifications of Patterns and Treatments

Wind-Heat Generating Wind

Signs and Symptoms

Manifestations include acute onset, fever, headache, nasal congestion, runny nose, cough, and sore throat, followed by vexation and agitation, loss of consciousness and convulsions. The tongue has a thin and white coating or thin and yellow coating; the pulses are floating and rapid.

Pattern Differentiation

While this pattern is common in children less than 5 years old, this is most common under 3 years of age. Generally the symptoms of wind-heat exterior patterns occur first, followed soon after by convulsive seizures which appear briefly. The body temperature is often above 38.5 °C, and the convulsions often occur as the temperature is rising. There is usually only one convulsion during a febrile disease, with two attacks being rare.

Treatment Principles

Scatter wind and clear heat, extinguish wind and check convulsions

Formula

Modified *Yín Qiào Sǎn*—*Lonicera and Forsythia Powder*

金银花	<i>jīn yín huā</i>	Flos <i>Lonicerae Japonicae</i>
连翘	<i>lián qiào</i>	Fructus <i>Forsythiae</i>
薄荷	<i>bò he</i>	Herba <i>Menthae</i>
荆芥穗	<i>jīng jiè suì</i>	Spica <i>Schizonepetae</i>
防风	<i>fáng fēng</i>	Radix <i>Saposhnikoviae</i>
牛蒡子	<i>niú bàng zǐ</i>	Fructus <i>Arctii</i>
钩藤	<i>gōu téng</i>	Ramulus <i>Uncariae Cum Uncis</i>
僵蚕	<i>jiāng cán</i>	<i>Bombyx Batryticatus</i>
蝉蜕	<i>chán tuì</i>	<i>Periostracum Cicadae</i>

**Formula Analysis**

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *bò he* (Herba Menthae), *jīng jiè suì* (Spica Schizonepetae), *fāng fēng* (Radix Saposhnikoviae) and *niú bàng zǐ* (Fructus Arctii) scatter wind and clear heat.

Gōu téng (Ramulus Uncariae Cum Uncis), *jiāng cán* (Bombyx Batryticatus) and *chán tuì* (Periostracum Cicadae) extinguish wind and check convulsions.

Modifications

For persistent high fever, add *shēng shí gāo* (Gypsum Fibrosum) and powdered *líng yáng jiǎo* (Cornu Saigae Tataricae), mixed with water to clear heat and extinguish wind.

For throat rales, add *tiān zhú huáng* (Concretio Silicea Bambusae) and *guā lóu pí* (Pericarpium Trichosanthis) to clear heat and dissolve phlegm.

For sore throat and hard stools, add *shēng dà huáng* (Radix et Rhizoma Rhei) and *huáng qín* (Radix Scutellariae) to clear heat and drain fire.

For severe convulsions and unconsciousness, add *Xiǎo Ér Huí Chūn Dān*—Children's Return-of-Spring Elixir to clear heat and relieve convulsions.

Chinese Patent Medicines

Xiǎo Ér Huí Chūn Dān—Children's Return-of-Spring Elixir

One pill for children less than 1 year old; 2 pills for 1-2 years old; take 2 or 3 times daily.

Acupuncture

DU 26 (<i>rén zhōng</i>)	LI 4 (<i>hé gǔ</i>)	LV 3 (<i>tài chōng</i>)
DU 14 (<i>dà zhuī</i>)	EX-UE 11 (<i>shí xuān</i>)	

Needle all points with drainage, retain the needles for 5-15 minutes or do not retain the needle.

Treat once or twice daily, with 3 times as one treatment course.

Both Qi and Ying Blazing**Signs and Symptoms**

This pattern is more common in midsummer manifesting with acute onset, high fever with profuse sweating, headache, neck rigidity, nausea, vomiting, vexation, agitation, somnolence, convulsions, thirst and constipation. The tongue is red with a yellow coating and the pulse is wiry and rapid. For children with a severe condition, there is persistent high fever, repeated convulsions and mental confusion. The tongue is red with a yellow and greasy coating and the pulse is slippery and rapid.

Pattern Differentiation

This pattern often occurs in the summer, but can also be seen in spring, autumn and winter. The symptoms present as persistent high fever, headache, and neck rigidity. Mental confusion is common and associated with nausea and vomiting. Patients with severe summer-heat often present with high fever, profuse sweating which does not relieve the fever, and vexation and agitation with thirst; severe summer-dampness often causes somnolence, mental confusion, nausea and vomiting, and a tongue with a greasy coating.

Treatment Principles

Clear heat from the qi level and cool the ying level, extinguish wind and open the orifices

Formula**Modified *Qīng Wēn BÀI Dú Yǐn*—Epidemic-Clearing Toxin-Resolving Beverage**

生石膏	<i>shēng shí gāo</i>	Gypsum Fibrosum
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
连翘	<i>lián qiào</i>	Fructus Forsythiae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
黄芩	<i>huáng qín</i>	Radix Scutellariae
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
玄参	<i>xuán shēn</i>	Radix Scrophulariae
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
水牛角	<i>shuǐ niú jiǎo</i>	Cornu Bubali
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
羚羊角	<i>líng yáng jiǎo</i>	Cornu Saigae Tataricae (mix with water)
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
僵蚕	<i>jiāng cán</i>	Bombyx Batryticatus

Formula Analysis

Shēng shí gāo (Gypsum Fibrosum), *zhī mǔ* (Rhizoma Anemarrhenae), *lián qiào* (Fructus Forsythiae), *zhī zǐ* (Fructus Gardeniae) and *huáng qín* (Radix Scutellariae) clear heat from the qì level.

Chì sháo (Radix Paeoniae Rubra), *xuán shēn* (Radix Scrophulariae), *shēng dì huáng* (Radix Rehmanniae), *shuǐ niú jiǎo* (Cornu Bubali) and *mǔ dān pí* (Cortex Moutan) clear heat from the yīng level to preserve fluids.

Powdered *líng yáng jiǎo* (Cornu Saigae Tataricae), *gōu téng* (Ramulus Uncariae Cum Uncis) and *jiāng cán* (Bombyx Batryticatus) extinguish wind and relieve convulsions.

Modifications

For deep coma, add *Niú Huáng Qīng Xīn Wán*—Bovine Bezoar Heart-Clearing Pill or *Zǐ Xuě Dān*—Purple Snow Elixir to extinguish wind and open the orifices.

For constipation and hard stools, add *dà huáng* (Radix et Rhizoma Rhei) and *xuán míng fěn* (Natrii Sulfas Exsiccatus) to unblock the bowels and discharge heat.

For vomiting, add *bàn xià* (Rhizoma Pinelliae) and *Zǐ Jīn Dìng*—Purple Gold Troch (taken as an infusion) to descend adverse qì and check vomiting.

Single Medicinal

Líng Yáng Jiǎo Fěn—Antelope Horn Powder

Mix with boiled water and take 0.3-0.6 g.

Acupuncture

Same method as the previous section.

Pathogens Invading Inward into the Heart and Liver**Signs and Symptoms**

There is a sudden onset, persistent high fever, vexation and agitation with thirst,



delirium, coma, repeated convulsions and eyes staring upward. The tongue is red with a yellow and greasy coating; the pulse is rapid.

Pattern Differentiation

When there are sudden outbreaks of epidemic diseases, they spread rapidly through the population easily infecting a large proportion of people. This pattern is characterized by acute onset with symptoms of fever, loss of consciousness and convulsions. If the epidemic toxins mainly invade the heart, there is delirious speech and loss of consciousness. If toxins mainly invade the liver, there are repeated convulsions. This pattern mainly presents with fright and wind syndromes, while heat and phlegm syndromes may be serious or mild.

Treatment Principles

Clear heart heat and open the orifices, pacify the liver and extinguish wind

Formula

Modified *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction

羚羊角	<i>líng yáng jiǎo</i>	Cornu Saigae Tataricae
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
僵蚕	<i>jiāng cán</i>	Bombyx Batryticatus
菊花	<i>jú huā</i>	Flos Chrysanthemi
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii
川贝母	<i>chuān bèi mǔ</i>	Bulbus Fritillariae Cirrhosae
广郁金	<i>guǎng yù jīn</i>	Radix Curcumae
龙骨	<i>lóng gǔ</i>	Os Draconis
胆南星	<i>dǎn nán xīng</i>	Arisaema cum Bile
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
黄芩	<i>huáng qín</i>	Radix Scutellariae

Formula Analysis

Líng yáng jiǎo (Cornu Saigae Tataricae), *gōu téng* (Ramulus Uncariae Cum Uncis), *jiāng cán* (Bombyx Batryticatus) and *jú huā* (Flos Chrysanthemi) extinguish wind and relieve convulsions.

Shí chāng pú (Rhizoma Acori Tatarinowii), *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae), *guǎng yù jīn* (Radix Curcumae), *lóng gǔ* (Os Draconis) and *dǎn nán xīng* (Arisaema cum Bile) eliminate phlegm to clear heart heat.

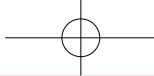
Zhī zǐ (Fructus Gardeniae) and *huáng qín* (Radix Scutellariae) clear heat and resolve toxins.

Modifications

For serious convulsions and unconsciousness, add *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill to clear heart heat and open the orifices.

For constipation, add *dà huáng* (Radix et Rhizoma Rhei) and *lú huì* (Aloe) to unblock the bowels and discharge heat.

For severe headache, add *shí jué míng* (Concha Haliotidis) and *lóng dǎn cǎo* (Radix et



Rhizoma Gentianae) to pacify the liver and reduce fire.

Chinese Patent Medicines

Ān Gōng Niú Huáng Wán—Peaceful Palace Bovine Bezoar Pill

1/4 pill for children under 1 year old; 1/2 pill for 2-3 years old, taken twice daily.

Tui na

Points	Repetitions	Methods
<i>Liù fǔ</i> (六腑)	200	Pushing
<i>Tiān hé shuǐ</i> (天河水)	100	Clearing

For high fever, push *liù fǔ* (六腑) 200 times and clear *tiān hé shuǐ* (天河水) 100 times.

Points	Repetitions	Methods
<i>Lǎo Lóng</i> (老龙)	5	Twisting
BL 40 (<i>wěi zhōng</i>)	10	Pinching

For coma, twist *Lǎo Lóng* (老龙) 5 times, pinch BL 40 (*wěi zhōng*) 10 times.

Points	Repetitions	Methods
DU 26 (<i>shuǐ gōu</i>)	5	Pinching
LI 11 (<i>qū chí</i>)	15	Grasping

For convulsions, pinch DU 26 (*shuǐ gōu*) 5 times, and grasp LI 11 (*qū chí*) 15 times.

Damp-Heat Epidemic Toxin

Signs and Symptoms

Manifestations include a persistent high fever, repeated convulsions, loss of consciousness, delirium, abdominal pain, vomiting, and sticky stools or stools containing pus and blood. The tongue is red with a yellow greasy coating; the pulse is slippery and rapid.

Pattern Differentiation

This pattern is more common in summer and autumn, often caused by dirty food or drink or contraction of damp-heat epidemic toxins. The first signs of illness are high fever followed by rapid loss of consciousness and repeated convulsions. In the early stage there may be no stools or normal stools. Stools can be checked through enema or by removing stools from the anus to determine if they contain pus and blood. In some cases, pus and bloody stools may appear in the later stages.

Treatment Principles

Clear heat and resolve dampness, resolve toxins and extinguish wind

Formula

Modified *Huáng Lián Jiě Dú Tāng*—Coptis Toxin-Resolving Decoction with *Bái Tóu Wēng Tāng*—Pulsatilla Decoction

黄连	<i>huáng lián</i>	Rhizoma Coptidis
黄柏	<i>huáng bǎi</i>	Cortex Phellodendri Chinensis

栀子	zhī zǐ	Fructus Gardeniae
黄芩	huáng qín	Radix Scutellariae
白头翁	bái tóu wēng	Radix Pulsatillae
秦皮	qín pí	Cortex Fraxini
马齿苋	mǎ chǐ xiàn	Herba Portulacae
羚羊角	líng yáng jiǎo	Cornu Saigae Tataricae (mixed with water)
钩藤	gōu téng	Ramulus Uncariae Cum Uncis

Formula Analysis

Huáng lián (Rhizoma Coptidis), *huáng bǎi* (Cortex Phellodendri Chinensis), *zhī zǐ* (Fructus Gardeniae) and *huáng qín* (Radix Scutellariae) clear heat, drain fire and resolve toxins.

Bái tóu wēng (Radix Pulsatillae), *qín pí* (Cortex Fraxini) and *mǎ chǐ xiàn* (Herba Portulacae) clear the intestines and resolve dampness.

Powdered *líng yáng jiǎo* (Cornu Saigae Tataricae) (mixed with water) and *gōu téng* (Ramulus Uncariae Cum Uncis) extinguish wind and relieve convulsions.

Modifications

For serious vomiting and abdominal pain, add *Zǐ Jīn Dìng*—Purple Gold Troch mixed with water to dispel turbidity, resolve toxins and relieve vomiting.

For marked stools containing pus and blood, administer *shēng dà huáng*—Rhubarb Root and Rhizome decoction as an enema to clear the intestines and discharge toxins.

If this pattern appears with the symptoms of internal blockage and external collapse manifesting as pale complexion, unresponsive spirit, shallow breathing and shortness of breath, cold reversal of the hands and feet, and faint and thready or a barely perceptible pulse; then select *Shēn Fù Lóng Mǔ Jiù Nì Tāng*—Ginseng, Aconite, Dragon Bone and Oyster Shell Collapse-Saving Decoction or *Shēn Fù Zhù Shè Yè*—Ginseng and Aconite Injection intravenously dripped to restore yang and stop collapse. Western medicine treatment should be applied if necessary.

Acupuncture

DU 26 (<i>rén zhōng</i>)	ST 40 (<i>fēng lóng</i>)	LI 4 (<i>hé gǔ</i>)
PC 6 (<i>nèi guān</i>)	HT 7 (<i>shén mén</i>)	LV 3 (<i>tài chōng</i>)
LI 11 (<i>qū chí</i>)		

Needle all points with drainage, retain for 20-30 min or do not retain the needles.

Treat once or twice daily, with 3 times as one treatment course.

Convulsions due to Fright and Fear

Signs and Symptoms

Manifestations include fright with restlessness after sudden attacks of fright and fear, a trembling body, preferring to be held close, and frightened cries at night or night terrors, possible convulsions, mental confusion and bluish-green stools. The pulse is irregular; the venules are purple and stagnant.

Pattern Differentiation

In this pattern there is a history of fright with nervousness, timidity, and easily being

startled. On the basis of the original seizure disorder, the seizures can be accompanied by fright or become exacerbated. Characterized mainly by fright and trembling, preferring to be held close, frightened crying at night or night terrors.

Treatment Principles

Suppress fright and calm the mind, pacify the liver and extinguish wind

Formula

Modified *Hǔ Pò Bào Lóng Wán*—Amber Hold Dragon Pill

琥珀	<i>hǔ pò</i>	Succinum
远志	<i>yuǎn zhì</i>	Radix Polygalae
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii
胆南星	<i>dǎn nán xīng</i>	Arisaema cum Bile
天竺黄	<i>tiān zhú huáng</i>	Concretio Silicea Bambusae
人参	<i>rén shēn</i>	Radix et Rhizoma Ginseng
茯苓	<i>fú líng</i>	Poria
全蝎	<i>quán xiē</i>	Scorpio
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
石决明	<i>shí jué míng</i>	Concha Haliotidis

Formula Analysis

Hǔ pò (Succinum) and *yuǎn zhì* (Radix Polygalae) suppress fright and calm the mind.

Shí chāng pú (Rhizoma Acori Tatarinowii), *dǎn nán xīng* (Arisaema cum Bile) and *tiān zhú huáng* (Concretio Silicea Bambusae) eliminate phlegm to open the orifices (resuscitate).

Rén shēn (Radix et Rhizoma Ginseng) and *fú líng* (Poria) fortify the spleen and boost qi.

Quán xiē (Scorpion), *gōu téng* (Ramulus Uncariae Cum Uncis) and *shí jué míng* (Concha Haliotidis) pacify the liver and extinguish wind.

Modifications

For vomiting, add *zhú rú* (Caulis Bambusae in Taenia) and *bàn xià* (Rhizoma Pinelliae) to descend qi and arrest vomiting.

For trembling limbs during sleeping and frightened cry with restlessness, add *Cí Zhū Wán*—Loadstones and Cinnabar Pill to calm the mind.

For the patients with qi and blood deficiency, add *huáng qí* (Radix Astragali) and *dāng guī* (Radix Angelicae Sinensis) to boost qi, nourish blood and calm the mind.

Chinese Patent Medicines

Niú Huáng Zhèn Jīng Wán—Bovine Bezoar Fright-Suppressing Pill

Take 1/2-1 pill once or twice daily.

Tuī na

Points	Repetitions	Methods
DU 20 (<i>bǎi huì</i>)	50	Pressing and Kneading
BL 2 (<i>cuán zhú</i>)	50	Pushing
Wǔ zhǐ jié (五指节)	30	Kneading
Gān jīng (肝经)	200	Clearing



Press and knead *bǎi huì* 50 times, push *cuán zhú* 50 times, knead *wǔ zhǐ jié* 30 times and clear *gān jīng* 200 times. Treat once daily.

[OTHER THERAPIES]

1. EAR ACUPUNCTURE

Shén mén (*shen men*), *pí zhì xià* (subcortex), *xīn* (heart), *jiāo gǎn* (sympathetic). Apply strong stimulation. Rotate at intervals of 10 min; retain needles for 60 min.

2. TUI NA

When acute convulsions are about to start, grasp acupoints LV 1 (*dà dūn*) or *xié dài* (鞋帶). During convulsions for those who are bent forwards, pinch BL 40 (*wěi zhōng*); for those who are leaning backwards, pinch EX-LE5 (*xī yǎn*); for clenched jaws and loss of consciousness, pinch LI 4 (*hé gǔ*).

[WESTERN MEDICINE THERAPIES]

► Treatment for Convulsions

Control the convulsion as soon as possible; also search for the primary infection to determine the cause of fever while applying antipyretic and anti-infection methods.

1. ANTIPYRESIS

Lower the body temperature by applying a cold wet towel to the forehead; with a very high fever, place ice-bags wrapped in cloth on the sides of the head and neck.

Lower the temperature with nasal drops of Analgin, or Antongding Injection 1-2 ml via intramuscular injection.

2. ANTICONVULSANTS

Administer retention enemas with 10% chloral hydrate at 40-60 mg/kg, or give intramuscular injection of phenobarbital at 8-10 mg/kg. In severe cases, Diazepam can be used at 0.3-0.5 mg/kg by slow intravenous injection; the maximum amount is no more than 10 mg. Guard against respiratory depression during the injection process.

3. PREVENTION OF BRAIN INJURY AND REDUCED BRAIN EDEMA AFTER CONVULSIONS.

If convulsions continue for more than 30 min, give oxygen and 50% glucose injection intravenously (1 g/kg), or 20% mannitol 1-2 g/kg by rapid intravenous injection (within 20 min) or by infusion. Repeat in 6-8 hours if necessary.

[PREVENTION AND NURSING CARE]

1. PREVENTION

- Increase physical activity to enhance physical fitness and prevent disease.
- Have scheduled vaccinations to avoid seasonal pathogens.
- Pay attention to food hygiene; avoid falls or sudden fright.

d. If the child has a history of febrile convulsions, immediately give cooling and antipyretic drugs in the early stage of the fever. If necessary, add anticonvulsant medicinals such as *Xiǎo Ēr Jīn Dān Piàn*—Children Golden Pills or *Xiǎo Ēr Huí Chūn Dān*—Children's Return-of-Spring Elixir.

e. For children with summer-heat warmth disease, epidemic toxic dysentery or other pestilent diseases, actively treat the original disease to prevent recurrent seizures.

2. NURSING CARE

a. During convulsions, do not restrain forcefully to prevent fractures. Children should lay flat, head lateral with a tongue depressor wrapped with gauze between the upper and lower teeth to prevent them from biting their tongue.

b. Keep the airways clear. For phlegm congestion, use suction when needed while giving oxygen at the same time.

c. Keep the room quiet and avoid stimulation.

d. To avoid deterioration of the condition, observe changes in complexion, breathing and pulse.

Section 2 Chronic Infantile Convulsions (*Màn Jīng Fēng*)

Chronic infantile convulsions have a longer duration and slower oncoming force with less powerful spasms, and intermittent repeated attacks. They are more difficult to resolve and often accompanied by coma or paralysis.

[ETIOLOGY & PATHOMECHANISM]

Spleen-Stomach Weakness

Sudden vomiting and diarrhea or overuse of sweating and purgative methods when treating other diseases injures the middle *jiao*, and then the spleen-stomach becomes weakened. Spleen-Earth weakness results in spleen deficiency and liver hyperactivity where the hyperactive liver leads to internal wind, ultimately manifesting as chronic infantile convulsions.

Spleen-Kidney Yang Deficiency

With insufficient fetal endowment, chronic vomiting and diarrhea, or overconsumption of cold-natured food and drink damaging yang qi, the spleen-stomach becomes weakened. There may be spleen yang weakness and internal exuberance of yin-cold where the sinews and vessels fail to be warmed. All of these factors cause spleen disorder that leads to chronic infantile convulsions with occasional spasms (*màn pí fēng*).

Wind Stirring due to Yin Deficiency

When acute infantile convulsions are prolonged and not given timely treatment, or appear in the late period of a warm disease, yin-fluid and liver blood and kidney essence are insufficient; deficiency-heat then scorches the sinews and vessels with subsequent stirring of deficiency-wind.

In short, those children who suffer chronic infantile convulsions generally show a weakening of the spleen-stomach or spleen-kidney yang deficiency which causes spleen deficiency and liver hyperactivity or extreme deficiency producing wind. In addition,

there are residual pathogens after acute infantile convulsions which cause liver-kidney yin deficiency and internal stirring of deficiency-wind. The illness location lies in the liver, spleen and kidney, and its main nature is deficiency; there also may be a complex deficiency-excess pattern.

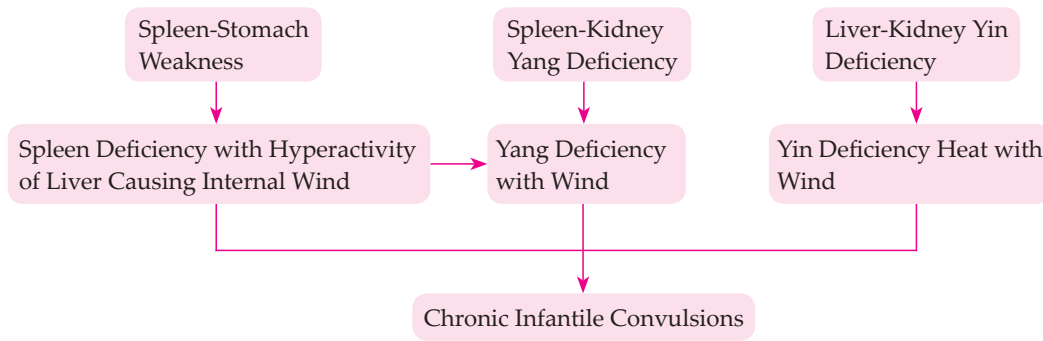


Fig. 24-2 Etiology and Pathomechanisms of Chronic Infantile Convulsions

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

- There is a history of repeated vomiting, long-term diarrhea, acute infantile convulsions, un-united skull, rickets, inability to cry at birth, or the five retardations.
- Slower onset with a longer disease course. The symptoms include a pale complexion, somnolence, loss of vitality, intermittent chronic convulsions without force, or both hands trembling with muscular twitching. The pulse is thready and weak.
- According to the child's clinical manifestations, provide blood biochemistry, electroencephalogram (EEG), cerebrospinal fluid, cranial CT and other exams to confirm the diagnosis.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Chronic infantile convulsions have a longer duration and slower onset, with a relatively mild loss of consciousness and convulsions; sometimes only wiggling fingers can be observed.

Differentiation is mainly according to *zang-fu* patterns combined with eight-principle patterns. Spleen-stomach weakness presents with the symptoms of apathy, drowsiness, sleeping with the eyes half open, poor appetite, loose stools and forceless intermittent clonic convulsions. Spleen-kidney yang decline presents with listlessness and lethargy, a pale complexion without luster, reversal cold of the four limbs and tremors of the hands and feet. Liver-kidney yin deficiency manifests with low fever and deficient- vexation, a hot feeling in palms and soles, rigid limbs or spasms and sometimes mild or severe seizures. The tongue is crimson with a lack of fluid.

► Treatment Principles

Generally, while chronic infantile convulsions belong to a deficiency pattern, and although there is a difference between deficiency cold-types and deficiency heat-types, the main treatment principle is based on supplementing deficiency and treating the root. The commonly used principles are to warm the middle, fortify the spleen, warm yang and expel cold, enrich yin and subdue yang, and emolliate the liver and extinguish wind.

► Classification of Patterns and Treatments

Spleen Deficiency and Liver Hyperactivity

Signs and Symptoms

Manifestations include listlessness, somnolence and sleeping with the eyes half open, sallow yellow complexion, no desire to eat, and loose stools with bluish-green color; occasionally there is borborygmus, cold limbs and intermittent clonic convulsions without force. The tongue is pale with a white coating; the pulse is deep and weak.

Pattern Differentiation

This pattern mainly involves spleen-stomach weakness, which often occurs in infants and young children. At the early stage there is listlessness, a sallow yellow complexion, somnolence, sleeping with the eyes half open, and other clinical symptoms; the spleen fails to restrict the liver and stirs wind, leading to repeated mild convulsions. Generally this pattern is not accompanied by a high fever.

Treatment Principles

Warm the middle and fortify the spleen, relax the liver and rectify the spleen.

Formula

Modified *Huān Gān Lǐ Pí Tāng*—Liver-Relaxing Spleen-Rectifying Decoction

人參	<i>rén shēn</i>	Radix et Rhizoma Ginseng
白朮	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
鉤藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
干姜	<i>gān jiāng</i>	Rhizoma Zingiberis
肉桂	<i>ròu guì</i>	Cortex Cinnamomi

Formula Analysis

Rén shēn (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) fortify the spleen and boost qi.

Bái sháo (Radix Paeoniae Alba) and *gōu téng* (Ramulus Uncariae Cum Uncis) emolliate the liver and relieve convulsions.

Gān jiāng (Rhizoma Zingiberis) and *ròu guì* (Cortex Cinnamomi) warm and activate



spleen yang.

Modifications

For frequent convulsions, add *tiān má* (Rhizoma Gastrodiae) and *wú gōng* (Scolopendra) to extinguish wind and relieve convulsions.

For prolonged diarrhea, remove *gān jiāng* (Rhizoma Zingiberis) and add *wèi jiāng* (Rhizoma Zingiberis Rose), and add *shān zhā tàn* (Fructus Crataegi Carbonisata) and *yì zhì rén* (Fructus Alpiniae Oxyphyllae) to warm the middle and check diarrhea.

For poor appetite and eating very little, add *jiāo shén qū* (Massa Medicata Fermentata Praepatata), *jiāo shān zhā* (Fructus Crataegi Praepatata) and *shā rén* (Fructus Amomi) to stimulate the appetite and promote digestion.

For cool limbs and loose stools, replace the above formula with *Fù Zǐ Lǐ Zhōng Tāng*—Aconite Center-Regulating Decoction to warm the middle, dissipate cold, fortify the spleen and boost qi.

Acupuncture

BL 20 (<i>pí shù</i>)	BL 21 (<i>wèi shù</i>)	RN 12 (<i>zhōng wǎn</i>)
ST 25 (<i>tiān shū</i>)	RN 6 (<i>qì hǎi</i>)	ST 36 (<i>zú sān lǐ</i>)
LV 3 (<i>tài chōng</i>)		

Needle LV 3 (*tài chōng*) with rotation and drainage, apply supplementation to all others.

Moxibustion

GV 14 (<i>dà zhuī</i>)	BL 20 (<i>pí shù</i>)	DU 4 (<i>mìng mén</i>)
RN 4 (<i>guān yuán</i>)	RN 6 (<i>qì hǎi</i>)	GV 20 (<i>bǎi huì</i>)
ST 36 (<i>zú sān lǐ</i>)		

Apply once daily, with 5 times as one treatment course.

Spleen-Kidney Yang Decline

Signs and Symptoms

This pattern manifests with listlessness, lethargy, sleeping with the eyes half open, a lusterless or gray and dull complexion, cold air from the mouth and nose, cold sweat on the forehead, cold reversal of the four limbs, clear urine, loose stools, and slight tremors of the hands and feet. The tongue is pale with a thin white coating; the pulse is deep and faint.

Pattern Differentiation

This pattern mostly occurs after sudden and chronic diarrhea when the body's yang qi is declining and exhausted and the disease has deteriorated to such an extent that all clinical symptoms are of extreme deficiency; extreme yang deficiency then produces internal wind. Besides the clinical symptoms of yang qi decline, there are also palpitations, shortness of breath, and faint thready pulses verging on expiry which indicate a critical condition.

Treatment Principles

Warm and supplement the spleen and kidney, restore yang to rescue collapse

Formula

Modified *Gù Zhēn Tāng*—Original-Qi-Securing Decoction with *Zhú Hán Dàng Jīng Tāng*—Expelling Cold and Fright Decoction

人參	<i>rén shēn</i>	Radix et Rhizoma Ginseng
白朮	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
山藥	<i>shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
炙黃芪	<i>zhì huáng qí</i>	Radix Astragali Praeparata cum Melle
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
炮附子	<i>páo fù zǐ</i>	Radix Aconiti Lateralis Praeparata
肉桂	<i>ròu guì</i>	Cortex Cinnamomi
炮姜	<i>páo jiāng</i>	Rhizoma Zingiberis Praeparata
丁香	<i>dīng xiāng</i>	Flos Caryophylli

Formula Analysis

Rén shēn (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *shān yào* (Rhizoma Dioscoreae), *fú líng* (Poria), *zhì huáng qí* (Radix Astragali Praeparata cum Melle) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) fortify the spleen and supplement the kidney.

Páo fù zǐ (Radix Aconiti Lateralis Praeparata), *ròu guì* (Cortex Cinnamomi), *páo jiāng* (Rhizoma Zingiberis Praeparata) and *dīng xiāng* (Flos Caryophylli) warm and supplement original yang.

Modifications

For profuse sweating, add *duàn lóng gǔ* (Os Draconis Praeparatum), *duàn mǔ lì* (Concha Ostreae Praeparatum) and *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) to astringe fluids and stop sweating.

For nausea and vomiting, add *wú zhū yú* (Fructus Evodiae), *chén pí* (Pericarpium Citri Reticulatae) and *bàn xià* (Rhizoma Pinelliae) to warm the middle and descend adverse qi to check vomiting.

In chronic infantile convulsions, the pattern of spleen-kidney yang decline leads to yang exhaustion and collapse. It is very important for practitioners to act as soon as one or two of the previously mentioned symptoms appear; it is crucial to not wait until all of them have occurred. Delaying administration of medicinals to boost qi and restore yang and stop collapse can actually endanger the child's life. As this pattern belongs to a critical condition, close observation of the clinical symptoms and immediate utilization of the integrative methods of Chinese and Western medicine are essential.

Acupuncture

BL 20 (<i>pí shù</i>)	BL 23 (<i>shèn shù</i>)	LV 13 (<i>zhāng mén</i>)
RN 4 (<i>guān yuán</i>)	EX-HN 3 (<i>yìn táng</i>)	SP 6 (<i>sān yīn jiāo</i>)

Needle all points with supplementation.

Moxibustion

DU 14 (<i>dà zhuī</i>)	BL 20 (<i>pí shù</i>)	DU 4 (<i>mìng mén</i>)
RN 4 (<i>guān yuán</i>)	RN 6 (<i>qì hǎi</i>)	DU 20 (<i>bǎi huì</i>)
ST 36 (<i>zú sān lǐ</i>)		



Apply once daily, with 5 times as one treatment course.

Wind Stirring due to Yin Deficiency

Signs and Symptoms

Manifestations include a fatigued spirit, a withered face and body, a sallow yellow complexion or occasional hot flashes, deficiency vexation and low fever, a hot feeling in palms and soles, frequent sweating, dry hard stools, limb spasms or rigidity, and alternating light to strong seizures. The tongue is crimson and slightly dry with little or no coating; there is a thready and rapid pulse.

Pattern Differentiation

This pattern mainly occurs after acute infantile convulsions where phlegm-heat scorches yin-fluids with an inability to properly nourish the sinews and vessels, which leads to a low fever and repeated convulsions. The tongue is red with little coating; the pulse is thready and rapid. Due to yin-fluids failing to nourish the sinews and vessels, some children will have an accompanying limb movement disorder, even deteriorating into a disability.

Treatment Principles

Enrich yin and subdue yang, enrich the kidney and nourish the liver

Formula

Modified *Dà Dìng Fēng Zhū*—Major Wind-Stabilizing Pill

生白芍	<i>shēng bái sháo</i>	Radix Paeoniae Alba
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
麻仁	<i>má rén</i>	Fructus Cannabis
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
龟板	<i>guī bǎn</i>	Plastrum Testudinis
鳖甲	<i>biē jiǎ</i>	Carapax Trionycis
生龙骨	<i>shēng lóng gǔ</i>	Os Draconis
生牡蛎	<i>shēng mǔ lì</i>	Concha Ostreae

Formula Analysis

Shēng bái sháo (Radix Paeoniae Alba), *shēng dì huáng* (Radix Rehmanniae), *má rén* (Fructus Cannabis), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) and *dāng guī* (Radix Angelicae Sinensis) enrich yin and nourish blood.

Guī bǎn (Plastrum Testudinis), *biē jiǎ* (Carapax Trionycis), *shēng lóng gǔ* (Os Draconis) and *shēng mǔ lì* (Concha Ostreae) subdue yang and extinguish wind.

Modifications

For late afternoon tidal fever, add *dì gǔ pí* (Cortex Lycii), *yín chái hú* (Radix Stellariae) and *qīng hāo* (Herba Artemisiae Annuae) to clear heat and expel steaming bone fever.

For repeated convulsions, add *tiān má* (Rhizoma Gastrodiae) and *wū shāo shé* (Zaocys) to extinguish wind and relieve convulsions.

For profuse sweating, add *huáng qí* (Radix Astragali) and *fú xiǎo mài* (Fructus Triticis Levis) to consolidate the exterior and stop sweating.

For numb limbs and impaired activity, add *chì sháo* (Radix Paeoniae Rubra), *chuān xiōng*

(Rhizoma Chuanxiong) and *dì lóng* (Pheretima) to invigorate blood and free the collaterals.

For spasms of sinews and vessels and disadvantaged flexion and extension, add *huáng qí* (Radix Astragali), *dǎng shēn* (Radix Codonopsis), *jī xuè téng* (Caulis Spatholobi) and *sāng zhī* (Ramulus Mori) to boost qi, nourish blood and free the collaterals.

Chinese Patent Medicines

Liù Wèi Dì Huáng Wán—Six Ingredients Rehmannia Pill

Take 6 g (about 60 pills) twice daily.

Acupuncture and Moxibustion

RN 4 (<i>guān yuán</i>)	DU 20 (<i>bǎi huì</i>)	BL 18 (<i>gān shù</i>)
BL 23 (<i>shèn shù</i>)	LV 8 (<i>qū quán</i>)	SP 6 (<i>sān yīn jiāo</i>)
KI 3 (<i>tài xī</i>)	LV 3 (<i>tài chōng</i>)	

Needle all points with supplementation; add moxibustion after needling.

Treat once daily, with 5 times as one treatment course.

[OTHER THERAPIES]

Tuī na

Points	Methods
<i>Pí jīng</i> (脾经)	Pushing and Kneading
<i>Wǔ zhǐ jié</i> (五指节)	Kneading
<i>Nèi bā guà</i> (内八卦)	Manipulating
Yin and Yang	Pushing Apart
<i>Sān guān</i> (三关)	Pushing
KI 1 (<i>yǒng quán</i>)	Kneading
ST 36 (<i>zú sān lǐ</i>)	Kneading

Manipulate push and knead *pí jīng*, knead the *wǔ zhǐ jié* (five finger joints), manipulate *nèi bā guà*, push apart yin and yang, push *sān guān*, knead KI 1 (*yǒng quán*), and knead ST 36 (*zú sān lǐ*).

Do not use this method for very thin children.

[PREVENTION AND NURSING CARE]

1. PREVENTION

- Increase activity and physical exercise to enhance physical fitness and improve disease resistance.
- Pay attention to food hygiene, and avoid ingestion of contaminated food.
- Actively treat the original disease to prevent repeated attacks.

2. NURSING CARE

- To avoid harming tendons and bones, do not forcibly constrain the child during

attacks.

b. Maintain a clear airway; for excessive phlegm and saliva, use suction and give oxygen.

c. Fasting is recommended during the convulsion phase. The patient should mainly eat liquid vegetarian meals after the spasms, and be fed by nasal tube if they cannot swallow. If the condition has improved, give only highly nutritious and easily digestible foods.

d. For long-term bedridden children, it is important to frequently change their position and give regular sponge baths and massage to prevent bedsores.

[CASE STUDIES]

► Case #1

Male, age 2 years

The child presented with fever, rough breathing, coughing, irritability and sweating, with the condition exacerbating after treatment for three days. During consultation his temperature was 40.3°C, he had clonic convulsions of the limbs, lockjaw, opisthotonus, red lips and alternatively showed fright and occasional crying. His tongue was red with a dry yellow coating; there were purple finger venules.

He was first needled at EX-UE11 (*shí xuān*), DU 26 (*shuǐ gōu*), KI 1 (*yǒng quán*) and LI 4 (*hé gǔ*), then *tui na* was applied to GB 20 (*fēng chí*), GB 21 (*jiān jǐng*), BL 57 (*chéng shān*) and BL 40 (*wěi zhōng*) to suppress fright. Then *Zǐ Xuě Dān*—Purple Snow Elixir was prescribed. The empirical formula *Jié Fēng Dìng Chù Tāng*—Preventing Wind and Stabilizing Twitch Decoction was also used.

Formula

Jié Fēng Dìng Chù Tāng—Wind-Preventing Convulsion-Relieving Decoction

葛根	<i>gé gēn</i>	10 g	Radix Puerariae Lobatae
连翘	<i>lián qiào</i>	10 g	Fructus Forsythiae
蝉蜕	<i>chán tuì</i>	10 g	Periostracum Cicadae
僵蚕	<i>jiāng cán</i>	10 g	Ramulus Uncariae Cum Uncis
天花粉	<i>tiān huā fēn</i>	10 g	Radix Trichosanthis
生石膏	<i>shēng shí gāo</i>	30 g	Gypsum Fibrosum (decocted first)
金银花	<i>jīn yín huā</i>	20 g	Flos Lonicerae Japonicae
淡竹叶	<i>dàn zhú yè</i>	12 g	Herba Lophatheri
黄芩	<i>huáng qín</i>	6 g	Radix Scutellaria
地龙	<i>dì lóng</i>	6 g	Pheretima
栀子	<i>zhī zǐ</i>	6 g	Fructus Gardeniae
大青叶	<i>dà qīng yè</i>	15 g	Folium Isatidis
水牛角片	<i>shuǐ niú jiǎo piàn</i>	15 g	Cornu Buball (decocted first)
钩藤	<i>gōu téng</i>	15 g	Ramulus Uncariae Cum Uncis
甘草	<i>gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae

2 doses for 2 days.

One daily decocted dose. Allow the decoction to cool; take frequently in small amounts.

After taking the formulas, his temperature dropped to 38.3°C and the number of convulsions reduced, but he still presented with coughing with phlegm. From the above formula, *zhī zǐ* (Fructus Gardeniae) was removed and *chuān bèi* (Bulbus Fritillariae Cirrhosae) 10 g was added with *xiān zhú lì* (Succus Bambusae) 6 g.

After another 3 doses all symptoms disappeared. This was followed by nourishing the stomach and promoting fluid production to recuperate; by one week he had fully recovered.

Analysis

The disease mechanisms of this case involve externally contracted wind-heat and pathogenic toxins with internal heat stirring liver-wind to cause convulsions. This case is clearly identified as a pattern of wind-heat stirring wind. When the convulsions attack, according to the principle “treat the branch during emergency”, we should first act promptly to control the high fever and convulsions and to restore consciousness.

In this case, he was first needled at EX-UE11 (*shí xuān*), DU 26 (*shuǐ gōu*), KI 1 (*yǒng quán*) and LI 4 (*hé gǔ*) to drain heat, tui na was applied to GB 20 (*fēng chí*), GB 21 (*jiān jǐng*), BL 57 (*chéng shān*) and BL 40 (*wěi zhōng*); he was then given *Zǐ Xuě Dān*—Purple Snow Elixir to clear heat, open the orifices, suppress fright and calm the mind.

Later, the patient was given the formula with the following modifications:

Jīn yín huā (Flos Lonicerae Japonicae) and *lián qiào* (Fructus Forsythiae) to scatter wind and clear heat.

Gé gēn (Radix Puerariae Lobatae) and *tiān huā fēn* (Radix Trichosanthis) to clear heat and promote fluids.

Shēng shí gāo (Gypsum Fibrosum), *dàn zhú yè* (Herba Lophatheri), *huáng qín* (Radix Scutellariae), *zhī zǐ* (Fructus Gardeniae), *dà qīng yè* (Folium Isatidis) and *shuǐ niú jiǎo piàn* (Cornu Buball) to clear heat, drain fire and resolve toxins.

Chán tuì (Periostracum Cicadae), *jiāng cán* (Ramulus Uncariae Cum Uncis), *dì lóng* (Pheretima) and *gōu téng* (Ramulus Uncariae Cum Uncis) to pacify the liver, extinguish wind and relieve convulsions.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Together, the formula acts to scatter wind, clear heat, drain fire, soothe the liver, extinguish wind and calm the mind.

Source: Mei HP. Introduction Senior TCM Physician Mei Dazhao's Treatment Experiences with Infantile Convulsions [J]. New Journal of Traditional Chinese Medicine. 1992, 24(4):1.

► Case #2

Female, age 12 years

In the beginning, the child was seen with a swollen and painful right cheek followed by a high fever and headache, with a body temperature of 39-40°C which continued for 8 days without subsiding. The condition was not improved after antibiotics, hormones and other treatment. By the 9th day her condition had become worse, so an expert was invited to consult.

The child presented with a severe headache, frequent vomiting, apathy, somnolence,

eyes tightly closed, a rigid strongly resistant neck, a temperature of 39.4°C, constantly twitching limbs, and a painful hard swelling on the right cheek. She experienced unbearable abdominal distension, did not want to eat, and did not defecate for 3 days. Her tongue was red and dry with a thick greasy yellow coating; the pulse was rapid and strong.

The child was given one dose of the following formula.

Formula

姜川连	<i>jiāng chuān lián</i>	3 g	Rhizoma Coptidis Praeparatum
半夏	<i>bàn xià</i>	8 g	Rhizoma Pinelliae
干姜	<i>gān jiāng</i>	3 g	Rhizoma Zingiberis
生石膏	<i>shēng shí gāo</i>	30 g	Gypsum Fibrosum (decocted first)
生大黄	<i>shēng dà huáng</i>	10 g	Radix et Rhizoma Rhei (added later)
玄明粉	<i>xuán míng fěn</i>	10 g	Natrii Sulfas Exsiccatus (infused twice)
僵蚕	<i>jiāng cán</i>	10 g	Ramulus Uncariae Cum Uncis
全蝎	<i>quán xiē</i>	5 g	Scorpion
蜈蚣	<i>wú gōng</i>	2 g	Scolopendra

At 11 a.m. on the day of the first visit, the child started to frequently take small amounts of the decoction to prevent vomiting, which was separated into 8 portions. At around 10 pm that night, her headache lessened, her abdomen was displaying borborygmus but she had still not defecated, her temperature had gradually dropped to 38°C; she was able to sleep quietly that night.

By the next day her temperature had dropped to 37°C. Her eyes were open and bright, she presented with no headache or vomiting but still felt epigastric and abdominal discomfort; she had no desire to eat, and belched at the sight of food. Her tongue still had a thick greasy coating with a floating rough surface. The wind-fire toxin had been resolved, but heat accumulation in the *yangming* channels had not been expelled; thus the original formula was used again. The child defecated large, abnormally foul-smelling brown feces on the afternoon of the second visit. Her spirit improved, she ate gruel and soft noodles, and maintained a normal temperature with a stabilized condition. By the third visit, the child was in good spirits, and the cheek swelling had subsided.

Based on the original formula, *jiāng chuān lián* (Rhizoma Coptidis Praeparatum), *shēng dà huáng* (Radix et Rhizoma Rhei), *gān jiāng* (Rhizoma Zingiberis), *quán xiē* (Scorpion) and *wú gōng* (Scolopendra) were removed and *xuán shēn* (Radix Scrophulariae) 15 g, *jīn yín huā* (Flos Lonicerae Japonicae) 15 g and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) 5 g were added to consolidate the curative effect.

Analysis

The pattern differentiation in this case involved the mumps pathogen transforming into fire with heat binding the *yangming* and forcing wind to inwardly invade the *jueyin*. Because heat binding *yangming* is relatively serious, the child was first treated by dispersing stagnation and purging heat with bitter-acrid medicinals that calm the liver and extinguish wind.

The formula included *chuān lián* (Rhizoma Coptidis Praeparatum), *bàn xià* (Rhizoma Pinelliae) and *gān jiāng* (Rhizoma Zingiberis) which disperse stagnation and drain heat,

dissipate and disperse abdominal distension and fullness and dissolve phlegm.

Dà huáng (Radix et Rhizoma Rhei), *shēng shí gāo* (Gypsum Fibrosum), *xuán míng fēn* (Natrii Sulfas Exsiccatus) and *chuān lián* (Rhizoma Coptidis Praeparatum) unblock the bowels and discharge heat.

Quán xiē (Scorpion) and *wú gōng* (Scolopendra) extinguish wind and relieve convulsions.

To consolidate the curative effect, other medicinals that resolve toxins and extinguish wind were added such as *xuán shēn* (Radix Scrophulariae), *jīn yín huā* (Flos Lonicerae Japonicae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

It is important to not forget to treat both root and branch and to investigate the root of disease as soon as possible, so the treatment was to expel pathogens and resolve heat to treat the root cause.

Source: Wang SC. Essential Case Records of Renowned TCM Physician Jiang Yuren [M]. Beijing: Beijing Publishing House, 1990:246.

► Case #3

A male child presented with diarrhea due to dysentery which continued for about 10 days with hot skin and an absence of sweating. His eyes looked straight upwards and he displayed mydriasis. He had a white tongue and weak rapid pulse. He had reached the clonic stage, and there was some concern that he would not survive.

Formula

上安桂	<i>shàng ān guì</i>	1.5 g	Cortex Cinnamomi (decocted later)
活磁石	<i>huó cí shí</i>	30 g	Magnetitum (decocted first)
生龙齿	<i>shēng lóng chǐ</i>	30 g	Dens Draconis (decocted first)
明天麻	<i>míng tiān má</i>	10 g	Rhizoma Gastrodiae
朱茯苓	<i>zhū fú líng</i>	12 g	Poria (Cinnabaris- processed)
酸枣仁	<i>suān zǎo rén</i>	15 g	Semen Ziziphi Spinosae
姜半夏	<i>jiāng bàn xià</i>	10 g	Rhizoma Pinelliae Praeparatum
橘皮	<i>jú pí</i>	5 g	Pericarpium Citri Reticulatae
藿梗	<i>huò gěng</i>	10 g	Herba Agastachis
乌梅炭	<i>wū méi tàn</i>	5 g	Fructus Mume Carbonisata
扁豆花	<i>biǎn dòu huā</i>	10 g	Flos Dolichoris
蝎尾	<i>xiē wěi</i>	2 g	Cauda Scorpionis

Analysis

This case belongs to a pattern of spleen deficiency and liver hyperactivity, so treatment principles include warming the middle, fortifying the spleen, relaxing the liver, and rectifying the spleen.

Xu Xiao-pu's formula contained *ān guì* (Cortex Cinnamomi) to warm the spleen and restore yang.



Cí shí (Magnetitum), *lóng chǐ* (Dens Draconis), *tiān má* (Rhizoma Gastrodiae) and *xiē wěi* (Cauda Scorpionis) to pacify the liver and extinguish wind.

Suān zǎo rén (Semen Ziziphi Spinosae) and *zhū fú líng* (Cinnabaris-processed Poria) nourish the heart and calm the mind.

Bàn xià (Rhizoma Pinelliae Praeparatum), *jú pí* (Pericarpium Citri Reticulatae), *huò gěng* (Herba Agastachis) and *biǎn dòu huā* (Flos Dolichoris) to harmonize the stomach and resolve dampness.

Wū méi tàn (Fructus Mume Carbonisata) acts to astringe the intestines and relieve dysentery. All of these medicinals unite effectively to treat both root and the branch.

Source: Lu HY, Deng JC. The Collected Academic Experiences of Renowned Pediatrician Xu Xiaopu [M] Shanghai: Shanghai Traditional Medicine University Publisher, 1993: 120

[QUESTIONS]

1. Child, age 5 years

In the sweltering heat of midsummer a child presented with a sudden high fever, 39°C temperature, headache, neck rigidity, nausea, vomiting, vexation and somnolence, convulsions, thirst and constipation. The tongue was red with a yellow coating; the pulse was wiry and rapid.

What is the first choice of formula?

- A. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder
- B. *Qīng Wēn Bài Dú Yīn*—Epidemic-Clearing Toxin-Resolving Beverage
- C. *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction
- D. *Huáng Lián Jiě Dú Tāng*—Coptis Toxin-Resolving Decoction
- E. *Hǔ Pò Bào Lóng Wán*—Amber Hold Dragon Pill

2. Child, age 3 years

After playing in the wind outside on the previous day, this morning he had a sudden fever, rough breathing, cough and irritation. During the consultation he presented with a 40.2°C temperature, red lips, sudden twitching limbs, lockjaw, opisthotonos, and was sometimes frightened and crying. His tongue was red with a dry yellow coating and he had purple finger venules.

Which is the presenting pattern ?

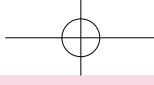
- A. Wind-heat stirring wind
- B. Infantile convulsions due to fear and fright
- C. Blazing of both qì and yīng
- D. Pathogenic wind invading heart and liver
- E. Epidemic damp-heat toxin

3. Child, age 5 months

The child was frequently frightened with twitching and restlessness, a trembling body, preference for being held close, fright and crying at night, occasional convulsions, unconsciousness and bluish stools. The pulse was irregular; finger venules were purple and stagnated.

Which formula is the first choice?

- A. *Xiǎo Ér Huí Chūn Dān*—Children's Return-of-Spring Elixir
- B. *Hǔ Pò Bào Lóng Wán*—Amber Hold Dragon Pill
- C. *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction
- D. *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill



E. *Bō Zī Yǎng Xīn Wán*—Oriental Arborvitae Supporting Heart Pill

4. Child, Age 2 years

The child presented with limb spasms or rigidity, mild and sometimes serious seizures, a flushed complexion, deficiency vexation, a low fever, a hot feeling in palms and soles, and a dry mouth with a desire to drink. The tongue was crimson with little coating.

Which treatment method is the best choice?

- A. Scatter wind and clear heat, open the orifices and suppress fright.
- B. Clear heat and eliminate phlegm, suppress fright and extinguish wind.
- C. Enrich yin and subdue yang, enrich the kidney and nourish the liver.
- D. Clear the heart and open the orifices, cool the liver and extinguish wind.
- E. Suppress fright and calm the mind, dissolve phlegm and extinguish wind.

5. Child, Age 5 years

The child presented with frequent convulsions, confusion, delirious speech and frenetic stirring, abdominal pain and vomiting, and sticky greasy stools containing pus and blood. The tongue was red with a yellow and greasy coating; the pulse was slippery and rapid.

Which is the etiology to be considered?

- A. External contraction from pathogenic wind.
- B. Warm febrile epidemic toxins.
- C. Damp-heat epidemic toxins.
- D. Sudden attack frightens and scares.
- E. Qi stagnation and blood stasis.

6. Child, age 5 months.

The child presented with a pale face, somnolence, loss of vitality, weak muscular twitching, intermittent attacks, and reversal cold of the four limbs with clear urination and loose stools. The pulse was thready and weak.

Which etiology is most applicable?

- A. Phlegm-heat exuberance
- B. Liver-wind stirring internally
- C. Spleen deficiency and liver hyperactivity
- D. Water-dampness retention
- E. Spleen-kidney yang deficiency

7. Child, age 10 years

The child presented initially with a swollen painful left cheek for 3 days, later both cheeks were swollen with a persistent high fever, headaches, neck rigidity, frequent vomiting, loss of consciousness, delirious speech, eyes staring straight ahead, and frequent convulsions of the four limbs. The tongue was red with a yellow coating; the pulse was wiry and rapid.

Which is the most appropriate formula?

- A. *Dà Chái Hú Tāng*—Major Bupleurum Decoction
- B. *Hǔ Pò Bào Lóng Wán*—Amber Hold Dragon Pill
- C. *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction
- D. *Qīng Wēn Bì Dú Yīn*—Epidemic-Clearing Toxin-Resolving Beverage
- E. *Huáng Lián Jiě Dú Tāng*—Coptis Toxin-Resolving Decoction

8. Child, age 9 months

The child presented with repeated vomiting, chronic diarrhea, apathy, somnolence, sleeping with



eyes half open, a sallow yellow complexion, no desire to eat, loose stools with blue-green color, occasional borborygmus, and frequent convulsions that came in intermittent attacks. The tongue was pale with a white coating; the venules were pale.

What is the most appropriate formula?

- A. *Fù Zǐ Lǐ Zhōng Tāng*—Aconite Center-Regulating Decoction
- B. *Zhèn Gān Xī Fēng Tāng*—Liver-Sedating and Wind-Extinguishing Decoction
- C. *Zhú Hán Dàng Jīng Tāng*—Expelling Cold and Fright Decoction
- D. *Huǎn Gān Lǐ Pí Tāng*—Liver-Relaxing and Spleen-Rectifying Decoction
- E. *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction

[REFERENCES]

- [1] Wang SC, Yu JM. TCM Colleges and Universities Nationwide Graduate Students Planning and Teaching Material. Clinical Research of TCM Pediatrics [M]. Beijing: People's Medical Publishing House, 2009:292.
- [2] Chang YC, Guo NIV, Wang ST, et al. Memory of School-aged Children with a History of Febrile Convulsions: a Population Study[J]. Neurology, 2001; 57(1):37.
- [3] Shang LL, Deng JX, Niu GM. Experimental Study on Children's Return-of-Spring Elixir for Preventing Febrile Convulsions [J]. Journal of Anhui Traditional Chinese Medical College, 2004; 23(4):41.
- [4] Li JF, Jiang P. Comprehensive Treatment for Children's Febrile Convulsions, 51 Cases of Clinical Research [J]. Hebei Medicine, 2003; 9(3):254.

Chapter 25

Epilepsy (*Diān Xián*)

In TCM, epilepsy (*diān xián*) is a condition characterized by sudden collapse, unconsciousness, drooling of frothy saliva, upward staring eyes, convulsions, screaming, and abnormal throat sounds. The patient revives relatively quickly and there is a tendency of repeated attacks. Although this is also called epilepsy in Western medicine, the meaning of this term is different in TCM. The classification of epilepsy is relatively narrow in TCM.

In Western medicine, epilepsy covers a much broader range of disorders caused by various pathogenic factors that manifest as a series of sudden and temporary cerebral dysfunctions. These include sensory, motor and emotional disorders due to neurons in the cerebrum causing recurrent, excessive and abnormal electric discharges. Thus, from the symptomatic aspect, epilepsy in TCM is a type of epilepsy, i.e. generalized tonic-clonic seizures. In Western medicine there are autonomic seizures, absence seizures, psychomotor epilepsy etc; in TCM these are categorized as “headache”, “abdominal pain”, “vomiting”, “depressive psychosis”, “mania” and “constraint syndrome” ^[1].

Epilepsy is one of the common pediatric diseases. According to reports by WHO (World Health Organization), the morbidity of epilepsy in developed countries, economic-transition countries, developing countries and underdeveloped countries was 5.0%, 6.1%, 7.2% and 11.2% respectively. There were an estimated 50 million epilepsy patients worldwide; research showed an incidence of epilepsy (and the number of new cases occurring each year) was 50 to 70 in every 100 thousand people each year.

While epilepsy can occur at any age and in any region or ethnic group, children and adolescents show higher morbidity. The incidence of epilepsy in children is about 10 times higher than that of adults. Most patients (about 60%) have had epileptic seizures since childhood, and among these patients, the male to female ratio is about 2:1 ^{[2] [3]}. 80% of the attacks are grand mal, which is of greater detriment to the patient.

According to statistics, 40% of patients had never been treated and 35% of patients received irregular treatment which was unable to control the seizures effectively. Long-term repeated epileptic seizures result in deteriorating intelligence, psychosis, poor memory and poor social adaptation. Long term use of anti-epileptic medicine may cause significant toxicity and side-effects in some patients, such as lethargy, tiredness and impaired concentration. It is thus difficult for these patients to receive a normal education and become competent in everyday life. Patients that have been ill since infancy and early childhood suffer adverse effects in their standards of living and quality of life, often placing enormous economical and mental burdens on their families. Epilepsy is not just a medical problem, but must be seen as a serious social problem that deserves the whole of society's attention.

At present, epilepsy treatment depends mainly on drug therapy. The goal of the treatment is to completely control the clinical episodes without obvious side-effects so that patients can maintain or restore their original physiological and psychological condition and working ability. Due to scientific development, Western medicine has a variety of anti-epileptic drugs that can control most seizures, but there are obvious side effects.

TCM treatment of epilepsy has various and flexible therapeutic methods, including Chinese medicinals, acupuncture, moxibustion, massage, psychotherapy, dietary regulation and so on. Most TCM anti-epilepsy medicines have a slow action and longer duration, with relatively lower toxicity and side effects. However, from a research viewpoint, their anti-convulsive effects are not as strong as Western medicines. TCM and Western medicine have their own advantages in the treatment of epilepsy; with more in-depth research and by learning from each other's strong points, we may close the gap between TCM and Western medicine and find new solutions.

Over the past 10 years, TCM practitioners and medical researchers have broadened their knowledge and accumulated rich experience with many studies on epilepsy, including its etiology, pathomechanism, therapeutic methods, formulas and medicinals.

The top 10 commonly used medicinals are: *shí chāng pú* (Rhizoma Acori Tatarinowii), *dǎn nán xīng* (Rhizoma Arisaematis Cum Bile), *yuǎn zhī* (Radix Polygalae), *fú líng* (Poria), *bàn xià* (Rhizoma Pinelliae), *tiān zhú huáng* (Concretio Silicea Bambusae), *yù jīn* (Radix Curcumae), *quán xiē* (Scorpion), *dān shēn* (Radix Salviae Miltiorrhizae) and *gōu téng* (Ramulus Uncariae cum Uncis).

Ma Rong's study focused on the treatment of phlegm and so developed *Xī Fēng Jiāo Náng*—Extinguishing Wind Capsules, a modification of *Bái Jīn Sǎn*—Alum and Curcuma Powder. 200 children with tonic-clonic epileptic seizures were studied. There was a markedly effective rate of 82%, and the total effective rate was of 93%, significantly better than the phenobarbital control group (49%, 61%) ($P < 0.01$).

Xī Fēng Jiāo Náng—Extinguishing Wind Capsules could obviously reduce seizure frequency and duration in children and improve EEG epileptiform waves^[4].

Zhang Lian-cheng used acupuncture and Chinese medicinals to treat pediatric epilepsy. The main acupoints were LI 4 (*hé gǔ*) and LV 3 (*tài chōng*) combined with ST 40 (*fēng lóng*) and DU 20 (*bǎi huì*). HT 7 (*shén mén*) and PC 6 (*nèi guān*) were employed during the seizure stage, with ST 36 (*zú sān lǐ*) and KI 3 (*tài xī*) added during remission.

He used lifting-thrusting with drainage on LI 4 (*hé gǔ*) and LV 3 (*tài chōng*), neutral supplementation and drainage on ST 40 (*fēng lóng*) and DU 20 (*bǎi huì*), twirling for drainage on HT 7 (*shén mén*) and PC 6 (*nèi guān*), and twirling for supplementation of ST 36 (*zú sān lǐ*) and KI 3 (*tài xī*). The needling sensation was determined according to the patient's tolerance. Acupuncture was applied once daily, with needle retention for 20 minutes. Treatment was daily for 5 days, with a 2 day interval between sessions; one month was one course of treatment.

The treatment principles were mainly to clear heat and dissolve phlegm, calm the heart and mind, extinguish wind and stabilize epilepsy during the seizure stages.

During the remission stage, the treatment principles were to nourish liver and kidney, fortify the spleen and dissolve phlegm, nourish the heart, and calm the mind. 15 cases were treated with a combination of acupuncture and medicinals. The total effective rate was 80%^[5].

[ETIOLOGY & PATHOMECHANISM]

The etiology of epilepsy is quite complicated. In summary, this includes stubborn phlegm lodging in the interior, sudden fright, frequent infantile convulsions, traumatic injury, and blood



stasis. The locations of this disease are mainly in the heart, liver, spleen and kidney. The kidney is the foundation of the congenital (prenatal) constitution, and the spleen is the foundation of the acquired (postnatal) constitution. Insufficient original yin, improper care after birth, and splenic transportation and transformation failure can all disturb qi movement and the transportation of body fluids, thus resulting in the internal formation of turbid phlegm.

Fright may cause disordered qi movement with upward counterflow of phlegm and qi that clouds the heart orifices, causing unconsciousness. Disorders of qi that afflict the channels and stir liver wind can lead to convulsions.

Stubborn Phlegm Lodged in the Interior

A child's spleen is often insufficient and thus easily damaged internally by accumulation and stagnation where the resulting water gathers and forms internal phlegm. Phlegm obstructs the channels and collaterals, reversing upwards to the orifices and obstructing the ascending and descending qi movement of the *zang-fu* organs, causing failure of yin and yang to connect to each other and clouding of the clear yang, thus enabling epilepsy.

Sudden Fright

Fright is one common cause of epilepsy. Fright in children can be due to congenital or acquired causes. Most congenital fright is due to the child being frightened during the fetal period; if the mother is frightened while pregnant, this will also affect the fetus. Epilepsy can result from acquired fright after birth; this is related to child's physiological characteristics. In children, the spirit and qi are feeble, original qi is insufficient, and there is a tendency for pathogenic phlegm to lodge interiorly. If the patient hears or sees something unexpectedly or falls down carelessly, he/she may become suddenly frightened; this can also cause qi movement disorders where phlegm counterflows with qi to cloud the clear orifices, obstruct the channels and collaterals, and result in epilepsy.

Frequent Recurrent Infantile Convulsions

External contraction of pestilential qi and pathogenic toxins may transform into heat and fire. Exuberant fire produces wind, and exuberant wind produces phlegm. Wind and fire agitate each other so that phlegm and fire knot together, resulting in infantile convulsions.

A secondary cause of epilepsy is when frequently recurring infantile convulsions are not treated properly, wind and latent phlegm then compete with each other to disturb mental activity and obstruct the channels and collaterals.

Traumatic Injury and Blood Stasis

Surgery for abnormal birth or skull and brain injury may damage blood vessels, causing extravasation and blood stasis. Blood stasis blocks the orifices, leading to a loss of consciousness and failure to nourish the sinews and vessels; the result is paroxysmal convulsions and eventual epilepsy.

In addition, if insufficient innate original yin fails to nourish the liver, the result will be a restricted spleen and a damaged heart that leads to epilepsy after birth.

Serious, repeated and frequent epileptic seizures, if protracted or treated incorrectly can cause cold phlegm coagulation and stagnation which obstructs the channels and collaterals and clouds the orifices. In this situation, the disease manifests as a deficiency pattern or a complex deficiency-excess pattern. Generally, spleen deficiency with latent phlegm is the most commonly encountered pattern. Lingering spleen deficiency can cause kidney deficiency and finally develop into spleen and kidney deficiency.

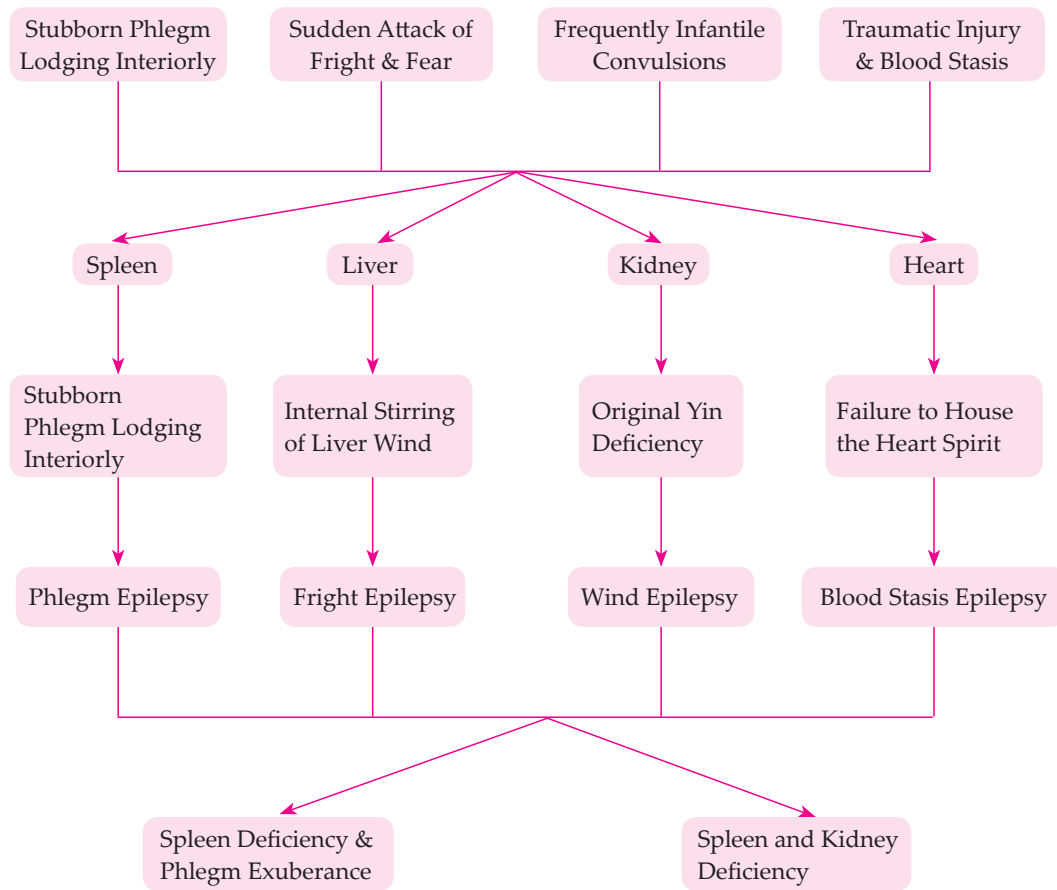


Fig. 25-1 Etiology and Pathomechanism of Epilepsy

[CLINICAL DIAGNOSIS]**► Classification of Epileptic Seizures**

The classification of epileptic seizures is based on the presentation of clinical onset and EEG features. The seizure classification proposed by the International Epilepsy League in 1981 was as follows. See Table 25-1.

Table 25-1 Classification of Epileptic Seizures in Children

- | | |
|---|--------------------------|
| 1. Partial (focal, local) seizures | b. Tonic seizures |
| a. Simple partial seizures | c. Clonic seizures |
| (1) With motor signs and symptoms | d. Absence seizures |
| (2) With sensory symptoms | (1) Typical absence |
| (3) With autonomic signs or symptoms | (2) Atypical absence |
| b. Complex partial seizures | e. Myoclonic seizures |
| With psychic symptoms | f. Atonic seizures |
| c. Partial seizures evolving into systemic seizures | g. Infantile spasms |
| 2. Systemic (broad, diffuse) seizures | 3. Unclassified seizures |
| a. Tonic-clonic seizures | |



► Classification of Epilepsy and Epilepsy Syndrome

The International Epilepsy League proposed the methods of classifying epilepsy and epileptic syndromes in 1989 by combining the characteristics of epilepsy such as etiology, seizure type, EEG, age, prognosis and so on.

See Table 25-2.

Table 25-2 Pediatric Epilepsy and Epilepsy Syndrome Classification

1. Performance for partial (focal) epileptic seizures
 - a. Primary (idiopathic)
 - (1) Benign childhood epilepsy with central-temporal spikes
 - (2) Childhood epilepsy with occipital paroxysms
 - b. Secondary (symptomatic)
 - (1) Childhood chronic progressive partial continuous epilepsy
 - (2) Frontal, temporal, parietal or occipital lobe epilepsy
 - c. Cryptogenic
2. Performance for generalized epileptic seizures
 - a. Primary (idiopathic)
 - (1) Benign familial neonatal convulsions
 - (2) Benign neonatal convulsions
 - (3) Benign myoclonic epilepsy in infants
 - (4) Childhood absence epilepsy
 - (5) Juvenile absence epilepsy
 - (6) Juvenile myoclonic epilepsy
 - (7) Epilepsy with grand mal epilepsy upon awakening
 - b. Secondary (symptomatic) or cryptogenic
 - (1) Early Infantile Epileptic Encephalopathy with Burst-Suppression (Ohtahara syndrome)
 - (2) Infantile spasms (West syndrome)
 - (3) Lennox-Gastaut Syndrome
 - (4) Myoclonic epilepsy (myoclonostatisch petit mal)
3. Epilepsy undetermined as focal or generalized
 - a. Infantile severe myoclonic epilepsy
 - b. Epilepsy with continuous spike-slow wave pattern during slow-wave sleep
 - c. Acquired epileptic aphasia (Landau-Kleffner syndrome)
4. Epilepsy and special syndromes—induced by various factors
 - a. Febrile convulsions
 - b. Reflex epilepsy
 - c. Others

In addition, a new diagnostic scheme for epileptic seizures was proposed in 2001, composed of five sectors:

Sector 1: Ictal phenomenology:

The standard Glossary of Descriptive Ictal Terminology can be used to describe ictal events with any degree of detail needed.

Sector 2: Seizure type:

The List of Epileptic Seizures can be used to determine and specify the patient's seizure type according to the localization within the brain and specific precipitating stimuli for reflex seizures.

Sector 3: Syndromes:

The List of Epilepsy Syndromes is helpful in making a diagnosis with the understanding that a syndromic diagnosis may not always be possible.

Sector 4: Etiologies:

A Classification of Diseases Frequently Associated with Epileptic Seizures or Epilepsy Syndromes with possible genetic defects or specific pathological substrates for symptomatic focal epilepsies.

Sector: 5: Impairment:

This is an optional but often useful additional diagnostic indicator which mainly defines the degree of damage caused by epilepsy.

► TCM Essentials of Clinical Diagnosis

(1) Main symptoms:

- a. Sudden falling with unconsciousness.
- b. Convulsion of the limbs and stiff neck.
- c. Drooling frothy saliva, lockjaw.
- d. Eyes staring upwards.
- e. Dilated pupils, dull or no response to light.

(2) Recurrent seizures with spontaneous relief.

(3) Acute onset, recovery after treatment; may be complicated with amnesia, dementia etc. in chronic, frequent and recurrent cases.

(4) Premonitory symptoms are common, with incentive causes, family history, birth trauma, hypoxia history, cranial trauma history, etc.

(5) Abnormal EEG.

EEG with spike wave, sharp wave, spike-slow wave, sharp-slow wave, multiple spike-slow wave or paroxysmal high amplitude slow-wave, all are of important significance in diagnosis. CT scans can discover some primary diseases such as brain tumors, brain parasites, and abnormal brain development.

(6) An etiological diagnosis of secondary epilepsy may be based on an analysis of the patient's history, physical examination, neurological imaging and so on. If necessary, metabolic disease screening, cerebrospinal fluid tests, chromosome, blood, biochemical and other examinations may be performed.

If the patient presents with a, b, e as the main symptoms with items (2) and (3) and with characteristic evidence of premonitory symptoms and a positive EEG, then epilepsy can be confirmed.

The epileptic state is defined as one unremitting seizure lasting longer than 30 minutes, or recurrent seizures without regaining consciousness between seizures for more than 30 minutes. A patient experiencing an epileptic state should be sent to the hospital for emergency treatment. The prevention of recurrent febrile convulsions may reduce the chances of the afflicted child developing epilepsy.

► Differential Diagnosis

This disease needs to be differentiated from syncope, febrile convulsions, and infantile tetany. See Table 25-3.

Table 25-3 Differentiation of Epilepsy, Syncope, Febrile Convulsions and Infantile Tetany

Main Identification Points	Epilepsy	Syncope	Breath Holding	Infantile Tetany
Age-Sex Predilection & History	Any age, common in children ≥ 4 -5 yrs old, family history	More common in older children, family history of syncope	Mostly occurs in 6 mths-2 yrs olds, reduces after 3 yrs old, disappears after 5 yrs old	Mainly infants < 6 mths, maybe history of preterm birth, multiple births
Etiology	Various reasons cause recurrent, excessive brain neuron discharges leading to abnormal brain function	Acute generalized cerebral ischemia causes sudden transient loss of consciousness	Induced factors before episodes, e.g. fear, anger	Hypocalcemia leads to increased neuromuscular excitability
Clinical Features	Without postural features. There are prodromal symptoms. During seizure, facial cyanosis, blood pressure not low, fast pulse, apnea, unconsciousness, chronic seizures with postconvulsive sleep. Occurs more at night	Most occur in standing posture. There are prodromal symptoms such as sweating, dizziness, and facial pallor. During attack, drop in blood pressure, slow & weak pulse, no apnea, flaccid body tension, rarely spasms but may occur in severe cases, generally no fecal and urinary incontinence, no postictal lethargy or abnormal signs of anxiety	Apnea after vigorous crying, followed by facial bruising, unconsciousness, possible opisthotonos, tonic seizures, or urinary incontinence. Symptoms persisting 1-3 mins then relieved, restored consciousness after regaining breath. Not occurring at night	Convulsions—most common form of seizures, limbs spasm suddenly without fever or other reasons, eyes staring upwards, unconsciousness, continued for a few seconds or over 10 mins, once every few days or several times a day. Accompanied by hand, feet and laryngeal spasms
EEG	Abnormal, showing epileptic discharges	EEG showing slow-wave during attack, normal after onset	Normal	Normal

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

(1) Etiological Differentiation

The etiology of epilepsy includes fright, wind, phlegm, and blood stasis. Epilepsy due to fright often has a history of fright prior to onset and is accompanied by psychological symptoms such as screaming and fear during the onset. Epilepsy due to wind is mostly induced by fever caused by exogenous pathogens and is marked by obvious convulsions during the onset or with fever. Epilepsy due to phlegm also manifests with mental disorders, i.e. absent-mindedness, falling down, dropping objects, etc. Epilepsy due to

blood-stasis often has a history of craniocerebral trauma and headache with a fixed location, or seizures at similar locations and with similar movements.

(2) Differentiation of Deficiency and Excess

The excess pattern of epilepsy is mainly caused by pathogenic factors including fright, phlegm, wind, and blood stasis. The deficiency patterns of epilepsy usually have a longer course and mainly include spleen deficiency with exuberant phlegm, and spleen and kidney deficiency. Spleen deficiency with exuberant phlegm patterns often present with repeated epileptic seizures, a lusterless complexion, fatigue, lack of strength, poor appetite and loose stools. The spleen and kidney deficiency pattern is often accompanied by mental retardation, aching and weak loins and knees, cold limbs, and other symptoms.

► Treatment Principles

In treating epilepsy, it is important to differentiate root and branch, and the relative deficiency or excess of the disease.

The excess pattern is treated by mainly focusing on the branch by eliminating phlegm and regulating qi, extinguishing wind, and opening the orifices to stabilize epilepsy.

The deficiency pattern is treated by mainly focusing on the root by fortifying the spleen, dissolving phlegm, and emolliating the liver to relieve spasms. Western and Chinese medicine can be combined for emergency treatment in patients with an epileptic state. Patients that have repeated onset or unsatisfactory results from using Chinese medicinals only should employ other therapeutic methods as a part of their comprehensive treatment including acupuncture, moxibustion, incision therapy, and catgut implantation.

The treatment course of epilepsy is relatively long. It is generally considered that after the clinical symptoms have disappeared, medication should still be taken continually for 2-3 years and extended to 1-2 years for pubertal patients, after which the drugs must be withdrawn gradually to avoid relapse. After the seizures have been controlled, pills, powders or syrups may be used instead of decoctions, whichever type is more convenient for the patient.

► Classification of Patterns and Treatments

Epilepsy due to Fright

Signs and Symptoms

There is usually a history of fright prior to onset. Manifestations include screaming, a protruding tongue, sudden crying, trance-like states, alternating flushed and pallid complexion, fidgeting, limb spasms and viscous stools. The tongue is light red with a white coating. The pulse is wiry and slippery, suddenly large and suddenly small, and the finger venules are blue.

Pattern Differentiation

As well as a history of being frightened, these patients may also have had a strong mental disturbance, such as a reaction to their parent's divorce. They are usually timid, irritable, restless sleepers, or suddenly sit up and cry at night. This pattern is characterized by screaming, sudden crying and fear during the onset, sometimes with unconsciousness and convulsions. The etiology in some of these patients can be related to genetic factors.

Treatment Principles

Suppress fright and calm the mind

Formula

Modified *Zhèn Jīng Wán*—Fright-Suppressing Pill

茯神	<i>fú shén</i>	Sclerotium Poriae Circum Radicem Pini
枣仁	<i>zǎo rén</i>	Semen Ziziphi Spinosae
远志	<i>yuǎn zhì</i>	Radix Polygalae
朱砂	<i>zhū shā</i>	Cinnabaris
珍珠	<i>zhēn zhū</i>	Margarita
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
胆南星	<i>dǎn nán xīng</i>	Rhizoma Arisaematis Cum Bile
钩藤	<i>gōu téng</i>	Ramulus Uncariae cum Uncis
天麻	<i>tiān má</i>	Rhizoma Gastrodiae
水牛角	<i>shuǐ niú jiǎo</i>	Cornu Bubali
牛黄	<i>niú huáng</i>	Calculus Bovis
黄连	<i>huáng lián</i>	Rhizoma Coptidis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Fú shén (Sclerotium Poriae Circum Radicem Pini), *zǎo rén* (Semen Ziziphi Spinosae), *yuǎn zhì* (Radix Polygalae), *zhū shā* (Cinnabaris) and *zhēn zhū* (Margarita) calm the heart and mind.

Shí chāng pú (Rhizoma Acori Tatarinowii), *bàn xià* (Rhizoma Pinelliae) and *dǎn nán xīng* (Rhizoma Arisaematis Cum Bile) eliminate phlegm and open the orifices.

Gōu téng (Ramulus Uncariae cum Uncis) and *tiān má* (Rhizoma Gastrodia) extinguish wind and relieve convulsions.

Shuǐ niú jiǎo (Cornu Bubali), *niú huáng* (Calculus Bovis) and *huáng lián* (Rhizoma Coptidis) clear heat and resolve toxins.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes all formula medicinals.

Modifications

For frequent seizures, add *wú gōng* (Scolopendra), *quán xiē* (Scorpion), *jiāng cán* (Bombyx Batryticatus) and *bái sháo* (Radix Paeoniae Alba) to emolliate the liver and extinguish wind.

For crying at night, add *cí shí* (Magnetitum) and powdered *hǔ pò* (Pulvis Succinum) to suppress fright and calm the mind.

For headache, add *jú huā* (Flos Chrysanthemi) and *shí jué míng* (Concha Haliotidis) to clear liver heat and drain fire.

The dose of *zhū shā* (Cinnabaris) in the above formula should be used with caution, usually 0.5-1 g (infused)/daily. To avoid mercury poisoning, do not use for more than one month.

Quán xiē (Scorpion), *wú gōng* (Scolopendra), *jiāng cán* (Bombyx Batryticatus) and other animal medicinals should be ground into powder and taken after mixing with water.

Chinese Patent Medicines

Hǔ Pò Bào Lóng Wán — Amber Hold Dragon Pill

One pill, twice daily. 1/3 pill for infants, dissolved in water.

Epilepsy due to Phlegm

Signs and Symptoms

Manifestations include excessive phlegm and saliva during the onset, phlegm rales in the throat, eyes staring straight forward, trance-like dementia or absent-mindedness or falling down, non-apparent limb tremors or local convulsions, decline in intelligence, or headache, abdominal pain, vomiting and limb pain. The symptoms tend to occur and disappear suddenly in the course of the disease. The tongue coating is white and greasy; the pulse is wiry and slippery.

Pattern Differentiation

This pattern is caused by turbid phlegm lingering and stagnating and confounding the heart orifice. It presents with relatively mild convulsions, but with greater mental symptoms such as a loss of vitality, falling down, etc. Some patients do not experience unconsciousness or convulsions, but instead present with headache, abdominal pain, vomiting, and limb pain. These symptoms also occur and disappear suddenly during the course of the disease. In stubborn cases, these signs and symptoms are caused by phlegm and qi counterflow, disturbing the *fu*-organs and obstructing the collaterals; this results in qi movement obstruction and bowel qi blockage.

Treatment Principles

Eliminate phlegm to open the orifices

Formula

Modified *Dí Tán Tāng* — Phlegm-Flushing Decoction

石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii
胆南星	<i>dǎn nán xīng</i>	Rhizoma Arisaematis Cum Bile
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
清半夏	<i>qīng bàn xià</i>	Prepared Rhizoma Pinelliae
茯苓	<i>fú líng</i>	Poria
青礞石	<i>qīng méng shí</i>	Lapis Chloriti
枳壳	<i>zhǐ qiào</i>	Fructus Aurantii
沉香	<i>chén xiāng</i>	Lignum Aquilariae Resinatum
川芎	<i>chuān xiōng</i>	Rhizoma Ligustici Chuanxiong
朱砂	<i>zhū shā</i>	Cinnabaris
天麻	<i>tiān má</i>	Rhizoma Gastrodiae

Formula Analysis

Shí chāng pú (Rhizoma Acori Tatarinowii), *dǎn nán xīng* (Rhizoma Arisaematis Cum Bile), *chén pí* (Pericarpium Citri Reticulatae), *qīng bàn xià* (Rhizoma Pinelliae), *fú líng* (Poria) and *qīng méng shí* (Lapis Chloriti) eliminate phlegm to open the orifices.

Zhǐ qiào (Fructus Aurantii), *chén xiāng* (Lignum Aquilariae Resinatum) and *chuān xiōng*

(Rhizoma Ligustici Chuanxiong) move qi, descend adverse qi and invigorate blood.

Zhū shā (Cinnabaris) and *tiān má* (Rhizoma Gastrodiae) calm the mind and extinguish wind.

Modifications

For frequent blinking and nodding, add *tiān zhú huáng* (Concretio Silicea Bambusae), *hǔ pò fěn* (Pulvis Succinum) and *lián zǐ xīn* (Plumula Nelumbinis) to clear heart heat and expel phlegm.

For headache, add *jú huā* (Flos Chrysanthemi) and *kǔ dīng chá* (Folium Ilicis Latifoliae) to disperse wind and clear heat.

For abdominal pain, add *bái sháo* (Radix Paeoniae Alba), *gān cǎo* (Radix Glycyrrhizae), *xuán hú suǒ* (Rhizoma Corydalis) and *chuān liàn zǐ* (Fructus Meliae Toosendan) to move qi to relieve pain.

For vomiting, add *dài zhě shí* (Haematitum) and *zhú rú* (Caulis Bambusae in Taenia) to descend adverse qi and arrest vomiting.

For limb pain, add *wēi líng xiān* (Radix Clematidis) and *jī xuè téng* (Caulis Spatholobi) to dispel wind and free the collaterals.

Chinese Patent Medicines

a. *Bái Jīn Wán*—Alum and Curcuma Pill

3-6 g, 1-2 times daily, take with warm water. Used for patients with phlegm and qi stagnation who present with epilepsy and mania, sudden fainting and drooling frothy saliva.

b. *Yáng Xián Fēng Wán*—Epilepsy Pill

1.5-3 g, once daily. Used for all kinds of epilepsy.

Epilepsy due to Wind

Signs and Symptoms

The early stage of onset is often due to a fever caused by exogenous pathogens. At the beginning, manifestations include sudden falling and unconsciousness with a stiff neck and body followed by limb spasms, eyes staring upwards or strabismus, lockjaw, and drooling of frothy saliva with blue lips and face. The tongue coating is white; the pulse is wiry and slippery.

Pattern Differentiation

This pattern usually develops from repeated seizures and acute infantile convulsions. The first onset is often caused by a high fever due to exogenous pathogens. The age of onset is under 5 years old; especially frequent in those under 3 years old. The symptoms gradually develop with a low fever and convulsions, or convulsions without fever. The manifestations of this pattern are mainly convulsions; usually there are tonic convulsions at the beginning and later clonic convulsions appear with unconsciousness, drooling of frothy saliva, and blue lips and face. If these symptoms persist, the condition can become life-threatening.

Treatment Principles

Extinguish wind and relieve convulsions.

Formula

Modified *Dìng Xián Wán*—Epilepsy-Stabilizing Pill

羚羊角粉	<i>líng yáng jiǎo fěn</i>	Pulvis Cornu Saigae Tataricae (infused)
天麻	<i>tiān má</i>	Rhizoma Gastrodiae

钩藤	<i>gōu téng</i>	Ramulus Uncariae cum Uncis
全蝎	<i>quán xiē</i>	Scorpion
蜈蚣	<i>wú gōng</i>	Scolopendra
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii
胆星	<i>dǎn xīng</i>	Rhizoma Arisaematis Cum Bile
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
远志	<i>yuǎn zhì</i>	Radix Polygalae
茯苓	<i>fú líng</i>	Poria
朱砂	<i>zhū shā</i>	Cinnabaris
川芎	<i>chuān xiōng</i>	Rhizoma Ligustici Chuanxiong
枳壳	<i>zhǐ qiào</i>	Fructus Aurantii

Formula Analysis

Líng yáng jiǎo fěn (Pulvis Cornu Saigae Tataricae) (infused), *tiān má* (Rhizoma Gastrodiae), *gōu téng* (Ramulus Uncariae cum Uncis), *quán xiē* (Scorpion) and *wú gōng* (Scolopendra) extinguish wind and relieve convulsions.

Shí chāng pú (Rhizoma Acori Tatarinowii), *dǎn xīng* (Rhizoma Arisaematis Cum Bile) and *bàn xià* (Rhizoma Pinelliae) eliminate phlegm to open the orifices.

Yuǎn zhì (Radix Polygalae), *fú líng* (Poria) and *zhū shā* (Cinnabaris) suppress fright and calm the mind.

Chuān xiōng (Rhizoma Ligustici Chuanxiong) and *zhǐ qiào* (Fructus Aurantii) move qi and invigorate blood.

Modifications

For high fever, add *shēng shí gāo* (Gypsum Fibrosum), *lián qiào* (Fructus Forsythiae) and *huáng qín* (Radix Scutellariae) to clear heat and extinguish wind.

For constipation, add *dà huáng* (Radix et Rhizoma Rhei), *fēng huà xiāo* (Natrii Sulfas Exsiccatus) and *lú huì* (Aloe) to drain fire and relieve constipation.

For dysphoria, add *huáng lián* (Rhizoma Coptidis) and *zhú yè* (Folium Phyllostachydis Henonis) to clear heat and calm the mind.

For stubborn cases with liver-kidney yin deficiency or deficiency wind stirring internally, add *bái sháo* (Radix Paeoniae Alba), *guī bǎn* (Carapax et Plastrum), *dāng guī* (Radix Angelicae Sinensis) and *shēng dì huáng* (Radix Rehmanniae Recens) to enrich yin, emolliate the liver and relieve convulsions.

Chinese Patent Medicines

Niú Huáng Zhèn Jīng Wán—Calculus Bovis Fright-Suppressing Pill

One pill, 2-3 times daily with *Bò He Tāng*—Peppermint Decoction or warm water. For children under one year old, the dosage should be reduced accordingly.

Epilepsy due to Blood Stasis

Signs and Symptoms

During the onset, manifestations include dizziness and falling, unconsciousness, unilateral or four limb spasms with similar location and posture of convulsions, headache,

and dry hard stools. The tongue is red with little coating, possibly with petechiae. The pulse is choppy; finger venules are deep and stagnated.

Pattern Differentiation

A patient with this pattern often has a history of birth trauma or cranial trauma. If caused by birth trauma, the age of the first seizure is often within 8 months. If caused by cranial trauma, the first seizure is often within 2 months after the injury. Seizures in older females may relate to the menstrual cycle and tend to start before menstruation, or when the menstrual volume is scanty. The location and symptoms of the seizures are more or less similar each time, and the timing of the seizures are periodic. Signs and symptoms here are mainly those of blood stasis.

Treatment Principles

Dissolve blood stasis and open the orifices

Formula

Modified *Tōng Qiào Huó Xuè Tāng*—Orifice-Opening Blood-Invigorating Decoction

桃仁	<i>táo rén</i>	Semen Persicae
红花	<i>hóng huā</i>	Flos Carthami
川芎	<i>chuān xiōng</i>	Rhizoma Ligustici Chuanxiong
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
老葱	<i>lǎo cōng</i>	Bulbus Allii Fistulosi
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii
天麻	<i>tiān má</i>	Rhizoma Gastrodiae
羌活	<i>qiāng huó</i>	Rhizoma et Radix Notopterygii

Formula Analysis

Táo rén (Semen Persicae), *hóng huā* (Flos Carthami), *chuān xiōng* (Rhizoma Ligustici Chuanxiong) and *chì sháo* (Radix Paeoniae Rubra) invigorate blood and dissolve stasis.

Lǎo cōng (Bulbus Allii Fistulosi) and *shí chāng pú* (Rhizoma Acori Tatarinowii) eliminate phlegm and open the orifices.

Tiān má (Rhizoma Gastrodiae) and *qiāng huó* (Rhizoma et Radix Notopterygii) extinguish wind and relieve convulsions.

Modifications

For severe headache with dry withered and purplish skin, add *sān qī* (Radix et Rhizome Notoginseng), *ē jiāo* (Colla Corii Asini), *dān shēn* (Radix Salviae Miltiorrhizae) and *wǔ líng zhī* (Faeces Trogopterori) to nourish and invigorate blood.

For hard stools, add *má rén* (Fructus Cannabis) and *lú huì* (Aloe) to moisten the intestines and relieve constipation.

For frequent attacks, add *Shī Xiào Sǎn*—Sudden Smile Powder to dissolve stasis and dissipate masses.

Epilepsy due to Spleen Deficiency and Phlegm Exuberance

Signs and Symptoms

Manifestations include frequent or repeated epileptic seizures, fatigue, lack of strength, a lusterless complexion, dizziness, poor appetite, and loose stools. The tongue is pale with a

thin greasy coating; the pulse is thready and soggy.

Pattern Differentiation

This pattern is mainly caused by repeated seizures that consume qi and yin; clinical manifestations are associated with spleen and stomach damage. The spleen is the source of phlegm; when turbid phlegm stagnates to obstruct the collaterals, persistent and intractable epilepsy can result.

Treatment Principles

Fortify the spleen and dissolve phlegm

Formula

Modified *Liù Jūn Zǐ Tāng*—Six Gentlemen Decoction

党参	<i>dǎng shēn</i>	Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
天麻	<i>tiān má</i>	Rhizoma Gastrodiae
钩藤	<i>gōu téng</i>	Ramulus Uncariae cum Uncis
乌梢蛇	<i>wū shāo shé</i>	Zaocys

Formula Analysis

Dǎng shēn (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) fortify the spleen and replenish qi.

Chén pí (Pericarpium Citri Reticulatae) and *bàn xià* (Rhizoma Pinelliae) move qi and dissolve phlegm.

Tiān má (Rhizoma Gastrodiae), *gōu téng* (Ramulus Uncariae cum Uncis) and *wū shāo shé* (Zaocys) pacify the liver and extinguish wind.

Modifications

For loose stools, add *shān yào* (Rhizoma Dioscoreae), *biǎn dòu* (Semen Dolichoris Album) and *huò xiāng* (Herba Pogostemonis) to fortify the spleen and dry dampness.

For poor appetite, add *jiāo shān zhā* (Fructus Crataegi Preparata), *jiāo shén qū* (Massa Medicata Fermentata Praeparata) and *shā rén* (Fructus Amomi Villosi) to awaken the spleen and stomach.

Epilepsy due to Spleen and Kidney Deficiency

Signs and Symptoms

Patients with this pattern are generally afflicted for many years and present with repeated attacks, dizziness, mental retardation, aching weak loins and knees, fatigue, lack of strength, weak breathing, reluctance to speak, cold limbs, restless sleep, and loose stools. The tongue is slightly red with a white coating; the pulse is deep, thready and weak.

Pattern Differentiation

This pattern is mainly caused by persistent severe convulsions consuming qi and damaging yang, resulting in spleen-kidney yang deficiency. The seizures mainly present

with convulsions and trembling with a poor constitution and obviously delayed intellectual development.

Treatment Principles

Supplement and replenish spleen and kidney

Formula

Modified *Hé Chē Bā Wèi Wán*—Human Placenta Eight Ingredients Pill

紫河车	<i>zǐ hé chē</i>	Placenta Hominis
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae Recens
茯苓	<i>fú líng</i>	Poria
山药	<i>shān yào</i>	Rhizoma Dioscoreae
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
麦冬	<i>mài dōng</i>	Radix Ophiopogonis
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan Radicis
肉桂	<i>ròu guì</i>	Cortex Cinnamomi
附子	<i>fù zǐ</i>	Radix Aconiti Lateralis Preparata

Formula Analysis

Zǐ hé chē (Placenta Hominis) supplements kidney qi.

Shēng dì huáng (Radix Rehmanniae Recens), *fú líng* (Poria), *shān yào* (Rhizoma Dioscoreae) and *zé xiè* (Rhizoma Alismatis) supplement qi, fortify the spleen and drain dampness.

Wǔ wèi zǐ (Fructus Schisandrae Chinensis), *mài dōng* (Radix Ophiopogonis) and *mǔ dān pí* (Cortex Moutan Radicis) clear heat, nourish yin, and promote fluid production.

Ròu guì (Cortex Cinnamomi) and *fù zǐ* (Radix Aconiti Lateralis Preparata) warm and supplement kidney yang.

Modifications

For frequent convulsions, add *biē jiǔ* (Carapax Trionycis) and *bái sháo* (Radix Paeoniae Alba) to enrich yin and extinguish wind.

For mental retardation, add *yì zhì rén* (Fructus Alpiniae Oxypfyllae) and *shí chāng pú* (Rhizoma Acori Tatarinowii) to supplement the kidney and open the orifices.

For loose stools, add *biǎn dòu* (Semen Dolichoris Album) and *páo jiāng* (Rhizoma Zingiberis Preparata) to warm the middle and fortify the spleen.

Chinese Patent Medicines

Shèn Qì Wán—Kidney Qi Pill

One pill, twice daily.

[OTHER THERAPIES]

1. BODY ACUPUNCTURE

Basic Prescription

DU 26 (<i>shuǐ gōu</i>)	DU 1 (<i>cháng qiáng</i>)	DU 8 (<i>jīn suō</i>)
RN 15 (<i>jiū wěi</i>)	ST 40 (<i>fēng lóng</i>)	GB 34 (<i>yáng líng quán</i>)
SI 3 (<i>hòu xī</i>)		

In the above formula, DU 26 (*shuǐ gōu*) is an important emergency point which acts to restore consciousness and open the orifices.

DU 1 (*cháng qiáng*) belongs to the *du mai* and RN 15 (*jiū wěi*) belongs to *ren mai*. These two points are the *luo*-connecting points of the *ren* and *du mai*. Concurrent use of these two points can restore the interaction between *ren* and *du mai* and adjust yin and yang; they are the most important points for epilepsy treatment.

GB 34 (*yáng líng quán*) is the influential point of the tendons. GB 34 with DU 8 (*jīn suō*) act together to extinguish wind and relieve convulsions.

ST 40 (*fēng lóng*) acts to expel both visible and invisible phlegm.

SI 3 (*hòu xī*) is one of the confluent points connecting with the eight extraordinary vessels; it acts to free yang qi in the *du mai*.

All points combined function to eliminate phlegm to the open orifices while extinguishing wind to check epilepsy.

Modifications

For fright epilepsy, add GB 13 (*běn shén*) and EX-HN3 (*yìn táng*), needle with drainage to suppress fright and calm the mind.

For wind epilepsy, add LI 4 (*hé gǔ*) and LV 3 (*tài chōng*), needle with drainage to extinguish wind and check epilepsy.

For phlegm epilepsy, add ST 40 (*fēng lóng*) and ST 36 (*zú sān lǐ*), needle with drainage to dissolve phlegm and harmonize the stomach.

For blood stasis epilepsy, add LI 4 (*hé gǔ*) and SP 10 (*xuè hǎi*), needle with neutral supplementation and drainage to move qi and invigorate blood.

For spleen deficiency and phlegm exuberance, add BL 20 (*pí shù*) and SP 9 (*yīn líng quán*) to fortify the spleen and dissolve phlegm.

For deficiency of both spleen and kidney, add BL 20 (*pí shù*), BL 23 (*shèn shù*), SP 6 (*sān yīn jiāo*) and KI 3 (*tài xī*), needle with supplementation to replenish the spleen and kidney.

For status epileptics, the following groups of acupoints can be used:

(1) PC 6 (*nèi guān*), DU 26 (*shuǐ gōu*), DU 16 (*fēng fǔ*), DU 14 (*dà zhuī*), SI 3 (*hòu xī*) and BL 62 (*shēn mài*).

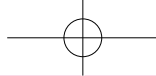
(2) DU 1 (*cháng qiáng*), RN 15 (*jiū wěi*), GB 34 (*yáng líng quán*) and DU 8 (*jīn suō*).

(3) ST 8 (*tóu wéi*) through to GB 8 (*shuài gǔ*), DU 20 (*bǎi huì*) through to DU 18 (*qiáng jiān*).

2. EAR ACUPUNCTURE

Stomach (<i>wèi</i>)	Shen men (<i>shén mén</i>)	Heart (<i>xīn</i>)
Brain stem (<i>nǎo gàn</i>)	Subcortex (<i>pí zhì xià</i>)	Liver (<i>gān</i>)
Kidney (<i>shèn</i>)		

Choose 2-4 points each time, using strong stimulation with needle retention for 20-30 minutes, or with needle implantation for 3-7 days.



3. TUI NA

Attack Stage:

Points	Repetitions	Methods
DU 26 (<i>shuǐ gōu</i>)	5-6	Pinching
DU 20 (<i>bǎi huì</i>)	30-50	Pressing
<i>lǎo lóng</i> (老龙)	3-5	Pinching
BL 57 (<i>chéng shān</i>)	3-5	Grasping
<i>xiǎo tiān xīn</i> (小天心)	100-300	Kneading
<i>wǔ zhǐ jié</i> (五指节)	3-5	Pinching
ST 40 (<i>fēng lóng</i>)	50-100	Kneading

Pinch DU 26 (*shuǐ gōu*) 5-6 times, press DU 20 (*bǎi huì*) 30-50 times, pinch *lǎo lóng* (老龙) 3-5 times, grasp BL 57 (*chéng shān*) 3-5 times, knead *xiǎo tiān xīn* (小天心) 100-300 times, pinch *wǔ zhǐ jié* (五指节) 3-5 times, and knead ST 40 (*fēng lóng*) 50-100 times.

At onset when the patient loses consciousness, they should be rescued quickly to open the orifices and restore consciousness. At this time fewer points are used, but with heavier manipulation. This point formula can shorten the duration of onset and relieve symptoms.

Intermittent Phase:

Points	Repetitions	Methods
DU 20 (<i>bǎi huì</i>)	100-200	Kneading
<i>xīn mén</i> (囟门)	100	Rubbing
EX-HN5 (<i>tài yáng</i>)	30-50	Circling
<i>jǐ</i> (脊)	5-10	Pinching
<i>Èr rén shàng mǎ</i> (二人上马)	100-500	Kneading

Knead DU 20 (*bǎi huì*) 100-200 times, rub *xīn mén* (囟门) 100 times, circle EX-HN5 (*tài yáng*) 30-50 times, pinch along the spine 5-10 times, and knead *èr rén shàng mǎ* (二人上马) 100-500 times.

This therapy should be applied long-term, usually once daily or every two days and continued for several months or even years. It can reduce epileptic onsets, relieve symptoms, and enhance the patient's physique and vitality.

It has been observed that massage on the head, face and neck can change EEG distribution and amplitude. By selecting the appropriate acupoints and applying the correct manipulations, this therapy is feasible for the treatment and prevention of epileptic seizures.

[WESTERN MEDICINE THERAPIES]

1. CHOICES OF ANTI-EPILEPSY MEDICINE

The choice of anti-epilepsy medicine mainly depends on the type of seizure. The drugs

selected for each type of seizure are arranged according to their efficacy. See Table 25-4.

Table 25-4 Drugs Selected by Seizure Type (In order of efficacy)

Epilepsy Syndrome	Drugs
Partial Seizures	Carbamazepine, Sodium Valproate, Phenobarbital, Phenytoin sodium
Absence Seizures	Sodium Valproate, Ethosuximide, Clonazepam
Tonic-Clonic Seizures	Sodium Valproate, Phenobarbital, Carbamazepine, Phenytoin sodium
Myoclonic Seizures, Atonic seizures	Sodium Valproate, Clonazepam, Primidone,
Infantile Spasms	Clonazepam, Nitrazepam, ACTH, Prednisone, Sodium Valproate

2. TREATMENT OF STATUS EPILEPTICUS

Epileptic status is defined as continuous unremitting epileptic seizures lasting longer than 30 minutes, or recurrent seizures without regaining consciousness between seizures that last more than 30 minutes. The patient experiencing status epilepticus needs emergency treatment to control the seizures as soon as possible. The treatment principles for status epilepticus are as follows.

a. Rapid control of convulsions: benzodiazepines are the first choice including diazepam, clonazepam or lorazepam. The dose of diazepam is 0.3-0.5 mg/kg, maximum ≤ 10 mg, infants ≤ 5 mg, intravenous injection 1 mg/ minute.

Efficacy is shown within 5 minutes in most cases. This may be repeated after 20 minutes if necessary and used up to 2-4 times within 24 hours. If convulsions cease during the process of injection, stop injecting the remaining liquid. Benzodiazepines can suppress respiration, especially for those who have taken Phenobarbital, thus they must be used with caution.

b. Prevent and treat the complications to maintain vital functions by maintaining an open airway, oxygen administration and other measures to prevent and treat high fever, cerebral edema, acidosis, electrolyte imbalance, and respiratory or circulatory failure.

c. Actively seek and treat the etiology.

d. Begin a reasonable long-term anti-epileptic drug treatment plan immediately after the seizures have been controlled.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) For effective prenatal health care, pregnant women are advised to maintain a calm state of mind, avoid undesirable mental stimulation, and to avoid falls or strikes to the abdomen.

(2) To prevent birth trauma or injury, pregnant women should have regular prenatal examinations, and pay attention to protecting the fetus before birth. To ensure early professional help during a difficult labor, be aware of the risks of using obstetric forceps or vacuum extractors to avoid suffocation and to prevent fetal brain injury.

(3) To prevent at risk children becoming frightened or fearful, prohibit terrifying

movies or television and avoid frightening situations.

(4) In order to prevent sequelae of acute infantile convulsions due to epidemic B encephalitis, toxic bacillary dysentery, etc., the treatment must persist until the disease is completely cured. To prevent sequelae caused by phlegm-dampness obstructing the collaterals and disturbing the heart, phlegm must be cleared completely.

2. NURSING CARE

(1) Control precursory factors of seizures such as high fever, fright, stress, fatigue, emotional excitement, etc. Prohibit electronic games during the attack stage.

(2) Prevent the child from playing beside water or fire; avoid accidents from sharp tools such as knives and scissors.

(3) During a seizure, avoid attempting to forcibly stop the convulsions because of the possibility of bone or sinew injury. Help the patient lie in a lateral recumbent position, wrap a tongue depressor with gauze, and place it between the teeth. This ensures an open airway, drains away saliva and phlegm, and helps the patient avoid biting the tongue or suffocating.

(4) After the convulsions, patients are usually tired and lethargic, so ensure that they have enough rest. To enable recovery of healthy qi, allow them to sleep well and protect them from loud noises.

[CASE STUDIES]

► Case #1. Female, age 9. Initial Visit: 4/17/1985

She had suffered from epilepsy for three and a half years with a history of being frightened. Since the previous year, she had had recurrent epileptic seizures with falling down, convulsions, strabismus and vomiting frothy saliva. The seizures lasted about 5 minutes. Upon awakening she had a stuffy feeling in the chest and dizziness. She defecated once every 3 days with an uncomfortable feeling. The EEG showed an “epileptic discharge.” She had taken phenobarbital (luminal) and phenytoin sodium for a long time without being able to control the epilepsy. The sides of her tongue were red with a greasy thin yellow coating. Her pulse was wiry, slippery and rapid. The treatment principle here is to eliminate phlegm, open the orifices, and drain heat to check epilepsy.

Formula

桂枝	<i>guì zhī</i>	6 g	Ramulus Cinnamomi
石菖蒲	<i>shí chāng pú</i>	20 g	Rhizoma Acori Tatarinowii
胆南星	<i>dǎn nán xīng</i>	10 g	Rhizoma Arisaematis Cum Bile
姜半夏	<i>jiāng bàn xià</i>	10 g	Rhizoma Pinelliae Praeparatum
陈皮	<i>chén pí</i>	6 g	Pericarpium Citri Reticulatae
黄芩	<i>huáng qín</i>	10 g	Radix Scutellariae
天竺黄	<i>tiān zhú huáng</i>	10 g	Concretio Silicea Bambusae
僵蚕	<i>jiāng cán</i>	10 g	Bombyx Batryticatus

蜈蚣	wú gōng	2条	Scolopendra
枳壳	zhǐ qiào	6 g	Fructus Aurantii
大黄	dà huáng	6 g	Radix et Rhizoma Rhei

Once daily with *Diān Xián Èr Hào Piàn*—Epilepsy No. 2 Tablet
4 tablets, twice daily.

After one week the seizures were still frequent, but their duration was obviously shortened and the other symptoms were also alleviated. The stools became normal and the yellow tongue coating had disappeared. The former treatment principle was applied continually with the following formula:

Formula

桂枝	guì zhī	10 g	Radix Glycyrrhizae
石菖蒲	shí chāng pú	20 g	Fructus Aurantii
胆南星	dǎn nán xīng	10 g	Poria
黄芩	huáng qín	10 g	Concha Ostreae
姜半夏	jiāng bàn xià	10 g	Ramulus Uncariae cum Uncis
陈皮	chén pí	6 g	Bombyx Batryticatus
僵蚕	jiāng cán	10 g	Pericarpium Citri Reticulatae
钩藤	gōu téng	10 g	Rhizoma Pinelliae Praeparatum
生牡蛎	shēng mǔ lì	30 g	Radix Scutellariae
茯苓	fú líng	10 g	Rhizoma Arisaematis Cum Bile
枳壳	zhǐ qiào	6 g	Rhizoma Acori Tatarinowii
甘草	gān cǎo	3 g	Ramulus Cinnamomi

Once daily, with *Diān Xián Èr Hào Piàn*—Epilepsy No. 2 Tablet
4 tablets twice daily, while reducing the dosage of Western medicines.

After treatment she had no relapses for one and a half months and all Western medicines were withdrawn. She presented with good spirits and had normal stools, but occasionally she still felt dizzy and lacking in strength. Her tongue coating was thin and white, the pulse was soggy.

The treatment here was to fortify the spleen, replenish qi, and dissolve phlegm to check epilepsy.

Formula

桂枝	guì zhī	6 g	Ramulus Cinnamomi
党参	dǎng shēn	12 g	Radix Codonopsis
胆南星	dǎn nán xīng	10 g	Rhizoma Arisaematis Cum Bile
茯苓	fú líng	10 g	Poria

陈皮	<i>chén pí</i>	6 g	Pericarpium Citri Reticulatae
白术	<i>bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae
姜半夏	<i>jiāng bàn xià</i>	10 g	Rhizoma Pinelliae Praeparatum
僵蚕	<i>jiāng cán</i>	10 g	Bombyx Batryticatus
石菖蒲	<i>shí chāng pú</i>	15 g	Rhizoma Acori Tatarinowii
枳壳	<i>zhǐ qiào</i>	6 g	Fructus Aurantii
炙甘草	<i>zhì gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle

Diān Xián Èr Hào Piàn—Epilepsy No. 2 Tablet. Dosage, 4 tablets twice daily.

This formula was taken for one year without relapse. EEG on 3/10/1987 was normal.

Analysis

Making a comprehensive overview of this case, the child had typical symptoms such as unconsciousness, convulsions, vomiting of frothy saliva, a stuffy feeling in the chest and dizziness upon awakening. Her tongue was red on the sides with a thin greasy yellow coating, and her pulse was wiry, slippery and rapid.

The pathomechanism of this case was phlegm obstructing the channels and collaterals, reversing upwards to the orifices and hindering the ascending and descending qi movement of the *zang-fu* organs. This prevented yin and yang from connecting with each other and affecting clear yang, thus epilepsy occurred. This is an excess pattern belonging to phlegm-type epilepsy.

Source: Yang XL. Therapeutic Epilepsy Experiences from Chen Baiping [J]. Liaoning Journal of Traditional Chinese Medicine, 1988; 2(7):1.

► Case #2. Female, age 7

The child had suffered repeatedly with convulsions and falling down unconscious after repeated vomiting since early 1975. She was diagnosed with abdominal epilepsy by EEG examination and was treated with phenytoin sodium and chlordiazepoxide (Librium) for about one year.

On May 2, 1976 she had recurrent convulsions, unconsciousness and lockjaw. The episodes were controlled after treatment in a hospital. On May 7 she suffered a paroxysmal convulsion and relapsed into unconsciousness with urinary incontinence. Phenytoin sodium, chlordiazepoxide (Librium) and primidone had no effect. On May 10, she had a sudden high fever and cough with an axillary temperature of 40°C, incessant paroxysmal convulsions and unconsciousness.

Fluoroscopy of the chest showed pneumonia in the left upper lobe of the lung. Because of the critical epileptic status she was transferred to our hospital. After treatment with primidone and other anti-epilepsy drugs and antibiotics, her condition still had not improved. Traditional Chinese medicine was added from May 12, and from May 15 she was treated with only traditional Chinese medicine.

At the initial visit on May 12, the child presented with incessant paroxysmal convulsions, unconsciousness, weakness upon awakening, somnolence, semi-conscious states, urinary incontinence, a ruddy complexion and warm limbs. She had a red tongue with a greasy thick yellow coating. Her pulse was slippery, rapid and slightly wiry.

Chinese Patent Medicines:

Powdered *líng yáng jiǎo* (Pulvis Cornu Saigae Tataricae).

0.1 g, taken as infusion, 3 times daily.

Hǔ Pò Bào Lóng Piàn—Amber Hold Dragon Tablet

2 tablets, 3 times daily.

Formula

玳瑁	dài mào	10 g	Carapax Eretmochelydis
黄芩	huáng qín	10 g	Radix Scutellariae
夏枯草	xià kū cǎo	10 g	Spica Prunellae
珍珠母	zhēn zhū mǔ	30 g	Concha Margaritifera
牡蛎	mǔ lì	30 g	Concha Ostreae
地龙	dì lóng	10 g	Lumbricus
蜈蚣	wú gōng	10 g	Scolopendra
蝎尾	xiē wěi	3 pieces	Cauda Scorpionis
白金丸	Bái Jīn Wán	10 g	Alum and Curcuma Pill

3 doses for 3 days.

After taking the above formula, the convulsions were alleviated; after taking the formula for another 3 days, the convulsions stopped and she regained consciousness. She was discharged from hospital a week later with follow-ups at the outpatient department. She took Chinese medicinals continually for more than 5 years. For the first 3 years she took the medicinals daily, then every second day for the last 2 years, finally reducing the dosage to once a week. During these 5 years she did not experience convulsions or unconsciousness, and had normal mental development with good academic achievements. In 1988 her EEG showed no epileptic discharges, so the epilepsy was considered to be completely cured.

Analysis

This child presented with recurrent seizures characterized by convulsions, unconsciousness, vomiting of frothy saliva, weakness upon awakening, somnolence, urinary incontinence, a ruddy complexion, and warm limbs. She had a red tongue with a thick yellow greasy coating. Her pulse was slippery, rapid and slightly wiry. The high fever was attributed to pneumonia, also causing her seizures and epileptic status.

The pathomechanism was external contraction of a seasonal pathogen transforming into heat and fire. Exuberant fire produced wind, and exuberant wind produced phlegm. Wind and fire agitated each other and the phlegm and fire combined together to disturb the spirit, obstruct the channels and collaterals, and finally result in epilepsy.

The pattern differentiation belongs to wind epilepsy and the pathological nature belongs to an excess heat pattern. The treatment principle was to extinguish wind and check epilepsy. A modification of *Dìng Xián Wán*—Epilepsy-Stabilizing Pill was selected.

Source: Shan SJ, Chen ZH, Editor. Required Readings from Ancient and Modern Esteemed Doctors' Clinical Practice (Depressive Psychosis, Mania and Epilepsy Book) [M]. Beijing: China Press of Traditional Chinese Medicine, 1998: 284.

[QUESTIONS]

1. A 5-year-old child accidentally fell down from a height at 2 years old, leading to a right temporal hematoma. Since the accident, the child had frequent episodes of epilepsy with drooling saliva, strange sounds in the throat, and a right temporal headache upon awakening. The child had a red tongue with petechiae and little coating. The pulse was choppy. The finger venules were deep and stagnated.

What is the pathomechanism in this case?

- A. Sudden fright, phlegm counterflow with qi.
- B. Exuberant phlegm and saliva stagnating and obstructing the heart orifices.
- C. Blood stasis obstructing internally and confounding the heart orifices.
- D. Febrile disease damaging yin, stirring wind due to yin deficiency.
- E. External contraction of pathogenic qi, stirring of internal wind.

2. A 7-year-old presents with repeated epilepsy, fatigue, a lack of strength, a lusterless complexion, dizziness, a poor appetite and loose stools. The tongue is pale with a thin greasy coating. The pulse is thready and weak.

Which of the following formulas is the best choice?

- A. *Dìng Xián Wán*—Epilepsy-Stabilizing Pill
- B. *Dí Tán Tāng* Phlegm—Flushing Decoction
- C. *Liù Jūn Zǐ Tāng*—Six Gentlemen Decoction
- D. *Tōng Qiào Huó Xuè Tāng*—Orifices-Opening Blood-Invigorating Decoction
- E. *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill

3. A 6-year-old child presents with a history of being frightened in early childhood and symptoms of suddenly falling down with unconsciousness, drooling, the head leaning to the left, frequent seizures, and limb spasms. The symptoms last only a few seconds. The tongue is pale with white slippery coating. The pulse is thready and wiry.

What is the correct treatment principle?

- A. Suppress fright and calm the mind.
- B. Extinguish wind and arrest fright.
- C. Clear phlegm and arrest fright.
- D. Dissolve stasis and relieve stuffy orifices.
- E. Clear heat and arrest fright.

4. A 4-year-old presents with symptoms of suddenly falling down with unconsciousness, drooling saliva, head and eyes deviating to the right, twitching of the four limbs, and rales in the throat since age 3 with no obvious predisposing cause. The symptoms last for several seconds, after which the child had a feeling of chest tightness and dizziness. The tongue is pale with a white greasy coating, and the pulse is wiry and slippery.

Which of the following formulas is the best choice?

- A. *Dìng Xián Wán*—Epilepsy-Stabilizing Pill
- B. *Dí Tán Tāng*—Phlegm-Flushing Decoction
- C. *Zhèn Jīng Wán*—Fright-Suppressing Pill
- D. *Tōng Qiào Huó Xuè Tāng*—Orifices-Opening Blood-Invigorating Decoction
- E. *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill

5. A 15-year-old suffered from stubborn frequent epileptic seizures for years with the symptoms

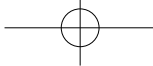
of dizziness, aching and weak loins and knees, fatigue, a lack of strength, weak breathing, reluctance to speak, cold limbs, restless sleep, and loose stools. The tongue is pink with a white coating. The pulse is deep, thready and weak.

Which of the following formulas is the best choice?

- A. *Dí Tán Tāng*—Phlegm-Flushing Decoction
- B. *Dìng Xián Wán*—Epilepsy-Stabilizing Pill
- C. *Liù Jūn Zǐ Tāng*—Six Gentlemen Decoction
- D. *Tōng Qiào Huó Xuè Tāng*—Orifices-Opening Blood-Invigorating Decoction
- E. *Hé Chē Bā Wèi Wán*—Human Placenta Eight Ingredients Pill

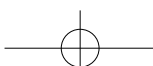
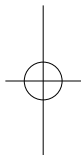
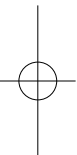
[REFERENCES]

- [1] Wang SC, Yu JM. Clinical Research in Chinese Pediatrics [M]. Beijing: People's Medical Publishing House, 2009:304.
- [2] ILAE Commission Report. Epidemiology of Epilepsy: Future Directions [J]. *Epilepsia*, 1997; 38 (5): 614-618.
- [3] Jallon P. ILAE Workshop Report: Epilepsy in Developing Countries [J]. *Epilepsia*, 1997; 38 (10):1143-1151.
- [4] Ma C, Zhang XL. Clinical Observation of *Xī Fēng Jiāo Náng*—Extinguishing Wind Capsules for Treating Children with Epilepsy and Tonic-Clonic Seizures in 200 Cases [J]. *Journal of Traditional Chinese Medicine*, 2004; 45(5):363.
- [5] Zhang LC. Coordinating Acupuncture & Chinese Medicinals to Treat Children's Epilepsy in 15 Cases [J]. *Shanghai Journal of Acupuncture and Moxibustion*, 2006; 25(5):32.



Part V

Kidney Diseases



Chapter 26

Acute Glomerulonephritis

Acute glomerulonephritis (AGN) refers to a specific set of renal diseases in which an immunological mechanism triggers inflammation and proliferation of glomerular tissue. The main clinical characteristics of acute glomerulonephritis (AGN) are: acute onset, edema, oliguria, hematuria, proteinuria and hypertension. It belongs to the TCM categories of “edema (*shuǐ zhōng*)” and “hematuria (*niào xuè*)”.

Acute glomerulonephritis (AGN) is one of the commonly seen renal diseases in childhood. In the last decade, Chinese and overseas epidemiological data have shown that the worldwide incidence has declined significantly. In the United States and Western European countries, AGN accounted for only 10%-15% of glomerular diseases. The national survey of 105 hospitals in China in 1982 showed that children with AGN accounted for 53.7% of kidney and urinary tract diseases, falling to 37% in 1992.

AGN is most often seen in children and adolescents especially between the ages of 5-14, but is rarely seen in children under 2 years old. It is predominantly in boys, with the male-female ratio about 2:1. The disease can occur seasonally with the highest incidence being in autumn and winter. The prognosis is usually favorable and most patients eventually recover completely within six months, while in a few patients minor urinary abnormalities will persist for about one year^[1].

Zheng WL et al. treated 38 cases of AGN with modified *Má Huáng Lián Qiào Chì Xiǎo Dòu Tāng*—Ephedra, Fructus Forsythiae and Semen Phaseoli Decoction consisting of *má huáng* (Herba Ephedrae), *lián qiào* (Fructus Forsythiae), *chì xiǎo dòu* (Semen Phaseoli), *huáng bǎi* (Cortex Phellodendri Chinensis), *zhī mǔ* (Rhizoma Anemarrhenae), *zhī zǐ* (Fructus Gardeniae), *xiǎo jì* (Herba Cirsii), *dì yú* (Radix Sanguisorbae), *huái huā* (Flos Sophorae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae), and compared them to 37 cases in a control group.

The control group received oral Dipyridamole and Hydrochlorothiazide, *Dān Shēn Zhù Shè Yè* (Salvia Injection) and penicillin sodium by intravenous drip. The test group, in addition to these conventional treatments, also took modified *Má Huáng Lián Qiào Chì Xiǎo Dòu Tāng*—Ephedra, Fructus Forsythiae and Semen Phaseoli Decoction, one dose daily.

The treatment stopped for both groups when the hematuria disappeared; this generally occurred after approximately 2 weeks. The results showed that the regression times of both edema and hematuria were significantly shorter in the test group than the control group ($P < 0.01$). A 6 month post-treatment follow-up showed 4 cases of relapse in the test group representing 10.53% of the recurrence rate, which compared favourably to 13 cases in the control group representing 35.14% of the recurrence rate ($X^2 = 6.43$, $P < 0.05$) and indicating a significantly lower recurrence rate in the test group^[2].

Liang J.W et al. applied Chinese herbal medicines to treat 36 cases of AGN with patterns of internal damp-heat attack. The control group received conventional management by Western medicine. The test group, in addition to the conventional therapy also used medicinal herbs to clear heat, drain dampness, and cool and activate the blood.

The formula ingredients included 20 g of *bái máo gēn* (Rhizoma Imperatae), 10 g of *chē*

qián zǐ (Semen Plantaginis) (wrapped), 10 g of *jīn yín huā* (Flos Lonicerae Japonicae), 10 g of *lián qiào* (Fructus Forsythiae), 15 g of *yì mǔ cǎo* (Herba Leonuri), 15 g of *xiān hè cǎo* (Herba Agrimoniae), 10 g of *xuán shēn* (Radix Scrophulariae), 15 g of *xiǎo jì* (Herba Cirsii) and 5 g of *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

The medicinals were decocted in water and administered as one daily dose divided into 2 portions taken in the morning and evening. One course of treatment was 30 days. Results showed that at the end of 30 days, the number of cured cases in the test group was significantly higher than in the control ($P < 0.05$). The average time of hypertension amelioration in the test group (4.0 ± 4.1 days) was significantly shorter than in the control group (6.9 ± 5.8 days) ($P < 0.05$)^[3]. However, there was no significant difference in the average time that the edema disappeared ($P < 0.05$) between the test group (5.1 ± 4.6 days) and the control group (5.4 ± 5.0 days).

In recent years, as a result of integrating traditional Chinese and Western medicine, serious complications have been significantly reduced and the prognosis is generally good for most patients with about 95% of cases recovering completely. Less than 5% of cases have persistent urinary abnormalities and are liable to develop chronic glomerulonephritis. Such chronic patients present with progressive renal damage involving autoimmune responses, with a mortality rate of less than 1%. The main cause of death is acute renal failure.

Factors affecting prognosis may include the following: sporadic forms are worse than epidemics; adults have a worse prognosis than children and the aged have an even worse prognosis. Patients in the acute phase accompanied by severe long-term proteinuria resulting in serious renal damage also have a poor prognosis. The prognosis is worse for patients with a marked increase in proliferation of mesangial and epithelial cells (as demonstrated in histomorphology), or those with more than 40% of the glomeruli developing epithelial crescent formations, or those cases with an atypical “hump” (such as too large or fusional).

[ETIOLOGY & PATHOMECHANISM]

1. ETIOLOGY

The main causes of AGN include externally contracted pathogenic factors and healthy qi deficiency. The former has a close relationship with mainly pathogenic wind and dampness, or with sore toxins invading internally, or improper diet; the latter has a relationship with lung, spleen and kidney deficiencies. These three *zang* organs fail to transport and transform dampness due to their functional insufficiencies so that wind, cold, dampness, heat and toxins are able to invade the body and cause disease. The etiology of the disease is: the branch is in the lung, the restriction is in the spleen and the root is in the kidney.

2. PATHOMECHANISMS

Deficiency of Healthy Qi

If a child's innate endowment is deficient and there is hypofunction of the lung, spleen and kidney (in particular, lung and spleen qi deficiency); these internal factors may lead to developing AGN.

The lung is the canopy of the five *zang* and six *fu* organs, governing the whole body's qi, as well as being the upper source of water. If lung qi is deficient, then the body will be prone to external pathogenic factors. These pathogenic factors lodge in the body's superficies and obstruct lung qi, causing the lung to fail to free and regulate the waterways, causing internal retention of water and dampness. The spleen governs the transportation and transformation of water and dampness, while the kidney governs water discharge; these organs work in conjunction with the *sanjiao*, bladder and other *zang-fu* organs to produce effective water metabolism through various functions including qi transformation and excretion.

If spleen qi is deficient, dampness will be generated internally, or if kidney function is affected either by spleen disorders or is invaded by external pathogenic factors, then the deficiency of these three *zang* organs will lead to insufficiency of healthy qi, insecurity of defensive qi, abnormal fluid metabolism, loss of regulation control, impaired transportation and transformation as well as the opening and closing functions. This eventually results in dampness overflowing into the skin, causing edema.

Invasion of External Pathogens

The external pathogens that cause AGN mainly include pathogenic wind, dampness and heat-toxins.

When pathogenic wind is accompanied with cold or heat invading the exterior, leading to lung qi stagnation and failure to disperse and descend, the lung becomes unable to distribute fluids upward nor dredge and regulate the waterways downward. As a result, wind is restrained and water is obstructed, causing the accumulated water to flood into the skin and limbs exteriorly and invade the *zang-fu* organs and channels interiorly. This is due to the contention between the stagnant wind and water, thus leading to edema (called "wind edema" in TCM).

The spleen and stomach can be injured by any of the following factors: exposure to climatic or environmental conditions of excessive dampness such as wading in water or getting wet in the rain; all these result in dampness invading the interior. Dietary irregularities or unclean food can also injure the spleen. The injured spleen fails to transport, so water turns into dampness, and foods are undigested and retained. It is unable to raise the clear yang and descend turbid yin. Therefore, dampness flows over into the limbs to cause edema. Stagnated dampness may also transform into heat which steams the muscles and skin, leading to damp-heat edema. When damp-heat attacks downwards and damages the blood channels in the lower *jiao*, it causes hematuria.

Skin sores, boils, erysipelas, eczema and other damp-heat toxins internally invade the *zang-fu* organs, injuring the lung and spleen, both of which adversely affect the kidney. The lung fails to disperse and regulate, the spleen also fails to transport and transform, the kidney fails to govern water, the bladder fails in qi transformation, and the *sanjiao* cannot control discharge, so water metabolism is disturbed, and water transportation is hampered, consequently leading to the congested water overflowing into the muscles and skin which then develops into heat-toxin edema. The heat-toxin pathogen may also injure the blood channels of the bladder, causing hematuria.

During the development of the disease, if dampness and heat-toxins are intense and healthy qi is adversely affected, then a series of critical clinical patterns are likely to develop as follows:

a. Invasion of Pathogenic Factors in the Heart and Liver

Damp-heat toxin stagnates in the spleen and stomach and invades the *jueyin* levels, leading to the hyperactive ascent of liver yang, liver wind stirring internally and obstruction of the heart orifice, thus causing headache, dizziness, and even convulsions or coma.

b. Water Attacking Heart and Lung

Overflow of pathogenic water attacks the heart and lung, affecting the heart yang and blocking lung qi; therefore the heart is not nourished and the lung fails to purify and descend, resulting in dyspnea, palpitations and possible cyanosis.

c. Water Toxin Blocking Internally

Internal exuberance of turbid-dampness, spleen and kidney debilitation, accumulation and congestion in the *sanjiao*, as well as loss of control of ascending and descending of qi movement all contribute to the failure of transportation and drainage, which results in water-toxin blocking internally and causing oliguria or anuria. This syndrome is also called “ischuria (*lóng bì*)” or “anuria and vomiting (*guān gē*)”.

In short, the main causes of AGN are externally contracted pathogenic wind, damp-heat, and sore toxins that result in dysfunction of the lung, spleen and kidney (especially the lung and spleen). When wind, heat or toxins combine with water and dampness, the functions of regulation, transportation, transformation and opening-closing are out of control, and the water metabolism is impeded, leading to edema.

Because damp-heat and water-toxins can injure the lung, spleen and kidney in the acute stages (with consequential qi and yin deficiencies of these three *zang* organs, and long-standing retention of damp-heat in the recovery stage), these situations cause prolonged hematuria accompanied by a pattern of yin and qi deficiency. Hematuria may occur when pathogenic heat injures the blood channels of the lower *jiao*.

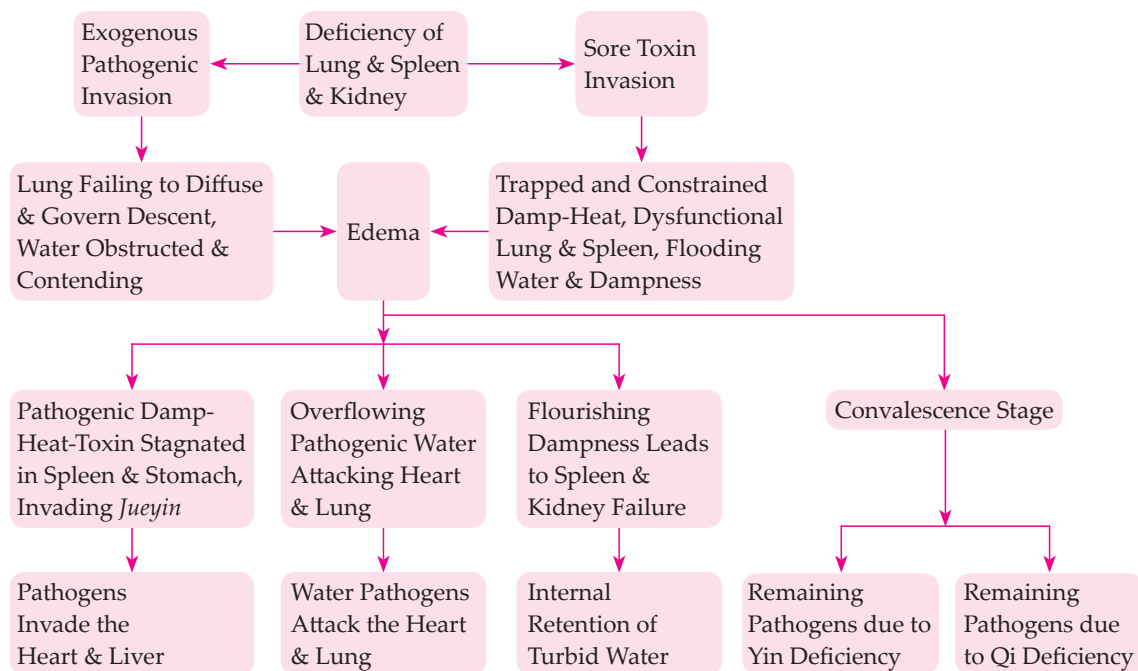


Fig. 26-1 Etiology and Pathomechanisms of Acute Glomerulonephritis

In severely deteriorated cases of AGN, overflowing water-toxin may result in retained water-toxins invading the heart and liver (with accompanying hypertensive encephalopathy), or attacking the heart and lung (with accompanying acute congestive cardiac failure), or simply internal retention of the water-toxin (with accompanying acute renal failure).

When damp-heat becomes long-standing, it can injure yin and consume qi, resulting in yin or qi deficiency with lingering pathogenic factors which will prolong the course of disease. When the disease becomes chronic, it will spread into the collaterals causing blockage of the channels and vessels, resulting in manifestations of blood stasis such as enduring hematuria, a dull complexion and purple tongue.

[DIFFERENTIAL DIAGNOSIS]

► Essentials of Diagnosis

a. History: there is a latent period varying from a few days to approximately 3 weeks between the onset of a streptococcal infection of the upper respiratory tract or skin, or other acute infections and the development of clinical glomerulonephritis.

b. Clinical Manifestations: typical manifestations include an acute onset characteristically presenting with edema, hypertension, hematuria and oliguria together with fatigue, dizziness and other systemic symptoms. The significant early symptoms in severe cases may be complicated by hypertensive encephalopathy, acute congestive cardiac failure, and acute renal failure.

c. Laboratory examinations: routine urine analysis red blood cells, cellular casts, various degrees of proteinuria, and a temporary decrease in serum concentration of the total complement in the acute stage.

► Differential Diagnosis

AGN should be differentiated from nephrotic syndrome, IgA nephropathy and urinary tract infections, as illustrated in Table 26-1.

Table 26-1 Acute Glomerulonephritis, Nephrotic Syndrome, IgA Nephropathy and Urinary Tract Infections

Essentials of Diagnosis	Acute Glomerulonephritis	Nephrotic Syndrome	IgA Nephropathy	Urinary Tract Infection
History of Prodromal Infection	1-3 weeks	No	1-2 days	No
Main Symptoms	Edema, hypertension, hematuria, oliguria	Severe edema	Repeated visible gross hematuria, normal urine examination or hematuria under microscope during intervals between active stages, no edema or hypertension	Fever-obvious urinary tract infection, no edema or hypertension

Continued

Essentials of Diagnosis	Acute Glomerulonephritis	Nephrotic Syndrome	IgA Nephropathy	Urinary Tract Infection
Laboratory Examinations	Erythrocytes & RBC casts in urine, differing degrees of proteinuria, decreased C ₃ & increased ASO in blood	Increased proteinuria, low protein in blood, raised plasma cholesterol	Kidney biopsy shows obvious diffuse IgA deposits in mesangial region	Increased WBC & cellular casts in urine, positive urine bacteriological examination

At present, there is no specific and effective treatment with Western medicine for children diagnosed with IgA nephropathy. Nevertheless, children should be hospitalized for treatment with Western medicine or integrated Western and Chinese medicine according to the state of illness. In mild cases, TCM treatment can be used for the chief complaint based on pattern differentiation.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

According to the affects of the different external pathogens, disease duration and state and degree of severity, AGN can be differentiated into the following six patterns: conjoint invasion of wind and damp, internal invasion of damp-heat, lung and spleen qi deficiency, water pathogen attacking the heart and lung, pathogenic factors invading the *jueyin*, and internal blockage by water toxins. The first three are the most commonly seen. The pattern of contention between wind and water and the pattern of internal invasion by damp-heat occur in the early stages, while the pattern of lung and spleen qi deficiency occurs in the later stages. The last three are changing deteriorated patterns which may occur in the early stages of patients with a severe condition.

The pattern of contention between wind and water usually occurs after a sore throat due to wind-heat in the lung channel and is characterized by a rapid onset with initial eyelid edema followed by limb edema and translucent skin. The edema resumes immediately after finger pressure is released. This pattern is accompanied by symptoms of pathogenic wind fettering the exterior.

The pattern of internal invasion of damp-heat is usually seen after skin sores and furuncles, manifesting as scanty dark tea-colored urine with limb edema accompanied by skin sore-toxin, fever, stuffiness and oppression in the epigastrium as well as a poor appetite and nausea.

The pattern of lung and spleen qi deficiency manifests as slight or absent edema, susceptibility to external pathogens, profuse sweating, a lusterless complexion, fatigue, and a lack of strength.

Water pathogens attacking the heart and lung manifests with edema of the limbs, cough, dyspnea, palpitations, chest oppression, cyanotic lips, irritability, and difficulty lying flat.

Pathogenic factors invading the *jueyin* mainly manifest as headache, dizziness, blurred vision, irritability, and even convulsions and coma. Internal blockage of water toxin is

characterized by whole body edema, oliguria or anuria, dizziness, headache, nausea, vomiting and even coma.

► Treatment Principles

The treatment principles for AGN should be based on the pathomechanisms. This is mainly due to excess pathogenic factors during the acute stage, and deficiency of healthy qi during the convalescence stage. Therefore, the main focus is to dispel pathogens during the acute stage by dispersing the lung to promote urination, clearing heat, cooling blood, resolving toxins and draining dampness. On the other hand, during convalescence the key is to reinforce healthy qi and assist with dispelling pathogens. At the same time, attention should be paid to assessing the extent of the healthy qi deficiency as well as the amount of lingering pathogens in order to determine the relative weight of treatment between supplementing the healthy qi and dispelling the pathogens.

For example, in the early stages of convalescence, the main clinical feature is lingering damp-heat. Therefore, the principal treatment is to clear the residual damp-heat, assisted by reinforcement of healthy qi (either by nourishing yin or boosting qi).

In the late stages of convalescence, because damp-heat is close to being eliminated, the treatment emphasis should be on reinforcing the healthy qi while either clearing heat or resolving dampness. If, on the other hand, the condition is one of purely deficient healthy qi with little or no obvious signs of pathogens, then the treatment of choice is nourishment/supplementation therapy. However, in doing so, care must be taken not to commence nourishment using warming herbs too early, in order to avoid the possibility of promoting any lingering pathogens and consequently prolonging the course of the disease. It is important to bear in mind the TCM principle of nourishing/supplementing without promoting the pathogens, as well as the idea of eliminating pathogens without damaging healthy qi.

For deteriorated patterns, base the treatment on the signs and symptoms and apply medicinals that calm the liver and extinguish wind, clear heart-heat and promote urination, purge the lung and expel water, warm and nourish heart yang, or purge the bowels and direct the turbid downwards. At the same time, patients should be managed concurrently with Western medicine.

► Classification of Patterns and Treatments

1. ACUTE STAGES

A. Common Patterns

Wind and Water Contending

Signs and Symptoms

Manifestations include the sudden onset of facial and eyelid edema that quickly spreads to the whole body with translucent skin, edema resuming immediately after finger pressure is released, scanty and dark urine, and slight aversion to wind and cold. There may be fever, dry mouth or thirst, a sore swollen throat, and cough with nasal congestion. The tongue is pale with a thin white or thin yellow coating, and the pulse is floating.

Pattern Differentiation

This pattern is usually brought upon by externally contracted wind pathogens, and is seen in the early stages. It is characterized by acute onset, rapid progress, general edema

(especially head and face) and is accompanied by signs and symptoms of exterior wind-cold or wind-heat.

Treatment Principles

Dispel wind, diffuse the lung, promote urination to alleviate edema

Formula

Modified *Má Huáng Lián Qiào Chì Xiǎo Dòu Tāng*—Ephedra, Fructus Forsythiae and Semen Phaseoli Decoction with *Wǔ Líng Sǎn*—Five Substances Powder with Poria

麻黄	<i>má huáng</i>	Herba Ephedrae
桂枝	<i>guì zhī</i>	Ramulus Cinnamomi
连翘	<i>lián qiào</i>	Fructus Forsythiae
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
茯苓	<i>fú líng</i>	Poria
猪苓	<i>zhū líng</i>	Polyporus
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Má huáng (Herba Ephedrae) and *guì zhī* (Ramulus Cinnamomi) disperse wind-cold, diffuse the lung and promote urination.

Lián qiào (Fructus Forsythiae) clears heat and resolves toxins.

Xìng rén (Semen Armeniacae Amarum), *fú líng* (Poria), *zhū líng* (Polyporus), *zé xiè* (Rhizoma Alismatis) and *chē qián zǐ* (Semen Plantaginis) act together to diffuse the lung, descend qi and promote urination to relieve edema.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For cough and dyspnea, add *tíng lì zǐ* (Semen Lepidii), *sū zǐ* (Fructus Perillae), *shè gān* (Rhizoma Belamcandae) and *sāng bái pí* (Cortex Mori) to purge the lung and relieve dyspnea.

For preponderant wind-cold, add *qiāng huó* (Rhizoma et Radix Notopterygii) and *fáng jǐ* (Radix Stephaniae Tetrandrae) to dispel wind and disperse cold.

For hypertension, remove *má huáng* (Herba Ephedrae) and add *fú píng* (Herba Spirodelae), *gōu téng* (Ramulus Uncariae Cum Uncis), *niú xī* (Radix Achyranthidis Bidentatae) and *xià kǔ cǎo* (Spica Prunellae) to promote urination, calm the liver and reduce fire.

For severe hematuria, add *xiǎo jì* (Herba Cirsii), *qiàn cǎo* (Radix et Rhizoma Rubiae) and *xiān hè cǎo* (Herba Agrimoniae) to cool the blood and stanch bleeding.

For wind-heat accumulating in the throat, replace the formula with a modified *Xuán Mài Gān Jié Tāng*—Figwort, Wheat, Licorice and Platycodon Decoction and *Yín Qiào Sǎn*—Lonicera and Forsythia Powder to dispel wind, clear heat, relieve sore throat and resolve toxins.

Medicinals commonly used include: *xuán shēn* (Radix Scrophulariae), *mài dōng* (Radix

Ophiopogonis), *jié gěng* (Radix Platycodonis), *shā shēn* (Radix Adenophorae), *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *niú bàng zǐ* (Fructus Arctii), *shè gān* (Rhizoma Belamcandae), *shān dòu gēn* (Radix et Rhizoma Sophorae Tonkinensis) and *lú gēn* (Rhizoma Phragmitis).

Chinese Patent Medicines

a. *Yín Huáng Kǒu Fú Yè*—Lonicera and Forsythia, Radix Scutellariae Liquid

5-10 ml, 2-3 times daily.

b. *Fù Fāng Dān Shēn Zhù Shè Yè*—Compound Formula Salvia Injection

Mix 10-20 ml with 50-100 ml of 5% glucose solution, administer by intravenous drip once daily. 14 days as one course of treatment.

Electro-Acupuncture

Instrument: Model WLSY-8000, Kidney Therapy Instrument (manufactured by Beijing Weili Technology and Trade Company)

Procedure

The patient lies in a supine position. Needle the eight acupuncture points as listed and connect the electrodes. Stimulate each point in turn by raising the voltage intensity gradually to a tolerable sub-painful threshold without causing discomfort. Each point is treated for 4 minutes, once daily, 7 days as one course of treatment.

Acupuncture points

RN 4 (<i>guān yuán</i>)	ST 28 (<i>shuǐ dào</i>)	BL 23 (<i>shèn shù</i>)
BL 28 (<i>páng guāng shù</i>)	SP 9 (<i>yīn líng quán</i>)	SP 6 (<i>sān yīn jiāo</i>)
ST 36 (<i>zú sān lǐ</i>)	KI 1 (<i>yǒng quán</i>)	

Enema Therapy

Formula

大黄	<i>dà huáng</i>	1.5-15 g	Radix et Rhizoma Rhei
丹参	<i>dān shēn</i>	6-8 g	Radix et Rhizoma Salviae Miltiorrhizae
金银花	<i>jīn yín huā</i>	6-12 g	Flos Lonicerae Japonicae
杏仁	<i>xìng rén</i>	3-6 g	Semen Armeniacae Amarum
茯苓	<i>fú líng</i>	3-18 g	Poria
甘草	<i>gān cǎo</i>	3-9 g	Radix et Rhizoma Glycyrrhizae
白茅根	<i>bái máo gēn</i>	10-30 g	Rhizoma Imperatae

Decoct with water and concentrate to 50-200 ml. Filter the decoction with sterile gauze, maintain a temperature at about 37°C, pour into the enema and drip into the rectum at a rate of 20-60 drops per minute. Give one dose daily for 10 days as one course of treatment. Three treatment courses are generally required.

Internal Invasion of Damp-Heat

Signs and Symptoms

Manifestations include severe or mild general edema of the head, face, body and limbs, scanty and dark urine, heaviness of the head and body, stuffiness and oppression in the

epigastrium, poor appetite, a bitter taste and sticky sensation in the mouth, ungratifying defecation, often with recent history of sore-toxins. The tongue is red with a greasy yellow coating, and the pulse is slippery and rapid.

Pattern Differentiation

The pattern is usually seen in cases with internal invasion of sore-toxins during the middle or later stages of the disease, or after the remission or disappearance of edema. It may also be seen in the lasting stages of edema. Signs and symptoms include hematuria, heaviness of the head and body, stuffiness in the epigastrium, poor appetite, a bitter taste and sticky sensation in mouth, and ungratifying defecation. The tongue is red with a greasy yellow coating.

Treatment Principles

Clear heat and drain dampness, cool blood and check bleeding

Formula

Modified *Wǔ Wèi Xiǎo Dú Yǐn*—Five Ingredients Toxin-Removing Beverage and *Xiǎo Jì Yǐn Zī*—Field Thistle Drink

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
野菊花	<i>yě jú huā</i>	Flos Chrysanthemi Indici
蒲公英	<i>pú gōng yīng</i>	Herba Taraxaci
紫花地丁	<i>zǐ huā dì dīng</i>	Herba Violae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
猪苓	<i>zhū líng</i>	Polyporus
淡竹叶	<i>dàn zhú yè</i>	Herba Lophatheri
小蓟	<i>xiǎo jì</i>	Herba Cirsii
蒲黄	<i>pú huáng</i>	Pollen Typhae
当归	<i>dāng guī</i>	Radix Angelicae Sinensis

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae), *yě jú huā* (Flos Chrysanthemi Indici), *pú gōng yīng* (Herba Taraxaci) and *zǐ huā dì dīng* (Herba Violae) clear heat and resolve toxins.

Zhī zǐ (Fructus Gardeniae) clears and drains heat from the *sanjiao*.

Zhū líng (Polyporus) and *dàn zhú yè* (Herba Lophatheri) drain dampness and clear heat.

Xiǎo jì (Herba Cirsii), *pú huáng* (Pollen Typhae) and *dāng guī* (Radix Angelicae Sinensis) cool blood, check bleeding and dissipate blood stasis.

Modifications

For dark and difficult urination, add *bái huā shé shé cǎo* (Herba Hedyotis Diffusae), *shí wéi* (Folium Pyrrosiae) and *jīn qián cǎo* (Herba Lysimachiae) to clear heat and drain dampness.

For headache and dizziness, add *gōu téng* (Ramulus Uncariae Cum Uncis) and *jú huā* (Flos Chrysanthemi) to pacify the liver and reduce fire.

For skin sore toxins or eczema, add *kǔ shēn* (Radix Sophorae Flavescens), *bái xiān pí* (Cortex Dictamni) and *dì fū zǐ* (Fructus Kochiae) to dry dampness and resolve toxins, dispel

wind and relieve itching.

For a bitter taste and sticky sensation in the mouth, add *yīn chén* (Herba Artemisiae Scopariae) and *lóng dǎn cǎo* (Radix et Rhizoma Gentianae) to dry dampness and clear heat.

For constipation, add *shēng dà huáng* (Radix et Rhizoma Rhei) to purge fire and descend turbidity.

Chinese Patent Medicines

a. *Shèn Yán Jiě Rè Piàn*—Nephritis Antipyretic Heat-Clearing Tablets

3 g, 2-3 times daily.

b. *Shèn Fù Kāng Jiāo Náng*—Kidney Recovering Capsules

5 pills, 3 times daily.

Bowel Dripping Therapy

Formula

大黄	dà huáng	6-30 g	Radix et Rhizoma Rhei
丹参	dān shēn	9-30 g	Radix et Rhizoma Salviae Miltiorrhizae
赤芍	chì sháo	6-20 g	Radix Paeoniae Rubra
生地	shēng dì	6-30 g	Radix Rehmanniae
紫花地丁	zǐ huā dì dīng	3-15 g	Herba Violae
薏苡仁	yì yǐ rén	3-30 g	Semen Coicis
猪苓	zhū líng	3-30 g	Polyporus
茯苓	fú líng	3-30 g	Poria
甘草	gān cǎo	3-15 g	Radix et Rhizoma Glycyrrhizae

Decoct with water and concentrate to 50-200 ml. Filter the decoction with sterile gauze, maintain the temperature at about 37°C, pour into the enema and drip into the rectum at a rate of 20-60 drops per minute. Give one dose each day for 10 days as one course of treatment. Three treatment courses are generally required.

Enema Therapy

Formula

大黄	dà huáng	Radix et Rhizoma Rhei
黄柏	huáng bǎi	Cortex Phellodendri Chinensis
芒硝	máng xiāo	Natrii Sulfas
柴胡	chái hú	Radix Bupleuri
车前草	chē qián cǎo	Herba Plantaginis
益母草	yì mǔ cǎo	Herba Leonuri
黄芪	huáng qí	Radix Astragali
龙骨	lóng gǔ	Os Draconis
牡蛎	mǔ lì	Concha Ostreae

Decoct with water and concentrate to 100-150 ml. The decoction is maintained at a temperature of 36-40°C. The patient lies in a lateral position (with the hips slightly blocked up). Then slowly pour the decoction into the colon. Administer twice daily, with 7 days as one course of treatment. The dose must not be more than 150 ml each time.

B. Deteriorated Patterns

Pathogenic Invasion into Jueyin

Signs and Symptoms

Manifestations include limb and face edema, headache, dizziness, vexation and restlessness, blurred vision, bitter taste in the mouth, nausea, vomiting, and scanty dark urine, with possible convulsions and coma. The tongue is red with a rough yellow coating; the pulse is wiry and rapid.

Pattern Differentiation

This pattern is usually seen in the early stage of the disease with severe hypertension characterized by headache, dizziness, vexation and agitation, vomiting, and possible convulsions and coma.

Treatment Principles

Pacify the liver and drain fire, clear heart-fire, and promote urination

Formula

Modified *Lóng Dǎn Xiè Gān Tāng*—**Gentian Liver-Draining Decoction** and *Líng Jiǎo Gōu Téng Tāng*—**Antelope Horn and Uncaria Decoction**

龙胆草	<i>lóng dǎn cǎo</i>	Radix et Rhizoma Gentianae
菊花	<i>jú huā</i>	Flos Chrysanthemi
黄芩	<i>huáng qín</i>	Radix Scutellariae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
竹叶	<i>zhú yè</i>	Folium Phyllostachydis Henonis
羚羊角	<i>líng yáng jiǎo</i>	Cornu Saigae Tataricae (swallowed separately)
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
白芍	<i>bái sháo</i>	Radix Paeoniae Alba

Formula Analysis

Lóng dǎn cǎo (Radix et Rhizoma Gentianae) clears excess liver channel heat.

Jú huā (Flos Chrysanthemi) and *huáng qín* (Radix Scutellariae) clear heat and resolve toxins.

Zhī zǐ (Fructus Gardenia), *shēng dì huáng* (Radix Rehmanniae), *zé xiè* (Rhizoma Alismatis), *chē qián zǐ* (Semen Plantaginis) and *zhú yè* (Folium Phyllostachydis Henonis) clear heart heat and promote urination.

Líng yáng jiǎo (to be swallowed separately) (Cornu Saigae Tataricae), *gōu téng* (Ramulus Uncariae Cum Uncis) and *bái sháo* (Radix Paeoniae Alba) calm the liver and extinguish

wind.

Modifications

For constipation, add *dà huáng* (Radix et Rhizoma Rhei) and *máng xiāo* (Natrii Sulfas) to unblock the bowels and purge fire.

For severe headache and dizziness, add *xià kǔ cǎo* (Spica Prunellae) and *shí jué míng* (Concha Haliotidis) to clear liver fire and subdue liver yang.

For nausea and vomiting, add *bàn xià* (Rhizoma Pinelliae) and *dǎn nán xīng* (risaema cum Bile) to resolve turbidity and descend the adverse upward qi flow.

Chinese Patent Medicines

a. *Qīng Kāi Líng Zhù Shè Yè*—Qingkailing Injection

Mix 10-20 ml with 100-250 ml of 5% glucose solution for intravenous infusion, once daily.

b. *Niú Huáng Qīng Xīn Wán*—Bovine Bezoar Heart-Clearing Pill

1 pill, once daily.

c. *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill

1/4 pill once daily for children under 3 years old. 1/2 pill once daily for 4-6 year olds.

Water Attacking Heart and Lung

Signs and Symptoms

Manifestations include significant generalized edema, frequent coughing and shortness of breath, chest distress and palpitations, difficulty lying flat, vexation and restlessness, a pale complexion, and possible cyanosis of the lips and fingers. The tongue is dark red with a white greasy coating; the pulse is deep, thready and faint.

Pattern Differentiation

This pattern is usually seen in the early stage of disease and is often due to severe edema, characterized by significant generalized edema, frequent coughing and shortness of breath, chest distress and palpitations with difficulty lying flat.

Treatment Principles

Drain the lung to expel water, warm yang and reinforce healthy qi.

Formula

Modified *Jǐ Jiāo Lì Huáng Wán*—Stephania Root, Zanthoxylum, Lepidium and Rhubarb Pill with *Shēn Fù Tāng*—Ginseng and Aconite Decoction

防己	<i>fáng jǐ</i>	Radix Stephaniae Tetrandrae
椒目	<i>jiāo mù</i>	Semen Zanthoxyli
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
桑白皮	<i>sāng bái pí</i>	Cortex Mori
茯苓皮	<i>fú líng pí</i>	Cutis Poriae
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
葶苈子	<i>tí lí zǐ</i>	Semen Lepidii
大黄	<i>dà huáng</i>	Radix et Rhizoma Rhei
附子	<i>fù zǐ</i>	Radix Aconiti Lateralis Praeparata
人参	<i>rén shēn</i>	Radix et Rhizoma Ginseng

Formula Analysis

Fáng jǐ (Radix Stephaniae Tetrandrae), *jiāo mù* (Semen Zanthoxyli), *zé xiè* (Rhizoma Alismatis), *sāng bái pí* (Cortex Mori), *fú líng pí* (Cutis Poriae) and *chē qián zǐ* (Semen Plantaginis) promote urination to alleviate edema.

Tíng lì zǐ (Semen Lepidii) and *dà huáng* (Radix et Rhizoma Rhei) purge the lung to eliminate fluid retention.

Fù zǐ (Radix Aconiti Lateralis Praeparata) and *rén shēn* (Radix et Rhizoma Ginseng) warm yang and reinforce healthy qi.

Modifications

For heart yang failure manifesting with a gray complexion, reversal cold of the hands and feet, sweating, and a faint pulse, replace the formula with *Shēn Fù Lóng Mǔ Jiù Nì Tāng*—Ginseng and Aconite, Os Draconis, Concha Ostreae Collapse-Saving Decoction to restore yang from collapse.

For mild cases, replace the formula with a modified *Sān Zǐ Yǎng Qīn Tāng*—Three-Seed Filial Devotion Decoction to regulate the lung, descend qi, and promote urination to reduce edema.

Medicinals commonly used include: *sū zǐ* (Fructus Perillae), *tíng lì zǐ* (Semen Lepidii), *bái jiè zǐ* (Semen Sinapis), *xiāng yuán pí* (Cutis Fructus Citri), *dà fù pí* (Pericarpium Arecae), *hú lú* (Fructus Lagenariae), *zhì má huáng* (liquid-fried Herba Ephedrae), *xìng rén* (Semen Armeniacae Amarum) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Chinese Patent Medicines

Yán Suān Chuān Xióng Qín Zhù Shè Yè—Ligustrazine Hydrochloride Injection.

Mix 50 mg with 50-300 ml of 10% glucose solution, administer by intravenous drip, once daily. 7 days as one course of treatment; 2-3 courses are usually required.

Internal Blockage by Water Toxin

Signs and Symptoms

Manifestations include general edema, scanty urine, or retention of dark tea-colored urine, dizziness, headache, nausea, vomiting, somnolence and even coma. The tongue is pale and enlarged with a putrid greasy coating; the pulse is slippery and rapid or deep, thready and rapid.

Pattern Differentiation

This pattern is usually seen in the early stage of the disease and is mainly caused by persistent scanty urine or anuria. Therefore, the characteristic clinical features are scanty urine and urine retention accompanied by dizziness, headache, nausea, vomiting and somnolence or even coma.

Treatment Principles

Unblock bowels and descend the turbid, resolve toxins and promote urination

Formula

Modified *Wēn Dǎn Tāng*—Gallbladder-Warming Decoction with *Fù Zǐ Xiè Xīn Tāng*—Aconite Heart-Draining Decoction

黄连	<i>huáng lián</i>	Rhizoma Coptidis
大黄	<i>dà huáng</i>	Radix et Rhizoma Rhei
黄芩	<i>huáng qín</i>	Radix Scutellariae

姜半夏	<i>jiāng bàn xià</i>	Rhizoma Pinelliae Praeparatum
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
竹茹	<i>zhú rú</i>	Caulis Bambusae in Taenia
枳实	<i>zhǐ shí</i>	Fructus Aurantii Immaturus
茯苓	<i>fú líng</i>	Poria
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
制附子	<i>zhì fù zǐ</i>	Radix Aconiti Lateralis Praeparata
生姜	<i>shēng jiāng</i>	Rhizoma Zingiberis Recens

Formula Analysis

Huáng lián (Rhizoma Coptidis), *dà huáng* (Radix et Rhizoma Rhei) and *huáng qín* (Radix Scutellariae) clear excess fire and drain turbidity and toxins.

Jiāng bàn xià (Rhizoma Pinelliae Praeparatum), *chén pí* (Pericarpium Citri Reticulatae), *zhú rú* (Caulis Bambusae in Taenia) and *zhǐ shí* (Fructus Aurantii Immaturus) descend qi and resolve turbidity.

Fú líng (Poria) and *chē qián zǐ* (Semen Plantaginis) promote urination to alleviate edema.

Zhì fù zǐ (Radix Aconiti Lateralis Praeparata) and *shēng jiāng* (Rhizoma Zingiberis Recens) warm yang and resolve damp-turbidity.

Modifications

For frequent vomiting, take *Yù Shū Dān*—Jade Axis Elixir to dispel turbidity and check vomiting. For those who cannot take the drug orally, decoct the ingredients and concentrate them to 100-200 ml. To be administered via enema when cooled down to body temperature, 1-2 times daily.

Chinese Patent Medicines

Zǐ Xuě Jiāo Náng—Purple Snow Elixir Capsules

0.3 g once daily for 1 year old children. For children under 5 years, the dose starts at 0.3 g at 1 year of age, with an increment of 0.3 g for each additional year of age, once daily. For children over 5 years of age, 1.5-3.0 g, twice daily.

2. CONVALESCENCE STAGE

The convalescence stage is indicated by edema remission, increased urine output, reduced high blood pressure, and amelioration of hematuria and proteinuria. At this stage, healthy qi has gradually become deficient while some lingering pathogenic factors remain. In the early convalescence stages, the main residual pathogen is usually damp-heat; as the disease becomes prolonged, it gradually develops into patterns of qi and yin deficiency.

Yin Deficiency with Lingering Pathogens

Signs and Symptoms

Manifestations include a lack of strength, dizziness, a hot feeling in the palms and soles, lumbar ache, night sweating and a recurrent red pharynx. The tongue is red with little coating; the pulse is thready and rapid.

Pattern Differentiation

This is the most common presenting pattern in the convalescence stage often seen in

children with constitutional yin deficiency, or in children who have suffered from intense heat-toxin during the acute stage. Signs and symptoms include a hot feeling in the palms and soles, aching lumbus and night sweats. The tongue is red with little coating. There is persistent hematuria (visible with a microscope) and other symptoms of kidney yin deficiency.

Treatment Principles

Nourish yin, enrich kidney, and clear residual heat

Formula

Modified *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill with *Èr Zhì Wán*—Double Supreme Pill

生地黃	<i>shēng dì huáng</i>	Radix Rehmanniae
山茱萸	<i>shān zhū yú</i>	Fructus Corni
山藥	<i>shān yào</i>	Rhizoma Dioscoreae
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
澤瀉	<i>zé xiè</i>	Rhizoma Alismatis
茯苓	<i>fú líng</i>	Poria
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
黃柏	<i>huáng bǎi</i>	Cortex Phellodendri Chinensis
女貞子	<i>nǚ zhēn zǐ</i>	Fructus Ligustri Lucidi
旱蓮草	<i>hàn lián cǎo</i>	Herba Ecliptae

Formula Analysis

Among *shēng dì huáng* (Radix Rehmanniae), *shān zhū yú* (Fructus Corni), *shān yào* (Rhizoma Dioscoreae), *mǔ dān pí* (Cortex Moutan), *zé xiè* (Rhizoma Alismatis) and *fú líng* (Poria), the former three are supplementing and the latter three are purging medicinals, which act to enrich kidney yin, purge damp-turbidity and clear deficiency heat.

Zhī mǔ (Rhizoma Anemarrhenae) and *huáng bǎi* (Cortex Phellodendri Chinensis) enrich yin and subdue fire.

Nǚ zhēn zǐ (Fructus Ligustri Lucidi) and *hàn lián cǎo* (Herba Ecliptae) enrich yin, clear heat, and stanch bleeding.

Modifications

For lasting hematuria, add *xiān hè cǎo* (Herba Agrimoniae) and *qiàn cǎo* (Radix et Rhizoma Rubiae) to cool blood and stanch bleeding.

For dark red tongue, add *shēn sān qī* (Radix et Rhizoma Notoginseng) and *hǔ pò* (Succinum) to resolve stasis to stanch bleeding.

For recurrent red pharynx, add *xuán shēn* (Radix Scrophulariae), *shān dòu gēn* (Radix et Rhizoma Sophorae Tonkinensis) and *bǎn lán gēn* (Radix Isatidis) to clear heat and relieve the throat.

For those with lung yin deficiency, replace the formula with modified *Mài Wèi Dì Huáng Tāng*—Ophiopogon, Chinensis and Ingredients Rehmannia Decoction to nourish the lung and kidney and clear heat.

Commonly used medicinals include *shā shēn* (Radix Adenophorae seu Glehniae), *xuán shēn* (Radix Scrophulariae), *mài dōng* (Radix Ophiopogonis), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *bǎi hé* (Bulbus Lilii), *shēng dì* (Radix Rehmanniae), *shān zhū yú* (Fructus Corni), *fú líng* (Poria), *lú gēn* (Rhizoma Phragmitis), *shè gān* (Rhizoma Belamcandae), *niú bàng zǐ* (Fructus Arctii) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Chinese Patent Medicines

a. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill

3 g, 2-3 times daily.

b. *Shèn Yán Kāng Fù Piàn*—Nephritis-Treating Tablets

2 tablets, 3 times daily.

c. *Shèn Yán Sì Wèi Piàn*—Nephritis Four Ingredients Tablets

4-6 tablets, 3 times daily.

Qi Deficiency with Lingering Pathogens

Signs and Symptoms

Manifestations include fatigue, lack of strength, a sallow yellow complexion, poor appetite, loose stools, spontaneous sweating and a tendency to catch colds. The tongue is pale red with a white coating; there is a moderate and weak pulse.

Pattern Differentiation

This pattern is usually seen in children with constitutional lung-spleen qi deficiency. Signs and symptoms include fatigue, poor appetite, loose stools, spontaneous sweating and a tendency to catch colds.

Treatment Principles

Fortify the spleen and resolve dampness

Formula

Modified *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae

Powder

党参	<i>dǎng shēn</i>	Radix Codonopsis
黄芪	<i>huáng qí</i>	Radix Astragali
茯苓	<i>fú líng</i>	Poria
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
山药	<i>shān yào</i>	Rhizoma Dioscoreae
砂仁	<i>shā rén</i>	Fructus Amomi
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
白扁豆	<i>bái biǎn dòu</i>	Semen Lablab Album
薏苡仁	<i>yì yǐ rén</i>	Semen Coicis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Dǎng shēn (Radix Codonopsis), *huáng qí* (Radix Astragali), *fú líng* (Poria), *bái zhú* (Rhizoma Atractylodis Macrocephalae) and *shān yào* (Rhizoma Dioscoreae) boost qi and fortify the spleen.

Shā rén (Fructus Amomi), *chén pí* (Pericarpium Citri Reticulatae), *bái biǎn dòu* (Semen Lablab Album) and *yì yǐ rén* (Semen Coicis) move qì, fortify the spleen and eliminate dampness.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For lasting edema, add *fú líng pí* (Cutis Poriae), *zé xiè* (Rhizoma Alismatis) and *chē qián zǐ* (Semen Plantaginis) to percolate and drain dampness with bland medicinals.

For poor appetite, add *shén qū* (Massa Medicata Fermentata) and *jiāo shān zhā* (Fructus Crataegi Praepareta) to fortify the spleen and harmonize the stomach.

For persistent hematuria, add *shēn sǎn qī* (Radix et Rhizoma Notoginseng) and *dāng guī* (Radix Angelicae Sinensis) to nourish blood, resolve stasis, and stanch bleeding.

For pale dark tongue with possible stasis spots, add *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *hóng huā* (Flos Carthami) and *táo rén* (Semen Persicae) to invigorate blood and dissolve stasis.

Chinese Patent Medicines

Huáng Qí Zhù Shè Yè—Radix Astragali Injection

Mix 10-20 ml with 100-250 ml 5% glucose solution; administer by intravenous infusion once daily for 7 days as one course of treatment. 2-3 courses are generally required.

Enema/Bowel Dripping Therapy

Formula

大黄	dà huáng	3-12 g	Radix et Rhizoma Rhei
丹参	dān shēn	3-15 g	Radix et Rhizoma Salviae Miltiorrhizae
黄芪	huáng qí	6-20 g	Radix Astragali
白术	bái zhú	3-15 g	Rhizoma Atractylodis Macrocephalae
知母	zhī mǔ	3-15 g	Rhizoma Anemarrhenae
黄柏	huáng bǎi	3-15 g	Cortex Phellodendri Chinensis
茯苓	fú líng	3-15 g	Poria
生地	shēng dì	3-15 g	Radix Rehmanniae
甘草	gān cǎo	3-15 g	Radix et Rhizoma Glycyrrhizae

Decoct and concentrate to 50-200 ml. Filter the decoction with sterile gauze, maintain temperature at about 37°C, pour into the enema and drip into the rectum at a rate of 20-60 drops per minute. Apply one dose daily for 10 days as one course of treatment. Three treatment courses are generally required. This method is used for patterns of lung and spleen qì deficiency with damp-heat.

[WESTERN MEDICINE]

1. HYPERTENSIVE ENCEPHALOPATHY

It can use sodium nitroprusside to control blood pressure, diazepam to act against convulsions and diuretics to promote urination. At the same time, ensure that the airways



are kept clear, and oxygen may be administered if needed.

2. SEVERE CIRCULATORY CONGESTION

Acute nephritis complicated with acute congestive cardiac failure is usually caused by water-sodium retention and high blood volume. Accordingly, drugs that enhance myocardial contractility such as digitalis are generally not used. Rather, diuretics such as furosemide should be given to induce quick diuresis, lower blood pressure and reduce the preload and afterload pressures on the heart. If sodium and water intake restrictions and diuretic methods cannot control the heart failure, then hemodialysis should be used to rapidly alleviate the excessive load on the cardiac cycle.

3. ACUTE RENAL FAILURE

This is best treated by restricting fluid intake to the amount required to replace losses. A low-protein, low salt, low potassium and low phosphorus diet is recommended. At the same time, it is essential to correct water and electrolyte disturbances and acidosis. Hemodialysis should be carried out when necessary.

[PREVENTION AND NURSING CARE]

1. PREVENTION

a. The most important measure to prevent AGN is to avoid infection; it is important to reduce the chance of respiratory tract and skin infections. Children with acute tonsillitis, scarlet fever and impetigo should be treated as soon as possible using penicillin or other antibiotic therapy. Routine urine analysis should be monitored within 1-3 weeks of infection, so that AGN may be discovered and treated in time.

b. Avoid damp or air-polluted environments.

2. NURSING CARE

a. Bed rest is generally recommended for 2-3 weeks during the acute phase until the hematuria disappears, edema subsides, and the blood pressure returns to normal. Only then may the patient get out of bed and commence minor activities. Heavy physical activity should be avoided within 3 months. Patients should wait until absolute cell counts in the urine return to normal levels before resuming physical activity.

b. Protein and fluid intake should be restricted during the acute stage. Salt and fluid intake should be restricted for patients with edema as well as those with high blood pressure.

c. Protein intake should be restricted for patients with azotemia. High-quality animal protein 0.5 g/kg/day may be given to reduce the burden on the kidneys.

d. In cases of oliguria or anuria, food high in potassium should be restricted.

e. Urinary volume, fluid intake and the body weight of patients should be accurately recorded each day during the edema period so that any changes in edema can be controlled.

[CASE STUDIES]

► **Case #1. Male, age 11. Initial Visit: 11/2/00**

The patient presented with edema of the eyelids and blood in the urine for one month.

One month previously the child was treated for acute glomerulonephritis for more than 20 days in the hospital, having presented with eyelid edema and hematuria. After antibiotics and symptomatic treatment for three weeks, there was no significant improvement. The parents discharged him and came to our hospital for treatment.

The presenting symptoms included edema of the eyelids with no edema of the limbs and abdomen, no fever, a normal appetite, deep yellow urine, no frequent painful or urgent urination, and normal stools.

Physical Examination: blood pressure was 14/10 kPa, clear consciousness, normal spirit, edema of the eyelids, no icterus in the sclera, normal heart and lung auscultation, ascites sign (–), no edema of the scrotum or lower extremities. The tongue was light red with a greasy yellow coating; the pulse was slippery and rapid.

Laboratory tests: low serum level of C₃ complement, ESR 34 mm/L and blood ASO (+). Routine urine analysis: protein (2 +), occult blood (3 +), RBC (4 +), WBC (3 +), and cast 1-2/HP.

Western medicine diagnosis: acute glomerulonephritis.

TCM diagnosis: hematuria.

Pattern differentiation: spleen and kidney insufficiency and downward attack of damp-heat.

TCM treatment: boost the kidney, clear heat and cool blood

Formula

Modified *Xiǎo Jì Yǐn Zǐ*—**Field Thistle Drink** and *Guī Sháo Dì Huáng Tāng* — **Chinese Angelica, Peony and Rehmannia Decoction**

大蓟	dà jì	10 g	Herba Cirsii Japonici
小蓟	xiǎo jì	10 g	Herba Cirsii
生地黄	shēng dì huáng	20 g	Radix Rehmanniae
白茅根	bái máo gēn	15 g	Rhizoma Imperatae
藕节炭	ǒu jié tàn	10 g	Charred Nodus Nelumbinis Rhizomatis
牡丹皮	mǔ dān pí	10 g	Cortex Moutan
泽泻	zé xiè	10 g	Rhizoma Alismatis
茯苓	fú líng	10 g	Poria
白术	bái zhú	10 g	Rhizoma Atractylodis Macrocephalae
山药	shān yào	10 g	Rhizoma Dioscoreae
炒枳壳	chǎo zhǐ qiào	10 g	Dry-fried Fructus Aurantii
藿香	huò xiāng	5 g	Herba Agastachis
厚朴	hòu pò	10 g	Cortex Magnoliae Officinalis
当归	dāng guī	10 g	Radix Angelicae Sinensis
炙甘草	zhì gān cǎo	10 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle

7 doses. One dose daily for 7 days

After 7 doses all the child's symptoms were improved as follows: no significant edema, normal appetite, normal stools, red tongue with a thin yellow coating and a slippery pulse. Routine urine analysis: protein (–), occult blood (+), RBC (3+), WBC 1-2/HP. Serum BUN and CR were normal. A Type-B ultrasound examination showed substantial damage in both kidneys. 11 more doses were prescribed.

11 days later, the child had no complaints of discomfort. There was normal appetite and stools, a red tongue with a thin yellow coating and a slippery pulse. The original formula was modified by removing *bái zhú* (Rhizoma Atractylodis Macrocephalae), *zhǐ qiào* (Fructus Aurantii) and *huò xiāng* (Herba Agastachis) and adding the medicinals as listed below:

柴胡	<i>chái hú</i>	10 g	Radix Bupleuri
蝉蜕	<i>chán tuì</i>	5 g	Periostracum Cicadae
桔梗	<i>jié gěng</i>	10 g	Radix Platycodonis
益母草	<i>yì mǔ cǎo</i>	10 g	Herba Leonuri
白芍	<i>bái sháo</i>	10 g	Radix Paeoniae Alba
山茱萸	<i>shān zhū yú</i>	10 g	Fructus Corni

7 doses. One daily dose for 7 days.

After another 7 days, again the child had no complaints of discomfort; there was a normal appetite and stools, a red tongue with a thin white coating, and a slippery pulse. Urine analysis: RBC (2+). A new formula was then prescribed.

Formula

Modified *Zhī Bǎi Dì Huáng Wán*—*Anemarrhena, Phellodendron and Rehmannia Pill*

知母	<i>zhī mǔ</i>	10 g	Rhizoma Anemarrhenae
泽泻	<i>zé xiè</i>	10 g	Rhizoma Alismatis
白芍	<i>bái sháo</i>	10 g	Radix Paeoniae Alba
黄柏	<i>huáng bǎi</i>	10 g	Cortex Phellodendri Chinensis
山茱萸	<i>shān zhū yú</i>	10 g	Fructus Corni
山药	<i>shān yào</i>	10 g	Rhizoma Dioscoreae
生地黄	<i>shēng dì huáng</i>	20 g	Radix Rehmanniae
茯苓	<i>fú líng</i>	10 g	Poria
大蓟	<i>dà jì</i>	10 g	Herba Cirsii Japonici
小蓟	<i>xiǎo jì</i>	10 g	Herba Cirsii
白茅根	<i>bái máo gēn</i>	15 g	Rhizoma Imperatae
牡丹皮	<i>mǔ dān pí</i>	10 g	Cortex Moutan
益母草	<i>yì mǔ cǎo</i>	15 g	Herba Leonuri
甘草	<i>gān cǎo</i>	10 g	Radix et Rhizoma Glycyrrhizae

7 doses. One daily dose for 7 days.

After treatment with the above formula for 3 weeks, urine analysis showed normal results and physical examination revealed no abnormalities. A Type-B ultrasound examination of the kidneys was also normal ^[4].

Analysis

The child presented with a pattern of spleen and kidney insufficiency. This was compounded by internal retention of damp-heat which invaded the spleen causing internal dampness accumulated in the spleen. Furthermore, because the deficient spleen was unable to restrict the kidney, the deficient kidney therefore failed to promote the five kinds of secretions (i.e. sweat, snivel, tears, saliva and spittle). Consequently, excess water and pathogenic toxins flowed together internally while also floating superficially into the muscles and skin, thus resulting in edema. When damp-heat poured downwards to attack the bladder, the blood vessels were injured causing hematuria.

In this situation, both the symptoms and the root cause should be treated simultaneously by clearing heat, draining dampness, cooling blood, and checking bleeding while also strengthening the spleen and replenishing the kidney. Once the damp-heat had been cleared, the main treatment method changed to consolidating the root, i.e. fortifying the spleen and boosting the kidney. A modification of *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill was used to nourish kidney yin; added medicinals were employed to clear damp-heat and cool the blood to check bleeding. The results were both effective and beneficial.

Source: [Wan LS, editor. 汪受传儿科医论医案选 (*Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics*) [M]. Beijing: Academy Press; 2008: 180-181.]

► Case #2. Male, age 11. Initial Visit: 9/10/85

5 days previously the patient had a sore throat, which progressed into a fever with a temperature of 38-39°C. He was treated with intravenous penicillin in an outpatient clinic, and his temperature slightly decreased. Three days prior he had gradually developed edema in the face, headache, fatigue, loss of appetite, nausea, vomiting and scanty dark urine. His tongue was pink with a thin yellow coating, and his pulse was rapid. Urinalysis: protein (2+), red blood cells (3+), and granular casts (+). Blood pressure: 140/80 mmHg.

Western medical diagnosis: acute glomerulonephritis.

TCM differentiation: edema due to wind-damp overflow and toxic dampness invasion. The treatment principle is to clear heat, disperse lung qi, eliminate dampness, promote diuresis, and invigorate blood to dissolve stasis.

Formula

Modified *Shèn Yán Tāng*—Nephritis Decoction

益母草	yì mǔ cǎo	30 g	Herba Leonuri
白茅根	bái máo gēn	30 g	Rhizoma Imperatae
蝉蜕	chán tuì	15 g	Periostracum Cicadae
桑螵蛸	sāng piāo xiāo	15 g	Oötheca Mantidis
射干	shè gān	15 g	Rhizoma Belamcandae

车前子	<i>chē qián zǐ</i>	20 g	Semen Plantaginis
茯苓	<i>fú líng</i>	20 g	Poria
玄参	<i>xuán shēn</i>	20 g	Radix Scrophulariae
山豆根	<i>shān dòu gēn</i>	20 g	Radix et Rhizoma Sophorae Tonkinensis
板蓝根	<i>bǎn lán gēn</i>	20 g	Radix Isatidis
生地黄	<i>shēng dì</i>	20 g	Radix Rehmanniae
苏叶	<i>zǐ sū yè</i>	10 g	Folium Perillae

7 doses. One daily dose for 7 days.

The urinary volume increased significantly after 7 doses, and his temperature returned to normal. After another 5 doses of the same formula, the edema gradually subsided and his sore throat was eliminated. The tongue was pink with a thin white coating. *Zǐ sū yè* (Folium Perillae) was removed from the above formula and the quantity of *bái máo gēn* (Rhizoma Imperatae) was raised to 50 g. After 17 doses, all symptoms disappeared and the urine analysis was normal. No recurrence was reported after a 3 year follow-up ^[5].

Analysis

This disease belongs to the TCM category of “edema (*shuǐ zhǒng*)” and “hematuria (*niào xuè*)”. In terms of disease location, the kidney is the root and the lung, spleen and *sanjiao* are the branches. The causes are deficiency of healthy qi, loose striae and interstices, the six externally-contracted pathogenic factors, internal accumulation of damp-heat, and invasion of skin sore toxins. These factors caused lung failure to disperse and descend, splenic failure to transport and transform, and kidney failure to excrete and retain. Furthermore, there was sluggish circulation of qi and blood resulting in internal blockage due to blood stasis.

Hence, the treatment principle here is to clear heat, disperse the lung, eliminate dampness, promote urination, and invigorate blood to resolve stasis.

Chán tuì (Periostracum Cicadae), being sweet and cold in property and flavor, soothes wind and dispels heat. *Sū yè* (Folium Perillae) dispels exterior cold and disperses lung qi. These two medicinals acting together can disperse lung qi in the upper *jiao* to promote urinary bladder function, and induce perspiration so as to open the upper orifices to benefit the lower. The overall outcome is to reduce edema through promoting urination, and to eliminate the primary etiology through clearing heat by means of dispersing and dispelling methods.

Source: Jiang FC. 200 Cases of Childhood Acute Glomerulonephritis Treated with *Shen Yan Tang* [J]. Zhejiang Journal of Traditional Chinese Medicine, 2007; 42(4): 217.

[QUESTIONS]

1. A 7-year-old child presented with edema and oliguria for 5 days and hematuria for 1 day. In the early stage of the disease, the edema was in the face and eyelids only; as the days went by, the edema gradually spread to the lower limbs. There was luminous skin which pitted with finger pressure and recovered immediately upon release. Other manifestations included scanty dark urine, slight aversion to

wind and cold, thirst, and a sore and swollen throat. The tongue was pale with a thin yellow coating and there was a floating pulse.

What is the pathogenesis?

- A. Healthy qi insufficiency.
- B. Pathogenic wind attacking the exterior.
- C. Pathogenic invasion in the heart and liver.
- D. Internal retention of dampness.
- E. Internal blockage of water toxin.

2. A 5-year-old child had edema and oliguria for 3 days. He now presents with a sudden headache, vomiting, blurred vision, irritability and restlessness followed by convulsions and coma. Blood pressure was 140/100 mmHg (18.7/13.3 kPa).

What is the presenting pattern?

- A. Contention between wind and water.
- B. Internal invasion of damp-heat.
- C. Pathogenic invasion in the heart and liver.
- D. Water toxin blockage internally.
- E. Water attacking heart and lung.

3. A 9-year-old child presented with general edema for one week, scanty and dark tea-colored urine, visible hematuria under the microscope, a red tongue with greasy thin light yellow coating.

What is the diagnosis?

- A. Edema due to yin deficiency with lingering pathogens.
- B. Edema due to damp-heat internal invasion.
- C. Edema due to contention between wind and water.
- D. Hematuria due to blood heat inducing extravasation of blood.
- E. Hematuria due to yin deficiency with internal heat.

4. A 4-year-old child has had an unresolved cold for one week and eyelid edema for one day. Other signs include a white tongue coating and superficial pulse.

What is the best choice of formula?

- A. *Sān Rén Tāng*—Three Kernels Decoction
- B. *Huò Xiāng Zhèng Qì Sǎn*—Agastache Qi-Correcting Powder
- C. *Bā Zhèng Sǎn*—Eight Corrections Powder
- D. *Yuè Bì Tāng*—Maid servant from Yue Decoction
- E. *Má Huáng Lián Qiào Chì Xiǎo Dòu Tāng*—Ephedra, Fructus Forsythiae and Semen Phaseoli Decoction and *Wǔ Líng Sǎn*—Five Substances Powder with Poria

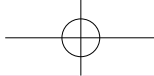
5. A 5-year-old child has been suffering from general edema for 3 months. After treatment she now has occasional facial edema, a sallow yellow complexion, fatigue, lack of strength, and is prone to sweating. She has a pale tongue with a white coating, and a moderate pulse.

What is the treatment method?

- A. Fortify the spleen and replenish qi.
- B. Warm yang and promote urination.
- C. Fortify the spleen and resolve dampness.
- D. Fortify the spleen and nourish blood.
- E. Warm the kidney and promote urination.

[REFERENCES]

- [1] Zhang AH. Developmental Advances in Clinical Research on Acute Glomerulonephritis [J]. Journal of



- Practical Medicine; 2003, 19 (8): 832-834.
- [2] Zheng WL, Zhuo JR. Treatment of 38 Children with Acute Glomerulonephritis Using *Má Huáng Lián Qiào Chì Xiǎo Dòu Tāng* [J]. Journal of Fu Jian Medicine; 2006, 28(4): 136-137.
- [3] Liang JW, Wang SC, Yuan B. Integrative Treatment of Acute Glomerulonephritis Using TCM and Western Medicine—Clinical Observation of 36 Children [J]. Jiangsu Journal of Traditional Chinese Medicine; 2007, 39 (5): 32-33.
- [4] Wan LS, editor. [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics [M]]. Beijing: Academy Press; 2008: 180-181.
- [5] Jiang FC. 200 Cases of Childhood Acute Glomerulonephritis Treated with *Shen Yan Tang* [J]. Zhejiang Journal of Traditional Chinese Medicine, 2007; 42(4): 217.



Chapter 27

Nephrotic Syndrome

Nephrotic syndrome (NS) is a condition produced by gross protein loss in the urine leading to hypoproteinemia and often hyperlipidemia, also resulting in edema. NS can be caused by various disorders generally involving a glomerular cause, in which there is increased glomerular basement membrane capillary permeability to albumin which allows for large amounts of protein to be excreted through the urine. The clinical characteristics are massive proteinuria, hypoalbuminemia, hyperlipidemia, and evident edema.

As early as 1932, the term nephrotic syndrome was described as a group of general symptoms that occur in glomerular diseases. Currently, nephrotic syndrome is clinically categorized into two forms according to its causes: primary (older designation: idiopathic) and secondary. This section is mainly related to primary nephrotic syndrome.

Primary nephrotic syndrome is clinically classified into two types: simple (nephrotic) type and nephritis type. When classification is based on the pathological state, it can include the following names: minimal-lesion or minimal-change nephritic syndrome disease (MCD), mesangial proliferative glomerulo nephritis (MsPGN), membranous glomerulonephritis (MN), membranoproliferative glomerulonephritis (MPGN), focal segmental glomerulosclerosis (FSGS), etc.

In accordance with the response to glucocorticoid therapy, it can also be classified into three types:

(a) Steroid-sensitive nephrotic syndrome (SSNS) or (initial responders) (in which proteinuria becomes negative after treatment with prednisone for up to or less than 8 weeks).

(b) Steroid-resistant nephrotic syndrome (SRNS) or (nonresponders) (in which proteinuria is still positive after treatment with prednisone for 8 weeks).

(c) Steroid-dependent nephrotic syndrome (SDNS) (which is sensitive to steroids, but relapses within one month when the medication is reduced or withdrawn, and repeats three or more times).

In clinical practice, refractory nephrosis refers to steroid-resistant NS, steroid-dependent NS, and frequently relapsing type NS (in which the relapse occurs up to or more than twice within six months, or with up to or more than three relapses per year).

In TCM, primary nephrotic syndrome in children generally belongs to “edema disease” or “yin edema” categories, and relates closely with the lung, spleen and kidney. This problem is a common urinary tract system disease in pediatrics, with an incidence rate second only to acute glomerulonephritis in urinary tract diseases.

According to the 1982 statistical data from 105 hospitals in 20 Chinese provinces and cities, 21% of children in their internal urological departments had primary nephrotic syndrome. In 1992, according to a similar analysis of 24 provinces and cities, the figures were 31%, showing an increasing trend.

The annual incidence rate in USA was 2-2.3 cases among children aged under 16 years per 100,000 population. The total prevalence was approximately 16 cases per 100,000 per population^[1].

In Japan, around 1000 children were initially diagnosed with NS each year. The incidence rate was about 5 cases per 100,000 per population. NS had the highest figure among all chronic kidney diseases in children with chronic special diseases as registered by Japanese national treatment records; MCD was about 5%, secondary nephrotic syndrome was about 0.3%, congenital nephrotic syndrome was about 0.3%, and the others were unexplained idiopathic nephrotic syndromes. Children aged 2-4 years had the highest morbidity, and the ratio of males to females was 2.6 : 1^[2].

Wu LQ et al. used Chinese medicinals that boost qi, enrich the kidney, drain dampness and invigorate blood such as *shēng huáng qí* (Radix Astragali), *tài zǐ shēn* (Radix Pseudostellariae), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *yì mǔ cǎo* (Herba Leonuri), *tù sī zǐ* (Semen Cuscutae), *mǔ dān pí* (Cortex Moutan), *hàn lián cǎo* (Herba Ecliptae), *shēng dì huáng* (Radix Rehmanniae), *fú líng* (Poria), *zé xiè* (Rhizoma Alismatis), *dāng guī* (Radix Angelicae Sinensis) and *bái huā shé shé cǎo* (Herba Hedyotis Diffusae) to treat 45 children with refractory nephrotic syndrome; this group was compared a control group of 30 cases treated by Western medicine alone.

The control group was treated with prednisone, while also given cyclophosphamide impact therapy and routine treatment with cod-liver oil, calcium tablets and dipyrindamole. The test group was given the same routine therapy but with Chinese medicinals for boosting qi, enriching the kidney, draining dampness and invigorating blood.

Results showed that the curative effect of the test group was significantly better than that of the control group ($P < 0.05$), and the side-effects were significantly lower than the control group ($P < 0.01$). There were significant differences ($P < 0.05$ or $P < 0.01$) between the two groups in BUN, ALB and CH appearing before and after treatment, and there was a significant difference ($P < 0.01$) between the two groups in the reduction of urinary protein in a 24h quantitative test taken before and after treatment.

The two groups were followed up as outpatients for six months, with four relapses occurring in the test group (10.53% of the relapse rate) and 13 relapses in the control group (relapse rate was 35.14%); thus the relapse rate of the test group was lower than that of the control ($P < 0.05$)^[3].

Weng DY et al. applied Chinese medicinals to treat 100 children with frequently relapsing nephrotic syndrome, and compared them with 50 cases of frequently relapsing NS treated by Western medicine alone as a control.

The control group was treated with prednisone, or tripterygium wilfordii polyglycosidum (TWP) (or tripterygium glycosides), or with cyclophosphamide intravenous drip for over a year.

In addition to the above treatment methods, the treatment group was given the empirical formula *Shèn Kāng Líng Jiāo Náng*—Effective Kidney Recovering Granules comprised of *huáng qí* (Radix Astragali), *tài zǐ shēn* (Radix Pseudostellariae), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *bái huā shé shé cǎo* (Herba Hedyotis Diffusae). Each 15 g of *Shèn Kāng Líng Jiāo Náng* was taken after infusion, twice daily for 2-6 years old children, and 3 times daily for 7-14 years old children. It was continually taken for up to 3 months after the prednisone was stopped.

The results showed that the treatment group with integrated Chinese and Western medicine had a better curative efficacy with relapse rates and side effects of steroids reduced, with efficacy up to 93%. The efficacy of the control group was 74%. There was

a statistical difference between the two groups ($P < 0.01$). The 2 year relapse rates of the test group and control group were respectively 21% and 65%, and the test group was significantly lower than the control group ($P < 0.01$). The incidence of undesirable reactions to steroids and cyclophosphamide in the test group was 12%, while in the control group it was 51.1%; there was a statistical difference between the two groups ^[4].

The prognosis for nephrotic syndrome is closely related to the clinical features, the pathological types, responses to the medication and whether or not there are complications. The prognosis for MCD is the best, with the prognosis poorest in FSGS and MPGN. According to a 1-18 year follow-up by Habib et al. (1971) on cases developing into chronic renal failure or mortality, MCD was 7%, FSGS was 38%, and MN and MPGN were 8% and 41.5% respectively ^[1].

[ETIOLOGY & PATHOMECHANISM]

1. ETIOLOGY

Many causes may lead to nephrotic syndrome, commonly seen in children with congenital deficiencies or prolonged illness which then allows for external pathogens to enter the interior. This condition primarily involves insufficiencies of the lung, spleen and kidney.

2. PATHOMECHANISMS

The main pathogenesis includes dysfunctions of the lung, spleen and kidney, dysfunctions of qi movement, transportation and transformation, dysfunction in storing essence, disorders of water transportation, water and dampness retention and gathering, and leakage of essence.

When the illness becomes prolonged, healthy qi becomes weaker and pathogenic qi becomes more exuberant; the pathology thus belongs to a deficiency-excess complex.

In the early stages there is excess pathogenic qi which often relates to wind, dampness, heat, toxins and blood stasis, while in the later stages there is usually a deficiency of healthy qi, especially of kidney qi deficiency due to weakness of the lung, spleen and kidney, leakage of essence, and blood stasis in the kidney collaterals. Throughout the disease process, spleen and kidney dysfunction is the center of the pathogenesis. The roots of the pathological changes are deficiencies of yin, yang, qi and blood, and the branches of the disease include external pathogens, dampness, and blood stasis.

The etiology and pathogenesis of this kidney disease is involved with internal injuries and external contraction, and also relates to the *zang-fu* organs, qi and blood, and yin and yang. A deficiency of healthy qi is the root basis, with excess accumulated pathogenic qi as the branch; therefore, this condition belongs to a deficiency-excess complex pattern, with deficiency as the root and excess as the branch.

Lung, Spleen and Kidney Deficiency

The normal human body fluid metabolism, transportation and storage of water and grain essence are all dependent on the functions of the lung to govern regulation, the spleen to transport, the kidney to store and produce, as well as the *sanjiao* and the bladder's qi transformation capabilities.

Dysfunctions due to deficiencies of the lung, spleen and kidney will inevitably lead



to a failure of fluid and essence distribution. If water or fluid fails to be well-distributed, it can diffuse into the skin and cause edema. When the essence fails to be distributed and stored, it may leak through the urine and lead to proteinuria. The branch of this condition is related to the lung, while its root is in the kidney and spleen.

At the early stage of disease or during the edema stage, lung-spleen qi deficiency is often present, while at the later stage or frequent relapse stage it usually manifests as patterns of spleen-kidney qi deficiency or spleen-kidney yang deficiency.

Interior Pathogenic Dampness Retention

In kidney disease, the key pathological factor is often pathogenic dampness. While dampness is not only a pathological product throughout the whole course of disease, it is a major factor that injures the body's healthy qi and hinders normal qi movement. It also exacerbates the occurrence and development of the disease by further injuring yang, transforming heat, and leading to the formation of blood stasis. Dampness and spleen-kidney deficiency interact as both cause and effect; this is another key factor in the occurrence of nephrotic edema.

In kidney disease (nephrosis), long-term trapped interior water and dampness may transform into heat and become damp-heat; or prolonged nephrosis may cause an enormous loss of protein through the urine, resulting in depletion of true yin due to yang impairment affecting yin. Thus, deficient heat is generated, which may combine with dampness and become damp-heat. Furthermore, long-term use of steroids can facilitate generation of fire and heat in some patients, which allows external pathogens and heat-toxins to easily invade the body; this enables pathogenic heat to combine with water or dampness, producing damp-heat.

When dampness and heat are combined for a long time and locked together, they can obstruct qi movement and disturb the water passages, further aggravating the disease and causing persistent and refractory relapses.

Damage to the Collaterals, Blood Stasis and Blood Coagulation

Blood stasis is another important pathological factor that leads to nephrosis, causing it to linger and become refractory. Edema is the major clinical manifestation of kidney-nephritic NS diseases, because water is basically inseparable from blood and qi, so disturbance of body fluids can lead to blood disorders, and blood stasis may also lead to edema. Because blood, qi and body fluids interact with one another and are interdependent, blood stasis is often present throughout the entire process and development of kidney disease (nephrosis).

When essence transforms into water instead of qi, then water retention obstructs qi movement and qi stagnation enables blood stasis. If deficient yang qi fails to promote blood circulation, it can cause blood stasis, or if deficient qi is unable to control the blood, this can lead to blood leakage through the urine. Or, chronic spleen-kidney yang deficiency may lead to cold congealing and blood stagnation. All of these situations can lead to blood stasis.

When prolonged disease develops further, blockage and stasis occur in the vessels and collaterals. Fire generated by deficient yin can burn and damage the blood collaterals, and cause extravasation of blood which is retained among the *zang-fu* organs and then becomes static. Excessive heat causing yin deficiency, fluid inadequacy and blood consumption can make the blood thicken and circulate roughly, also causing stasis.

Deficiency or long-term use of steroids can lead to insecurity of *wei*-exterior, causing greater susceptibility to external pathogens which invade the body and remain in the channels. This causes disharmony of the channels and collaterals, impaired blood circulation and subsequent blood stasis.

The root deficiency and branch excess interfere and interact with each other during the onset and development of kidney disease. Deficiency of healthy qi causes greater susceptibility to external pathogens and engenders internal dampness which transforms into heat, leading to blood stasis; these factors all lead to an excess of pathogenic qi called “excess due to deficiency”. In turn, the excess pathogenic qi can further damage *zang-fu* organ qi, weakening the healthy qi. For this reason, this disease is characterized by a mixed complex of deficiency and excess as well as cold and heat, which enables persistent and intractable relapses, especially in those children with refractory conditions.

Conditions can change at different stages in regards to the root or branch or deficiency or excess. One will generally be primary and the other secondary, depending on whether the deficiency of healthy qi or the excess of pathogenic qi is predominant; however, in some cases both are regarded as equally important.

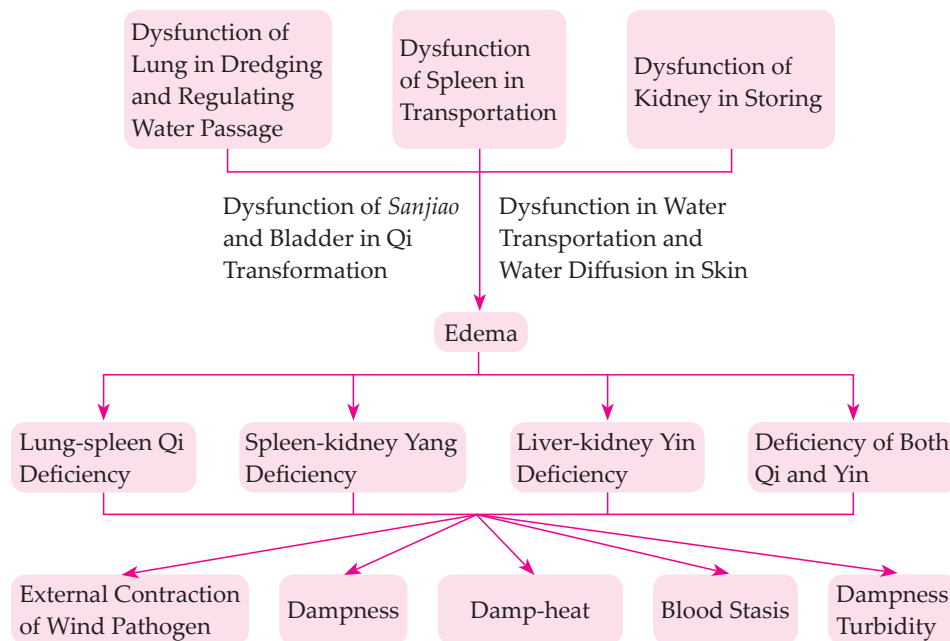


Fig. 27-1 Etiology and Pathogenesis of Nephrotic Syndrome

[DIAGNOSIS & DIFFERENTIAL DIAGNOSIS]

► Essentials of Diagnosis

- (1) Large amounts of urinary protein (proteinuria > 0.05 g/kg/day)
- (2) Hypoalbuminemia (plasma albumin levels < 30 g/L)
- (3) Apparent edema
- (4) Hyperlipidemia (serum cholesterol > 5.7 mmol/L)

The first two indexes list the prerequisites for diagnosing NS. They are clinically divided into two types: simple nephrotic syndrome (nephrosis) and nephritic syndrome (Glomerulonephritis, nephritis). Nephritis can be diagnosed by one or more of the following conditions; if none are applicable, the condition is nephrosis.

a. Urinary sediment examination finding: RBC > 10/HP (more than three times within two weeks).

b. Recurrent hypertension: in school-aged children > 17/12 Kpa (130/90 mmHg), pre-school children > 16/11 Kpa (120/80 mmHg). Those caused by corticosteroids are excluded.

c. Persistent azotemia, blood urea nitrogen (BUN) > 10.7 mmol/L (30 mg%), or plasma non-protein nitrogen > 35.7 mmol/L (50 mg%). Those caused by insufficient blood volume are excluded.

d. Total Serum complement levels or the concentration of the third component of complement (C₃) levels are repeatedly depressed.

Renal diagnostic biopsy may be performed if possible in order to confirm the histological type by pathological diagnosis.

► Differential Diagnosis

The primary/idiopathic NS, secondary NS and congenital nephrotic syndromes should be identified as shown in Table 27-1. The differentiation of diseases with edema is shown in Table 27-2.

Table 27-1 Differential Diagnosis of Nephrosis, Nephritis, Congenital NS and Secondary NS

Keys in Differentiation	Nephrosis	Nephritis	Congenital NS	Secondary NS
High Degree of Edema	(+)	(+)	(+)	(+)
Massive Proteinuria	(+)	(+)	(+)	(+)
Hypoproteinemia	(+)	(+)	(+)	(+)
Hyperlipidemia	(+)	(+)	(+)	(+)
Obvious Hematuria		(+) or (-)		(+) or (-)
Persistent or Recurrent Hypertension		(+) or (-)		(+) or (-)
Persistent Azotemia		(+) or (-)		(+) or (-)
Persistently Depressed Serum Complement Levels or C ₃ Levels		(+) or (-)		(+) or (-)
		Must have one or more of the above 4 items.		
Within 6 Months after Birth			(+)	
Adrenal Cortical Hormone (Steroid)-Resistant			(+)	
Serious Disease, High Fatality Rate			(+)	
Other System Diseases				(+)

Table 27-2 The Differential Diagnosis of Diseases with Edema

Key Points in Differentiation	Nephrotic Syndrome	Acute Glomerulonephritis	Nutritional Edema	Cardiac Edema	Hepatic Ascites
Four Main Symptoms	Mainly massive proteinuria, high degree of pitting edema, hypoalbuminemia, hypercholesterolemia	Mild to moderate tense edema, proteinuria, no hypoalbuminemia nor hypercholesterolemia	Hypoproteinemia, neither urine abnormalities nor hypercholesterolemia pitting edema	Dependent edema, aggravating ascending in lower parts of body, without massive proteinuria, neither hypoalbuminemia nor hypercholesterolemia	Ascites, no apparent edema or only mild edema in other parts of the body, without massive proteinuria nor hypercholesterolemia
Other Signs & Symptoms		Hematuria mainly, associated with oliguria & hypertension	Possible oliguria, history of malnutrition with gradual weight loss	History of heart disease & symptoms and signs of heart failure	Abdominal distention with accumulation of fluid, great varicosity of superficial veins in abdominal wall, history of liver disease

In children diagnosed with nephrotic syndrome, nephritic nephrosis or congenital NS, mild cases can be treated with TCM according to pattern differentiation, but severe cases must be hospitalized and treated with integrated Chinese and Western medicine or with Western medicine alone. The treatment for children with secondary nephritic conditions should mainly focus on the primary disease.

Children with acute glomerulonephritis can be treated according to Chapter 27 Acute Glomerulonephritis. Those diagnosed with nutritional edema, cardiac edema and hepatic ascites should be hospitalized immediately to identify the causes and treat primary diseases.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

In the early or convalescence stages, nephrosis generally belongs to a yang deficiency or qi deficiency pattern. In refractory cases, or in those with prolonged or relapsed disease or long-lasting use of corticosteroids, the yang (or qi) deficiency may transform into yin deficiency, qi and yin deficiency, or yin and yang deficiency.

However, the general condition of the disease is usually more complex, often presenting with a deficiency-excess complex. Therefore, it is essential to use the key criteria of pattern differentiation of external contraction of wind pathogens, water-dampness, damp-heat, blood stasis, damp-turbidity and other excess patterns in order to differentiate the root deficiency and branch excess.

► Principles of Treatment

When treating NS, it is important to consider the pathogenesis involving the deficient root and excess branch, giving priority to securing the root by reinforcing healthy qi, i.e. by boosting qi, fortifying the spleen, supplementing the kidney, and regulating yin and yang. At the same time, treatments to diffuse the lung, drain dampness, clear heat, remove dampness, invigorate blood and dissolve stasis, descend turbidity, and dispel pathogens may be employed to address the branch manifestations.

The primary problems can be treated by selecting one or several of the specific methods mentioned above according to the main pathological features in the different stages. For externally contracted wind, water pathogen, damp-toxin and damp-heat presenting as excess patterns, the treatment principle is to urgently eliminate the pathogen to treat the branch. After the external pathogens have been expelled or the clinical symptoms disappear, the treatment principle is to reinforce healthy qi while treating both branch and root simultaneously.

► Classification of Patterns and Treatments

1. ROOT PATTERNS

Lung-Spleen Qi Deficiency

Signs and Symptoms

Manifestations include generalized edema especially of the face and eyelids, scanty urine, pale complexion, shortness of breath, fatigue, poor appetite, loose stools, spontaneous

sweating, susceptibility to common colds, or dyspnea, wheezing and cough. The tongue is pale and enlarged; the pulse is deficient and weak.

Pattern Differentiation

This pattern is often induced by external contraction characterized by edema more severe in the face and head, spontaneous sweating, susceptibility to common colds, poor appetite, loose stools, shortness of breath and fatigue. Mild cases may not have edema and are characterized by spontaneous sweating and susceptibility to common colds. This pattern is more common in the early stages, or during steroid maintenance treatment.

Treatment Principles

Boost qi and fortify the spleen, diffuse the lung and promote urination

Formula

Modified *Fáng Jǐ Huáng Qí Tāng*—Stephania Root and Astragalus Decoction with Wǔ Líng Sǎn—Five Substances Powder with Poria

黄芪	<i>huáng qí</i>	Radix Astragali
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
猪苓	<i>zhū líng</i>	Polyporus
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
桂枝	<i>guì zhī</i>	Ramulus Cinnamomi
防己	<i>fáng jǐ</i>	Radix Stephaniae Tetrandrae

Formula Analysis

Huáng qí (Radix Astragali) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) boost qi and fortify the spleen.

Fú líng (Poria), *zhū líng* (Polyporus), *zé xiè* (Rhizoma Alismatis) and *chē qián zǐ* (Semen Plantaginis) fortify the spleen and promote urination

Guì zhī (Ramulus Cinnamomi) and *fáng jǐ* (Radix Stephaniae Tetrandrae) diffuse the lung, unblock yang and promote urination.

Modifications

For obvious edema, add *Wǔ Pí Yǐn*—Five-Peel Beverage consisting of *shēng jiāng pí* (Cortex Zingiberis Rhizomatis), *chén pí* (Pericarpium Citri Reticulatae) and *dà fù pí* (Pericarpium Arecae) to promote urination and move qi.

For associated dyspnea, wheezing and cough, add *má huáng* (Herba Ephedrae), *xìng rén* (Semen Armeniacae Amarum) and *jié gěng* (Radix Platycodonis) to diffuse the lung, relieve cough, purify the lung, and promote urination.

For repeated spontaneous sweating and susceptibility to cold, use *shēng huáng qí* (raw Radix Astragali) in large dosage, and add *fáng fēng* (Radix Saposhnikoviae) and *mǔ lì* (Concha Ostreae) to boost qi and consolidate the exterior. (Same principle as *Yù Ping Fēng Sǎn*—Jade Wind-Barrier Powder).

For aching pain in the loins and back (usually a sign of kidney qi deficiency), add *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *tù sī zǐ* (Semen Cuscutae) and *ròu cōng róng* (Herba

Cistanches) to nourish kidney qì.

Chinese Patent Medicines

a. *Yù Píng Fēng Kōu Fú Yè*—Jade Wind-Barrier Liquid

10 ml, 3 times daily

b. *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder

2-4 g, 3 times daily

Single Medicinals and Recipes

Huáng qí (Radix Astragali) Chicken Stew: *zhì huáng qí* (Radix Astragali Praeparata cum Melle) 120 g, a tender chicken (about 1000 g). Prepare the chicken and stuff with *huáng qí* (Radix Astragali). Simmer with a low flame until tender, and add a little salt. Eat the stewed chicken and drink the soup each time. It acts to boost qì, promote urination and lessen edema.

Spleen Deficiency with Damp Encumbrance

Signs and Symptoms

Manifestations include generalized edema especially in the limbs and trunk, a sallow yellow complexion, fatigue, lack of strength, poor appetite, loose stools, and scanty urine; there may also be abdominal distention, chest stuffiness and cold limbs. The tongue is pale and enlarged with a thin and white coating; the pulse is deep and moderate.

Pattern Differentiation

This pattern is characterized by edema usually appearing in the four limbs, also associated with poor appetite, loose stools, fatigue, lack of strength, and a pale enlarged tongue. Mild cases may have edema in the ankles only or no edema. This pattern is more common in the early disease stage, or in those with prolonged and enduring edema, or in mild cases that have not been treated by steroids.

Treatment Principles

Fortify the spleen and drain dampness

Formula

Modified *Fáng Jǐ Fú Líng Tāng*—Stephania Root and Poria Decoction with *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder

黄芪	<i>huáng qí</i>	Radix Astragali
人参	<i>rén shēn</i>	Radix et Rhizoma Ginseng
茯苓	<i>fú líng</i>	Poria
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
防己	<i>fáng jǐ</i>	Radix Stephaniae Tetrandrae
桂枝	<i>guì zhī</i>	Ramulus Cinnamomi
薏苡仁	<i>yì yǐ rén</i>	Semen Coicis

Formula Analysis

Huáng qí (Radix Astragali), *rén shēn* (Radix et Rhizoma Ginseng), *fú líng* (Poria) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) boost qì, fortify the spleen, drain dampness, and ease swelling.

Fáng jǐ (Radix Stephaniae Tetrandrae), *guì zhī* (Ramulus Cinnamomi) and *yì yǐ rén* (Semen

Coicis) dispel wind, remove dampness, unblock yang, and promote urination.

Modifications

For obvious edema and scanty urine, add *shēng jiāng pí* (Cortex Zingiberis Rhizomatis), *dà fù pí* (Pericarpium Arecae) and *chē qián zǐ* (Semen Plantaginis) to resolve dampness and promote urination.

For abdominal distention and chest stuffiness, add *hòu pò* (Cortex Magnoliae Officinalis) and *bīng láng* (Semen Arecae) to dry dampness and rectify qi.

For epigastric stuffiness and poor appetite, add *zhǐ qiào* (Fructus Aurantii), *mù xiāng* (Radix Aucklandiae) and *chén pí* (Pericarpium Citri Reticulatae) to rectify qi and resolve accumulation.

For cold limbs, add *zhì fù zǐ* (Radix Aconiti Lateralis Praeparata) to warm yang and resolve dampness.

For loose stools and diarrhea, *guì zhī* (Ramulus Cinnamomi) is replaced by *ròu guì* (Cortex Cinnamomi) to warm and supplement kidney yang.

Chinese Patent Medicines

Shèn Yán Xiǎo Zhǒng Piàn—Nephrosis Edema-Reducing Tablets

2 tablets, 2-3 times daily.

Medicinals and Recipes

Huáng qí (Radix Astragali), *xìng rén* (Semen Armeniacae Amarum) and Carp Soup: *shēng huáng qí* (raw Radix Astragali) 60 g, *sāng bái pí* (Cortex Mori) 15 g, *xìng rén* (Semen Armeniacae Amarum) 15 g, *shēng jiāng* (Rhizoma Zingiberis Recens) 2 pieces, and a carp-fish (about 250 g). Clean the fish and cook thoroughly with the above medicinals. Remove the dregs; eat the fish and drink the soup. It can be used for spleen deficiency with dampness retention.

Spleen-Kidney Yang Deficiency

Signs and Symptoms

Manifestations include obvious general pitting edema especially at the waist, abdomen and lower limbs, a pale dull complexion, aversion to cold and cold extremities, fatigue, preference to lie down, scanty and difficult urination, possibly associated with hydrothorax, ascites, poor appetite, loose stools, nausea, and vomiting. The tongue is pale and enlarged or tooth-marked with a white slippery coating; the pulse is deep thready and forceless.

Pattern Differentiation

This pattern is common in patients with exacerbated long-lasting extreme proteinuria. It is characterized by severe edema, a pale and dull complexion, aversion to cold, cold extremities, and scanty difficult urination.

If spleen yang deficiency is predominant, the symptoms include abdominal distention and stuffiness, poor appetite and diarrhea.

If kidney yang deficiency is predominant, the symptoms include chilliness and cold limbs, a pale and dull complexion, mental fatigue, drowsiness, and a preference for lying down.

Treatment Principles

Warm the kidney and fortify the spleen, transform qi and drain water.

Formula

If the pattern diverts to kidney yang deficiency, use a modification of *Zhēn Wǔ Tāng*—True Warrior Decoction with *Huáng Qí Guì Zhī Wǔ Wù Tāng*—Astragalus and Cinnamon Twig Five Substances Decoction

For predominant spleen yang deficiency, use a modification of *Shí Pí Yīn*—**Spleen-Strengthening Beverage**.

制附子	<i>zhì fù zǐ</i>	Radix Aconiti Lateralis Praeparata
干姜	<i>gān jiāng</i>	Rhizoma Zingiberis
黄芪	<i>huáng qí</i>	Radix Astragali
茯苓	<i>fú líng</i>	Poria
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
桂枝	<i>guì zhī</i>	Ramulus Cinnamomi
猪苓	<i>zhū líng</i>	Polyporus
泽泻	<i>zé xiè</i>	Rhizoma Alismatis

Formula Analysis

Zhì fù zǐ (Radix Aconiti Lateralis Praeparata) and *gān jiāng* (Rhizoma Zingiberis) warm the kidney and spleen.

Huáng qí (Radix Astragali), *fú líng* (Poria) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) fortify the spleen, boost qi and promote urination.

Guì zhī (Ramulus Cinnamomi), *zhū líng* (Polyporus) and *zé xiè* (Rhizoma Alismatis) activate yang, promote qi activity and drain water.

Modifications

For predominant kidney yang deficiency, add *xiān líng pí* (Herba Epimedii), *xiān máo* (Rhizoma Curculiginis), *bā jǐ tiān* (Radix Morindae Officinalis) and *dù zhòng* (Cortex Eucommiae) to warm and supplement kidney yang.

For predominant spleen yang deficiency, add *cǎo guǒ* (Fructus Tsaoko), *hòu pò* (Cortex Magnoliae Officinalis) and *mù xiāng* (Radix Aucklandiae) to warm the spleen and dry dampness.

For those with symptoms of cough, pectoral fullness, shortness of breath and difficulty lying down, add *Jǐ Jiāo Lì Huáng Wán*—Stephania Root, Zanthoxylum, Lepidium and Rhubarb Pill consisting of *fáng jǐ* (Radix Stephaniae Tetrandrae), *jiāo mù* (Semen Zanthoxyli) and *tíng lì zǐ* (Semen Lepidii) to purge the lung and promote urination.

For ascites, add *qiān niú zǐ* (Semen Pharbitidis) and *bīng láng* (Semen Arecae) (with the hull) to move qi and expel water.

While using medicinals to warm yang and drain water, also add medicinals that move qi such as *mù xiāng* (Radix Aucklandiae), *bīng láng* (Semen Arecae), *dà fù pí* (Pericarpium Arecae) and *chén pí* (Pericarpium Citri Reticulatae).

Chinese Patent Medicines

Shèn Kāng Níng Piàn—Kidney-Health Tablets

2 tablets 2-3 times daily.

Liver-Kidney Yin Deficiency

Signs and Symptoms

Manifestations include fluctuating mild or severe edema, headache, dizziness, vexation, restlessness, dry mouth and throat, a hot feeling in the palms and soles, flushed complexion, dry eyes or blurred vision, acne, insomnia, and profuse sweating. The tongue

is red tongue with little coating; the pulse is rapid, wiry and thready.

Pattern Differentiation

This pattern is common in patients with a yin deficient constitution, or in those who have over-used warm and dry or excessively diuretic medicinals. This is especially seen in those using large dosages of steroids, and may present with mild or absent edema. It is characterized by headache, dizziness, vexation, irritability, a hot feeling in the palms and soles, dry mouth and throat, and a red tongue with little coating.

If it diverts to liver yin deficiency, symptoms of headache, dizziness, vexation, restlessness, and dry eyes are more obvious; if it diverts to kidney yin deficiency, symptoms of dry mouth and throat, a hot feeling in the palms and soles, and a flushed complexion are prominent; if it diverts to yin deficiency with effulgent fire, the symptoms include acne, insomnia, and profuse sweating.

Treatment Principles

Nourish yin and supplement the kidney, pacify the liver and subdue yang

Formula

Modified *Zhī Bǎi Dì Huáng Wán*—*Anemarrhena, Phellodendron and Rehmannia Pill*

熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
山药	<i>shān yào</i>	Rhizoma Dioscoreae
山茱萸	<i>shān zhū yú</i>	Fructus Corni
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
茯苓	<i>fú líng</i>	Poria
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
黄柏	<i>huáng bǎi</i>	Cortex Phellodendri Chinensis
女贞子	<i>nǚ zhēn zǐ</i>	Fructus Ligustri Lucidi
旱莲草	<i>hàn lián cǎo</i>	Herba Ecliptae

Formula Analysis

Shú dì huáng (Radix Rehmanniae Praeparata), *shān yào* (Rhizoma Dioscoreae) and *shān zhū yú* (Fructus Corni) treats the root by nourishing and supplementing the liver, spleen, and kidney yin.

Mǔ dān pí (Cortex Moutan), *fú líng* (Poria) and *zé xiè* (Rhizoma Alismatis) treats the branch by draining turbid dampness and clearing deficiency heat.

Zhī mǔ (Rhizoma Anemarrhenae), *huáng bǎi* (Cortex Phellodendri Chinensis), *nǚ zhēn zǐ* (Fructus Ligustri Lucidi) and *hàn lián cǎo* (Herba Ecliptae) enrich yin, clear heat and drain fire.

Modifications

For predominant liver yin deficiency add *shā shēn* (Radix Adenophorae), *shā yuàn zǐ* (Semen Astragali Complanati), *jú huā* (Flos Chrysanthemi) and *xià kū cǎo* (Spica Prunellae) to nourish and pacify the liver.

For predominant kidney yin deficiency, add *gǒu qǐ zǐ* (Fructus Lycii), *wǔ wèi zǐ* (Fructus

Schisandrae Chinensis) and *tiān dōng* (Radix Asparagi) to nourish yin and supplement the kidney.

For yin deficiency with effulgent fire, use *shēng dì huáng* (Radix Rehmanniae) in large doses and *zhī mǔ* (Rhizoma Anemarrhenae) and *huáng bǎi* (Cortex Phellodendri Chinensis) to nourish yin and reduce fire.

For edema, add *chē qián zǐ* (Semen Plantaginis) to promote urination.

For deficient yang harassing upwards with hypertension, replace the formula with *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill plus *zhēn zhū mǔ* (Concha Margaritiferae Usta), *jú huā* (Flos Chrysanthemi), *nǚ zhēn zǐ* (Fructus Ligustri Lucidi), *hàn lián cǎo* (Herba Ecliptae), *shēng lóng gǔ* (Os Draconis; Fossilia Ovis Mastodi (raw)), *shēng mǔ lì* (Concha Ostreae (raw)), and *chōng wèi zǐ* (Fructus Leonuri) to enrich yin and subdue yang.

For internal stirring of liver wind due to yin exhaustion, replace the formula with a modification of *Sān Jiǎ Fù Mài Tāng*—Three Shells Pulse-Restoring Decoction to nourish yin, subdue yang, pacify the liver, and extinguish wind.

Chinese Patent Medicines

Zhī Bǎi Dì Huáng Wán—Anemarrhena, Phellodendron and Rehmannia Pill

3-6 g small honeyed pills, twice daily.

Qi and Yin Deficiency

Signs and Symptoms

Manifestations include a lusterless complexion, mental fatigue and lack of strength, sweating and susceptibility to cold. Or there is edema, dizziness and tinnitus, dry mouth and throat or long-lasting sore throat, dark red around the pharynx area, and a hot feeling in the palms and soles. The tongue is slightly red with little coating; the pulse is weak and thready.

Pattern Differentiation

This pattern is common in patients with a longer lasting course or recurrent relapses, or prolonged repeated steroid use; there can be severe or mild edema, or no edema. In this pattern, qi deficiency refers to the deficiency of spleen qi, and yin deficiency refers to the deficiency of kidney yin.

Qi deficiency is characterized by sweating, catching colds repeatedly, mental fatigue and a lack of strength. Yin deficiency is characterized by dizziness, tinnitus, dry mouth and throat, or a long lasting sore throat with a dark red pharynx and a hot feeling in the palms and soles.

During the reduction or withdrawal period of the steroids, patient signs may change from yin deficiency to yang deficiency, and present with mental fatigue, lack of strength, a pale complexion, shortness of breath, reluctance to speak, dry mouth and throat, dizziness, and tinnitus. The red tongue becomes pale. Such patterns of yin and yang dual deficiency should be identified carefully.

Treatment Principles

Boost qi and nourish yin, resolve dampness and clear heat

Formula

Liù Wèi Dì Huáng Wán—Six Ingredients Rehmannia Pill with added *huáng qí* (Radix Astragali)

黄芪	<i>huáng qí</i>	Radix Astragali
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
山茱萸	<i>shān zhū yú</i>	Fructus Corni
山药	<i>shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan

Formula Analysis

Huáng qí (Radix Astragali), *shēng dì huáng* (Radix Rehmanniae), *shān zhū yú* (Fructus Corni) and *shān yào* (Rhizoma Dioscoreae) boost qi and nourish yin.

Fú líng (Poria), *zé xiè* (Rhizoma Alismatis) and *mǔ dān pí* (Cortex Moutan) fortify the spleen, drain dampness and clear heat.

Modifications

For predominant qi deficiency, increase the dosage of *huáng qí* (Radix Astragali), and add *dǎng shēn* (Radix Codonopsis) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) to further boost qi and fortify the spleen.

For predominant yin deficiency, add *xuán shēn* (Radix Scrophulariae), *niú xī* (Radix Achyranthis Bidentatae), *mài dōng* (Radix Ophiopogonis) and *gǒu qǐ zǐ* (Fructus Lycii) to nourish yin.

For yin and yang dual deficiency, add medicinals that boost qi and warm the kidney such as *xiān líng pí* (Herba Epimedii), *ròu cōng róng* (Herba Cistanches), *tù sī zǐ* (Semen Cuscutae) and *bā jǐ tiān* (Radix Morindae Officinalis).

Chinese Patent Medicines

- Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill
6 g twice daily.
- Wū Jī Bái Fèng Wán*—Black Chicken White Phoenix Pill
3-6 g twice daily.

Diet Therapy

Hēi Dà Dòu Wán—Black Soja Pill: black soybean 250 g, *huái shān yào* (Rhizoma Dioscoreae) 60 g, *cāng zhú* (Rhizoma Atractylodis) 60 g and *fú líng* (Poria) 60 g. The above ingredients are ground into powder and made into pills with water.

3-6 g, 2 or 3 times a day. Used during the nephrosis recovery stage with patterns of qi and yin deficiency with residual turbid-dampness.

2. BRANCH PATTERNS

External Contraction of Wind

Signs and Symptoms

Manifestations include fever, aversion to wind with or without sweating, head and body pain, nasal discharge, and cough, or with wheezing, shortness of breath, or sore throat and swollen painful tonsils. The tongue has a thin coating; the pulse is floating.

Pattern Differentiation

This pattern appears in each stage of nephrosis, especially during acute outbreaks

or the early stages of relapse. It is caused by insecurity of *wei* qi due to qi deficiency, and associated with long-term steroid use or cytotoxic drugs which decrease immune function; these drugs weaken *wei* qi and create greater susceptibility to the common cold. In clinical practice, first distinguish patterns of wind-cold or wind-heat.

Externally contracted wind-cold is characterized by fever, aversion to wind-cold, no sweating, head and body pain, clear nasal discharge, and a cough with watery or white sputum. The tongue is light red with a white and thin coating; the pulse is floating and tight.

Externally contracted wind-heat is characterized by fever, sweating, thirst, a red pharynx and thick yellow nasal discharge. The tongue is red; the pulse is floating and rapid. If there are symptoms of wheezing, cough and shortness of breath, this belongs to the pattern of wind blocking the lung.

Treatment Principles

For Wind-cold:

Diffuse the lung and dispel wind with acrid-warm medicinals

For Wind-heat:

Diffuse the lung and dispel wind with acrid-cold medicinals

Formula

For wind-cold: Modified *Má Huáng Tāng*—**Ephedra Decoction**

麻黄	<i>má huáng</i>	Herba Ephedrae
桂枝	<i>guì zhī</i>	Ramulus Cinnamomi
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
连翘	<i>lián qiào</i>	Fructus Forsythiae
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
蝉蜕	<i>chán tuì</i>	Periostracum Cicadae
僵蚕	<i>jiāng cán</i>	Bombyx Batryticatus
桔梗	<i>jié gěng</i>	Radix Platycodonis
荆芥	<i>jīng jiè</i>	Herba Schizonepetae

Formula Analysis

Má huáng (Herba Ephedrae), *guì zhī* (Ramulus Cinnamomi) and *xìng rén* (Semen Armeniacae Amarum) induce sweating to dispel wind, diffuse the lung and promote urination.

Lián qiào (Fructus Forsythiae), *niú bàng zǐ* (Fructus Arctii), *chán tuì* (Periostracum Cicadae), *jiāng cán* (Bombyx Batryticatus), *jié gěng* (Radix Platycodonis) and *jīng jiè* (Herba Schizonepetae) clear heat, resolve toxins, dispel wind and diffuse the lung.

For wind-heat: Modified *Yín Qiào Sǎn*—**Lonicera and Forsythia Powder**

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
薄荷	<i>bò he</i>	Herba Menthae

牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
荆芥	<i>jīng jiè</i>	Herba Schizonepetae
蝉蜕	<i>chán tuì</i>	Periostracum Cicadae
僵蚕	<i>jiāng cán</i>	Bombyx Batryticatus
柴胡	<i>chái hú</i>	Radix Bupleuri
桔梗	<i>jié gěng</i>	Radix Platycodonis

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *bò he* (Herba Menthae) and *niú bàng zǐ* (Fructus Arctii) are acrid-cool medicinals that eliminate pathogens through the exterior, clear heat, and resolve toxins.

Jīng jiè (Herba Schizonepetae), *chán tuì* (Periostracum Cicadae), *jiāng cán* (Bombyx Batryticatus), *chái hú* (Radix Bupleuri) and *jié gěng* (Radix Platycodonis) dispel wind, expel pathogens through the exterior, diffuse the lung, and release heat.

Modifications

For associated edema, regardless of wind-cold or wind-heat, add *Wǔ Líng Sǎn*—Five Substances Powder with Poria to diffuse the lung and promote urination.

For swollen and painful tonsils, add *bǎn lán gēn* (Radix Isatidis), *shān dòu gēn* (Radix et Rhizoma Sophorae Tonkinensis) and *dōng líng cǎo* (Herba Rabdosiae Rubescentis) to clear heat and relieve tonsillitis swelling and pain.

For wind-cold blocking the lung, replace the formula with a modification of *Xiǎo Qīng Lóng Tāng*—Minor Green Dragon Decoction or with a modification of *Shè Gān Má Huáng Tāng*—Belamcanda and Ephedra Decoction to dissipate cold and diffuse the lung.

For wind-heat blocking the lung, use a modification of *Má Xìng Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction to clear heat and diffuse the lung.

Water-Dampness

Signs and Symptoms

Manifestations include extensive generalized edema (anasarca) with the skin stretched and shiny over the swollen area in some cases. Other signs may include abdominal distention, ascites, water accumulation in the intestines with borborygmus; there may be chest stuffiness, shortness of breath, epigastric stuffiness and fullness, or with asthmatic coughing and scanty urination. The pulse is deep.

Pattern Differentiation

This pattern is characterized by moderate or severe edema, associated with ascites and hydrothorax. Ascites is associated with the spleen, kidney and liver; hydrothorax is associated with the lung and spleen.

Treatment Principles

Supplement qi, fortify the spleen, expel water and relieve swelling.

In general, treatment focuses on the main signs and symptoms.

For patients associated with ascites and hydrothorax, apply these principles short-term.

Formula

Modified *Fáng Jǐ Huáng Qí Tāng*—Stephania Root and Astragalus Decoction with

Jǐ Jiāo Lì Huáng Wán—Stephania Root, Zanthoxylum, Lepidium and Rhubarb Pill

黄芪	<i>huáng qí</i>	Radix Astragali
白朮	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
防己	<i>fáng jǐ</i>	Radix Stephaniae Tetrandrae
椒目	<i>jiāo mù</i>	Semen Zanthoxyli
葶苈子	<i>tíng lì zǐ</i>	Semen Lepidii
大黄	<i>dà huáng</i>	Radix et Rhizoma Rhei

Formula Analysis

Huáng qí (Radix Astragali), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria) and *zé xiè* (Rhizoma Alismatis) boost qi, fortify the spleen, drain dampness and relieve swelling.

Fáng jǐ (Radix Stephaniae Tetrandrae) and *jiāo mù* (Semen Zanthoxyli) dispel wind and promote urination.

Tíng lì zǐ (Semen Lepidii) and *dà huáng* (Radix et Rhizoma Rhei) drain the lung and expel water.

Modifications

For epigastric and abdominal distention and stuffiness, add *dà fù pí* (Pericarpium Arecae), *hòu pò* (Cortex Magnoliae Officinalis), *lái fú zǐ* (Semen Raphani) and *bīng láng* (Semen Arecae) to move qi and relieve distention.

For chest stuffiness, shortness of breath and asthmatic coughing, add *má huáng* (Herba Ephedrae), *xìng rén* (Semen Armeniacae Amarum), *zǐ sū zǐ* (Fructus Perillae), *shēng jiāng pí* (Cortex Zingiberis Rhizomatis) and *sāng bái pí* (Cortex Mori) to diffuse the lung, descend qi and promote urination.

For those with a strong constitution but with ascites, hydrothorax, chest stuffiness, abdominal distention and difficult defecation and urination, add *gān suì* (Radix Kansui) and *qiān niú zǐ* (Semen Pharbitidis) to expel water by purgation (for short-term use only).

Damp-Heat**Signs and Symptoms**

Manifestations include impetigo, furuncles, boils and erysipelas on the skin; or a sticky sensation and bitter taste in the mouth, thirst with no desire to drink, epigastric stuffiness, and poor appetite; or frequent scanty urination with a sensation of incompleteness or burning heat or stabbing pain and dark turbid urine with downbearing-distention and lower abdominal discomfort. There may be lumbago, aversion to cold with fever, a bitter taste in the mouth and constipation. The tongue is red with a yellow greasy coating; there is a rapid and slippery pulse.

Pattern Differentiation

Damp-heat is the most common nephrosis branch pattern in child patients which can occur at any stage, but especially after long-term use of steroids or medicinals that warm yang. In clinical practice, it is necessary to distinguish whether the damp-heat is present in

the upper, middle or lower *jiao*.

Upper *jiao* damp-heat is characterized by sores on the skin.

Middle *jiao* damp-heat is characterized by a sticky sensation and bitter taste in the mouth, epigastric stuffiness, a poor appetite and a yellow greasy tongue coating.

Lower-*jiao* damp-heat is characterized by frequent scanty or painful urination with a sensation of incompleteness, and a downbearing distention and discomfort in the lower abdomen. Mild cases with lower *jiao* damp-heat may not show any obvious symptoms, but increased leukocytes and pus cells will appear in urine tests with a positive urine bacterial culture.

Treatment Principles

For upper *jiao* damp-heat: Clear heat and resolve toxins.

For middle *jiao* damp-heat: Clear heat, resolve toxins, eliminate turbidity and drain dampness.

For lower *jiao* damp-heat: Clear heat and drain dampness.

Formula

For upper *jiao* damp-heat:

Modified *Wǔ Wèi Xiǎo Dú Yīn*—Five Ingredient Toxin-Removing Beverage

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
菊花	<i>jú huā</i>	Flos Chrysanthemi
蒲公英	<i>pú gōng yīng</i>	Herba Taraxaci
紫花地丁	<i>zǐ huā dì dīng</i>	Herba Violae
天葵子	<i>tiān kuí zǐ</i>	Radix Semiaquilegiae
黄芩	<i>huáng qín</i>	Radix Scutellariae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
半枝莲	<i>bàn zhī lián</i>	Herba Scutellariae Barbatae

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae), *jú huā* (Flos Chrysanthemi), *pú gōng yīng* (Herba Taraxaci), *zǐ huā dì dīng* (Herba Violae) and *tiān kuí zǐ* (Radix Semiaquilegiae) clear heat and resolve toxins.

Huáng qín (Radix Scutellariae), *huáng lián* (Rhizoma Coptidis) and *bàn zhī lián* (Herba Scutellariae Barbatae) dry dampness and clear heat.

For middle *jiao* damp-heat pattern:

Modified *Gān Lù Xiǎo Dú Dān*—Sweet Dew Toxin-Removing Elixir

黄芩	<i>huáng qín</i>	Radix Scutellariae
茵陈	<i>yīn chén</i>	Herba Artemisiae Scopariae
滑石	<i>huá shí</i>	Talcum
藿香	<i>huò xiāng</i>	Herba Agastachis
厚朴	<i>hòu pò</i>	Cortex Magnoliae Officinalis

白蔻仁	<i>bái kòu rén</i>	Fructus Amomi Rotundus
薏苡仁	<i>yì yǐ rén</i>	Semen Coicis
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
猪苓	<i>zhū líng</i>	Polyporus

Formula Analysis

Huáng qín (Radix Scutellariae), *yīn chén* (Herba Artemisiae Scopariae) and *huá shí* (Talcum) clear heat, drain dampness, drain fire and resolve toxins.

Huò xiāng (Herba Agastachis), *hòu pò* (Cortex Magnoliae Officinalis) and *bái kòu rén* (Fructus Amomi Rotundus) move qi and drain dampness.

Yì yǐ rén (Semen Coicis), *chē qián zǐ* (Semen Plantaginis) and *zhū líng* (Polyporus) dispel dampness and promote urination.

For lower *jiao* damp-heat:

Modified **Bā Zhèng Sǎn**—Eight Corrections Powder

通草	<i>tōng cǎo</i>	Medulla Tetrapanacis
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
篇蓄	<i>biǎn xù</i>	Herba Polygoni Avicularis
滑石	<i>huá shí</i>	Talcum
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
大黄	<i>dà huáng</i>	Radix et Rhizoma Rhei
连翘	<i>lián qiào</i>	Fructus Forsythiae
黄柏	<i>huáng bǎi</i>	Cortex Phellodendri Chinensis
金钱草	<i>jīn qián cǎo</i>	Herba Lysimachiae
半枝莲	<i>bàn zhī lián</i>	Herba Scutellariae Barbatae

Formula Analysis

Tōng cǎo (Medulla Tetrapanacis), *chē qián zǐ* (Semen Plantaginis), *biǎn xù* (Herba Polygoni Avicularis) and *huá shí* (Talcum) clear heat, drain dampness and relieve stranguria.

Zhī zǐ (Fructus Gardeniae) and *dà huáng* (Radix et Rhizoma Rhei) clear heat and drain fire.

Lián qiào (Fructus Forsythiae), *huáng bǎi* (Cortex Phellodendri Chinensis), *jīn qián cǎo* (Herba Lysimachiae) and *bàn zhī lián* (Herba Scutellariae Barbatae) clear heat, resolve toxins and drain dampness.

Diet Therapy

Coix Seed and Mung Bean Porridge: *shēng yì yǐ rén* (raw Semen Coicis) 30 g, *chì xiǎo dòu* (Semen Phaseoli) 30 g, *lǚ dòu* (mung bean—Semen Phaseoli Radiati) 60 g. Cook all the ingredients together to make a congee, take once daily.

It can be used for edema due to spleen deficiency with damp-heat.

Blood Stasis

Signs and Symptoms

Manifestations include a dark purple or dusky complexion, pastiness or darkening

below the eyelid, lusterless skin or squamous dry skin with purple veins and blood filaments, often associated with lumbago. There may be fixed or movable masses, or accumulation and gathering under the rib-sides and dark purple lips. The tongue is dark purple with petechia or ecchymosis with little coating; the pulse is wiry and rough.

Pattern Differentiation

The common branch pattern in nephrotic syndrome is blood stasis which may occur in each stage, occurring especially in refractory cases or after long-term use of full dosage steroids. Signs and symptoms include a dusky complexion, dull lips, and a purple tongue with petechia or ecchymosis. Some cases do not have obvious symptoms, but hematuria or hypercoagulability can be revealed by hemorheological testing.

Treatment Principles

Invigorate blood and dissolve stasis

Formula

Modified *Táo Hóng Sì Wù Tāng*—Peach Kernel and Carthamus Four Substances Decoction

桃仁	<i>táo rén</i>	Semen Persicae
红花	<i>hóng huā</i>	Flos Carthami
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
丹参	<i>dān shēn</i>	Radix et Rhizoma Salviae Miltiorrhizae
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
川芎	<i>chuān xiōng</i>	Rhizoma Chuanxiong
党参	<i>dǎng shēn</i>	Radix Codonopsis
黄芪	<i>huáng qí</i>	Radix Astragali
益母草	<i>yì mǔ cǎo</i>	Herba Leonuri
泽兰	<i>zé lán</i>	Herba Lycopi

Formula Analysis

Táo rén (Semen Persicae), *hóng huā* (Flos Carthami), *dāng guī* (Radix Angelicae Sinensis), *shēng dì huáng* (raw Radix Rehmanniae), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *chì sháo* (Radix Paeoniae Rubra) and *chuān xiōng* (Rhizoma Chuanxiong) invigorate blood and dissolve stasis.

Dǎng shēn (Radix Codonopsis) and *huáng qí* (Radix Astragali) boost qi to assist blood circulation.

Yì mǔ cǎo (Herba Leonuri) and *zé lán* (Herba Lycopi) dissolve stasis and drain dampness.

Modifications

For hematuria, select *xiān hè cǎo* (Herba Agrimoniae), *pú huáng tàn* (Pollen Typhae Carbonisatus), *hàn lián cǎo* (Herba Ecliptae), *qiàn cǎo* (Radix et Rhizoma Rubiae) and *shēn sǎn qī* (Radix et Rhizoma Notoginseng) to cool blood and check bleeding.

For severe blood stasis, add *shuǐ zhī* (Hirudo), *sān léng* (Rhizoma Sparganii) and *é zhú* (Rhizoma Curcumae) to break the blood and expel stasis.

For high levels of serum cholesterol, treat according to phlegm and stasis, add *zé xiè* (Rhizoma Alismatis), *guā lóu* (Fructus Trichosanthis), *bàn xià* (Rhizoma Pinelliae), *chén dǎn xīng* (aged Arisaema cum Bile) and *shēng shān zhā* (Fructus Crataegi) to dissolve phlegm and invigorate blood.

For symptoms of qi stagnation and blood stasis such as depression, chest and rib-side fullness and distention, abdominal pain and distention, belching or hiccups, add *yù jīn* (Radix Curcumae), *chén pí* (Pericarpium Citri Reticulatae), *dà fù pí* (Pericarpium Arecae), *mù xiāng* (Radix Aucklandiae) and *hòu pò* (Cortex Magnoliae Officinalis) to move qi and invigorate blood.

For blood hyperviscosity, add *shuǐ zhī* (Hirudo) powder capsules, 1.5-3 g each day.

Damp-Turbidity

Signs and Symptoms

Manifestations include poor appetite, nausea or vomiting, a heavy sensation in the limbs, fatigue or listlessness and exacerbated edema. The tongue has a thick greasy coating; there is a slippery pulse. Laboratory tests: rising BUN and creatinine.

Pattern Differentiation

This pattern is common in cases with persistent edema caused by dampness, spleen-kidney failure, water toxin retention, and upward reversal of damp turbidity and water toxin. It is characterized by nausea, vomiting, poor appetite, a heavy sensation in the limbs, and fatigue or listlessness. Also with rising BUN and creatinine levels.

Treatment Principles

Drain dampness and descend turbidity

Formula

Modified *Wēn Dǎn Tāng*—Gallbladder-Warming Decoction

半夏	<i>bàn xià</i>	Rhizoma Pinelliae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
茯苓	<i>fú líng</i>	Poria
生姜	<i>shēng jiāng</i>	Rhizoma Zingiberis Recens
姜竹茹	<i>jiāng zhú rú</i>	Caulis Bambusae in Taenia Praeparatum
枳实	<i>zhǐ shí</i>	Fructus Aurantii Immaturus
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii

Formula Analysis

Bàn xià (Rhizoma Pinelliae), *chén pí* (Pericarpium Citri Reticulatae), *fú líng* (Poria) and *shēng jiāng* (Rhizoma Zingiberis Recens) drain dampness and fortify the spleen.

jiāng zhú rú (Caulis Bambusae in Taenia Praeparatum), *zhǐ shí* (Fructus Aurantii Immaturus) and *shí chāng pú* (Rhizoma Acori Tatarinowii) move qi, drain dampness and descend turbidity.

Modifications

For frequent vomiting, add *dài zhě shí* (Haematitum) and *xuán fù huā* (Flos Inulae) to descend counterflow qi and check vomiting.

For damp-turbidity transforming to heat with symptoms of a yellow greasy tongue

coating, a bitter taste in the mouth, and foul breath, add *huáng lián* (Rhizoma Coptidis), *huáng qín* (Radix Scutellariae) and *dà huáng* (Radix et Rhizoma Rhei) to resolve toxins and descend turbidity.

For cold damp-turbidity with cold limbs, fatigue and an enlarged light red tongue, add *dǎng shēn* (Radix Codonopsis), *dàn fù piàn* (Radix Aconiti Lateralis Praeparata), *wú zhū yú* (Fructus Evodiae), *jiāng huáng lián* (Rhizoma Coptidis Praeparatum), *shā rén* (Fructus Amomi) to descend turbidity and clear heat with both warm and cool medicinals.

For predominant dampness with a white greasy tongue coating, add *cāng zhú* (Rhizoma Atractylodis), *hòu pò* (Cortex Magnoliae Officinalis) and *shēng yì yǐ rén* (Semen Coicis).

For mild nausea and vomiting, a sticky sensation in the mouth, poor appetite, loose stools, and a white greasy tongue coating, replace the formula with a modification of *Huò Xiāng Zhèng Qì Sǎn*—Agastache Qi-Correcting Powder, consisting of *huò xiāng* (Herba Agastachis), *sū gěng* (Caulis Perillae), *dà fù pí* (Pericarpium Arecae), *chén pí* (Pericarpium Citri Reticulatae), *bàn xià* (Rhizoma Pinelliae), *fú líng* (Poria), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *hòu pò* (Cortex Magnoliae Officinalis), *biǎn dòu* (Semen Lablab Album) and *cāng zhú* (Rhizoma Atractylodis).

For uremia with turbid counterflow due to yang deficiency, select *fù zǐ* (Radix Aconiti Lateralis Praeparata) and *dà huáng* (Radix et Rhizoma Rhei) 20 g each to warm the kidney, promote urination and descend turbidity. Decoct and drink small amounts frequently. Can be administered by enema in patients that vomit frequently and have difficulty drinking the decoction.

For azotemia with obvious digestive symptoms, replace the formula with a modification of *Wēn Pí Tāng*—Spleen-Warming Decoction and *Xuán Fù Dài Zhě Tāng*—Inula and Hematite Decoction with *Zuǒ Jīn Wán*—Left Metal Pill.

Use medicinals such as *dǎng shēn* (Radix Codonopsis), *dàn fù piàn* (Radix Aconiti Lateralis Praeparata), *gān jiāng* (Rhizoma Zingiberis), *xuán fù huā* (Flos Inulae), *dài zhě shí* (Haematitum), *fā bàn xià* (Rhizoma Pinelliae Praeparatum), *chǎo chén pí* (dry-fried Pericarpium Citri Reticulatae), *dàn wú yú* (Fructus Evodiae Praeparatum), *jiāng huáng lián* (Rhizoma Coptidis Praeparatum), powdered *ròu guì* (Cortex Cinnamomi), *fú líng* (Poria), *fó shǒu* (Fructus Citri Sarcodactylis), *shēng yì yǐ rén* (Semen Coicis) and *shā rén* (Fructus Amomi). The following formula is also applicable:

***Shēng Qīng Jiàng Zhuó Tāng*—Clear-Raising and Turbidity-Descending Decoction**

大黄	<i>dà huáng</i>	Radix et Rhizoma Rhei
贯众	<i>guàn zhòng</i>	Rhizoma Cyrtomii
六月雪	<i>liù yuè xuě</i>	Serissa japonica (Thunb.) Thunb. Nov. Gen.
苏叶	<i>sū yè</i>	Folium Perillae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii
生姜	<i>shēng jiāng</i>	Rhizoma Zingiberis Recens

For severe azotemia, blood dialysis treatment is required.



[LÉI GŌNG TÉNG (TRIPTERYGIUM GLYCOSIDES) THERAPY]

Léi gōng téng (Tripterygium Glycosides), a Celastraceae *Tripterygium* species, is pungent and bitter in flavor, cold in property, and enters the liver, spleen and kidney channels. Modern medical research shows significant anti-inflammation, analgesia, and immune suppression effects.

Léi gōng téng (Tripterygium Glycosides) has been used for over 30 years to treat nephrotic syndrome. Clinical studies have shown that *léi gōng téng* (Tripterygium Glycosides) is effective at eliminating proteinuria in patients with simple nephrosis. However, practitioners should pay attention to the toxic side effects of *léi gōng téng* (Tripterygium Glycosides). At the initial stages of using *léi gōng téng* decoctions, there were more adverse reactions.

The current drug preparations of tripterygium wilfordii polycoride tablets (TPT) have fewer side effects, particularly those produced by Mei Tong Pharmaceutical Co. Ltd.

TRIPTERYGIUM WILFORDII POLYCORIDE TABLETS (TPT)

Each tablet contains Tripterygium Glycosides.

This product is extracted from the plant of *Tripterygium Wilfordii*; the main ingredient is glycosides, and contains no less than 0.1 mg/g of Wilforlide A.

Functions

Dispels wind, resolves toxins, removes dampness, relieves swelling, relaxes sinews, and unblocks the collaterals; also shows anti-inflammation, cell-mediated immunity and humoral immunity suppression functions.

Use for rheumatoid arthritis, nephrotic syndrome, Behcet's syndrome, leprosy reactions, autoimmune hepatitis and others caused by obstruction by toxic pathogens of wind, dampness, heat and stasis.

Recommended Dosage

Each tablet contains 10 mg. 1-1.5 mg/(per kg/day), 2 or 3 times daily, 3 months as one course of treatment. Use for all patterns of nephrotic syndrome.

Toxicity and Side Effects

a. Digestive system adverse reactions: reactions induced by Tripterygium Glycosides include nausea, vomiting, a burning sensation in the esophagus, loss of appetite, abdominal pain, and diarrhea or constipation with gastrointestinal bleeding in serious cases. Some patients may develop pseudomembranous colitis, jaundice, hepatomegaly, liver bleeding, or liver necrosis within 2-4 weeks after taking this medicine.

b. Skin and mucocutaneous adverse reactions: itchy skin, skin redness, erosion, ulcers, edema, maculopapular rash, urticaria, polymorph erythema type drug eruption, fixed drug eruption, erythema nodosum, oral mucosa herpes, pigmentation, hair loss, and cutaneous allergic vasculitis, etc. These reactions mostly occur within 2-15 days after taking the drug, and usually disappear after stopping.

c. Hematological system adverse reactions: Tripterygium Glycosides can inhibit bone marrow to cause leukopenia, erythrocytopenia, thrombocytopenia and pancytopenia.

d. Reproductive system adverse reactions: in males it may reduce sperm counts as in oligospermia or aspermia, lower sperm motility and increase sperm malformation

rates causing decreased fertility or infertility. Prolonged use of this medicine may cause hyposexuality, testicular atrophy, and male breast enlargement. In females it may suppress ovarian function, and cause menstrual disorders such as hypermenorrhea, hypomenorrhea and amenorrhea. For women of child-bearing age, it may cause infertility. These reactions usually disappear gradually after stopping the drug while receiving symptomatic treatment for a period of time.

e. Cardiovascular system adverse reactions: palpitations, chest oppression, shortness of breath, arrhythmia, and ECG changes. ECG indicates atrioventricular block, nodal escape, premature ventricular contraction, and myocardial damage (ST segment depression, T wave inversion, etc.). These phenomena commonly occurred in patients that received overdoses of the drug and those who had originally suffered from cardiovascular disease. Severe poisoning may cause an abrupt fall of blood pressure, myocardial circulation insufficiency, or even cardiogenic shock, heart failure and death.

f. Urinary system adverse reactions: renal damage is mainly acute renal failure manifesting as oliguria or anuria, edema, hematuria, proteinuria, cylindruria, and lumbago, or with percussive pain in the kidney areas, azotemia, acidosis, renal dysfunction, and even death due to acute renal failure. Laboratory examination shows significantly increased blood urea nitrogen and significantly decreased creatinine clearance rates.

g. Nervous system adverse reactions: Tripterygium Glycosides shows a certain toxicity to nerve cells, causing nerve cell degeneration and then nervous system damage. Manifestations include dizziness, headache, fatigue, insomnia or somnolence, muscle pain, limb numbness, cramps, difficulty in hearing, double vision, poor memory, peripheral neuropathy, restless leg syndrome, and cerebral edema.

h. Immune system adverse reactions: Tripterygium Glycosides has an inhibitory effect on the immune function in therapeutic doses. Toxic effects from over-use can cause lymphoid organ atrophy, lymphocyte apoptosis, and hyp immunity. Both the crude drug and extract preparations may cause adverse reactions.

Caution: Tripterygium Glycosides may cause multisystem adverse reactions, which often occur simultaneously. Although a large number of clinical and experimental researches indicate that the incidences of adverse reactions are not high, but the indications should be strictly followed to prevent such reactions. Reactions should be observed closely, including blood, urine, liver and kidney functions. The electrocardiogram should be monitored closely; if there are any abnormal indications, withdraw the medicine or adjust the dose, and provide symptomatic treatment. It should always be used with caution, especially in prepubertal children. For long-term users, it is better to use a low dose as maintenance therapy.

[WESTERN MEDICINE THERAPIES]

1. GLUCOCORTICOID THERAPY

(1) Prednisone (steroid) therapy should be started as early as possible for newly diagnosed patients. It is mainly applicable to simple-type nephrosis. Prednisone therapy is divided into short-course, medium-course and long-course therapies, in which the short-course therapy is currently abandoned because of the high relapse rates. Medium-course therapy lasts for 6 months, and the long-course therapy lasts for 9 months.

The usual dosage of prednisone begins with 2 mg/kg/day (60 mg/m²/day) split into 3 or 4 doses and given daily for 4 weeks. If urine protein turns negative within 4 weeks (defined as urine protein continuous negative to minimal trace, 3 times within 7 days, or urine protein ≤ 4 mg/m² per hour), the prednisone dose is reduced to 2 mg/kg given as a single dose every other day in the morning after breakfast for another 4 weeks. After that, the dosage is tapered once every 2-4 weeks until withdrawal. Patients using longer courses of prednisone should be monitored closely for side effects such as steroid toxicity-Cushing's syndrome.

(2) Adjust the steroid dosage and the treatment course according to different conditions for relapsers and glucocorticoid-dependent nephrosis, while at the same time, carefully detect and exclude infections or other factors affecting the efficacy of the glucocorticoids.

2. IMMUNOSUPPRESSANTS

These are mainly used for frequent relapsers, glucocorticoid dependent patients, glucocorticoid-resistant patients, or children suffering from severe corticosteroid side effects with clinical signs of steroid toxicity. In conjunction with using low-dose glucocorticoids on alternating days, the following immunosuppressants can be used simultaneously.

(1) Cyclophosphamide: can be administered by oral or intravenous impact therapy in small doses with a short-term course, and given intermittently if necessary. Beware of toxicity and side effects.

(2) Other immunosuppressants: Mycophenolate mofetil, cyclosporine A, and azathioprine can be used, according to the patient's condition.

3. ANTICOAGULANT AND FIBRINOLYTIC DRUG THERAPY

Patients with nephrosis always present with a hypercoagulability state and fibrinolysis, and are apt to have thrombosis complications. Therefore, it is necessary to give these patients anticoagulant and thrombolytic therapy such as heparin sodium, urokinase and dipyridamole.

4. IMMUNE-MODULATORS

In general, immune-modulators are used as an adjuvant treatment with glucocorticoids and are suitable for patients with repeated infections, frequent relapses, or corticosteroid dependency.

5. ANGIOTENSIN-CONVERTING ENZYME INHIBITORS (ACEI)

These are effective at improving local glomerular hemodynamics, reducing urinary protein, delaying the progress of glomerular sclerosis, and are particularly suitable for NS associated with high blood pressure. Commonly used pharmaceuticals include captopril, enalapril, fosinopril and so on.

6. SYMPTOMATIC TREATMENT

Diuretic therapy may be beneficial, particularly in children with severe edema and oliguria. If necessary, volume expansion diuretics should be used.

Antihypertensives such as nifedipine or captopril should be given to children with persistent hypertension.

For severe hypercoagulability or complications with renal vein thrombosis, treat with heparin or antithrombotic enzyme.

When complicated with infections, whether serious or not, antibiotics can be used.

[PREVENTION AND NURSING CARE]

PREVENTION

1. All attempts should be made to find the causes of NS. If skin lesions such as sores, furuncles and prurigo, or tooth decay or tonsillitis appear, these should be treated immediately and comprehensively.

2. Watch the child closely to prevent any respiratory tract infections. Keep the skin, external genital organs, or urethra orifice clean to prevent infections in the skin and urinary tract.

NURSING CARE

1. Patients during the edematous phase and with hypertension should have a restricted sodium intake with the amount varied according to the severity of edema and excess blood pressure levels. Patients with severe edema or high blood pressure should abstain from sodium, as well as having their water intake restricted.

2. During the edematous phase, food should be light and digestible. Give foods that contain abundant vitamins, calcium, and high-quality protein (such as dairy, eggs, fish and lean meat). Protein intake should be controlled within 1.5-2.0 g/(kg/day), avoid being too high or too low.

3. During the edematous phase, pay close attention to skin hygiene, especially in the rugae-folding areas. If there is obvious scrotal edema, compression on that area should be avoided.

[CASE STUDIES]

Three years previous the child had been hospitalized for nephrotic syndrome on 5/18/1981. He stayed as an inpatient in the hospital for three months, where he was treated with prednisone, Chinese medicinals that fortify the spleen and promote urination and other therapies. After three months of treatment, his urine protein reduced from (++++) to minimal amounts, and he was then discharged. He continued taking prednisone and *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill for another 2 weeks and then stopped medication. On follow-up, his urine assay showed minimal amounts of urine protein remaining.

At the time he was again admitted to hospital, he presented with significant edema following a fever, with urinary protein (++++).

After being hospitalized, manifestations included fever of 39.5°C, little sweat, a red throat, cough, poor appetite and general edema with deep pitting that restored sluggishly, and scanty yellow urine. His tongue was red with a yellow greasy coating. His blood pressure was 102/58 mmHg, body weight: 29.5 kg.

Laboratory tests: WBC $17.2 \times 10^9/L$, neutrophils 82%, lymphocytes 18%; erythrocyte sedimentation rate 115 mm/h; Serum Protein electrophoresis pattern: PA 0.046, A 0.264, α_1

0.035, α_2 0.356, β 0.16, γ 0.139; Cholesterol 7.33 mmol/L.

He was diagnosed with edema (nephrotic syndrome). The pattern differentiation was wind-heat attacking the lung, dysfunction in governing and regulating the waterways, and water-dampness diffusion. Chinese medicinals were given to disperse wind, clear heat, diffuse the lung, and promote urination.

Formula

金银花	<i>jīn yín huā</i>	10 g	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	10 g	Fructus Forsythiae
荆芥	<i>jīng jiè</i>	6 g	Herba Schizonepetae
防风	<i>fáng fēng</i>	6 g	Radix Saposhnikoviae
桔梗	<i>jié gěng</i>	6 g	Radix Platycodonis
桑叶	<i>sāng yè</i>	10 g	Folium Mori
桑白皮	<i>sāng bái pí</i>	10 g	Cortex Mori
车前子	<i>chē qián zǐ</i>	10 g	Semen Plantaginis
鱼腥草	<i>yú xīng cǎo</i>	15 g	Herba Houttuyniae
荔枝草	<i>lì zhī cǎo</i>	15 g	Herba Salviae Plbeiae

3 doses for 3 days, one bag per day.

After three days of treatment, his fever and cough subsided, but the edema remained.

On April 20, the treatment methods were changed to mainly diffuse the lung and promote urination.

Formula

麻黄	<i>má huáng</i>	3 g	Herba Ephedrae
防己	<i>fáng jǐ</i>	10 g	Radix Stephaniae Tetrandrae
桔梗	<i>jié gěng</i>	6 g	Radix Platycodonis
连翘	<i>lián qiào</i>	10 g	Fructus Forsythiae
桑白皮	<i>sāng bái pí</i>	10 g	Cortex Mori
车前子	<i>chē qián zǐ</i>	10 g	Semen Plantaginis
泽泻	<i>zé xiè</i>	10 g	Rhizoma Alismatis
荔枝草	<i>lì zhī cǎo</i>	15 g	Herba Salviae Plbeiae
赤小豆	<i>chì xiǎo dòu</i>	15 g	Semen Phaseoli

After taking the medication his urine increased and the edema gradually decreased. The formula was modified and continually used until April 27, at which time all objective symptoms disappeared, but urine protein remained (+++).

On May 5, he was given *Léi Gōng Téng Hé Jì*—Tripterygium Glycosides Mixture (each 30 ml contained *léi gōng téng* (Tripterygium Glycosides) 15 g, *jī xuè téng* (Caulis Spatholobi) 15 g, and *shēng gān cǎo* (Radix et Rhizoma Glycyrrhizae) 5 g), 10 ml, 3 times daily.

Formula***Léi Gōng Téng Hé Jì*—Tripterygium Glycosides Mixture**

雷公藤	<i>léi gōng téng</i>	15 g	Tripterygium Glycosides
鸡血藤	<i>jī xuè téng</i>	15 g	Caulis Spatholobi
生甘草	<i>shēng gān cǎo</i>	5 g	Radix et Rhizoma Glycyrrhizae (raw)

On May 7, his urine protein dropped to a small trace. Blood assay: WBC $8.4 \times 10^9/L$, neutrophils 55%, lymphocytes 40%, eosinophils 5%. Erythrocyte sedimentation rate was 94 mm/h. Serum Protein electrophoresis pattern: PA 0.015, A 0.449, α_1 0.035, α_2 0.181, β 0.154, γ 0.166.

After this, since he presented with yellow urine and a slightly red tongue with a greasy yellow coating at the root, the formula was changed to *Sì Miào Wán*—Wonderfully Effective Four Pill, with *Léi Gōng Téng Hé Jì*—Tripterygium Glycosides Mixture. Urine protein remained negative to minimal trace.

Formula**Supplemented *Sì Miào Wán*—Wonderfully Effective Four Pill**

苍术	<i>cāng zhú</i>	Rhizoma Atractylod
牛膝	<i>niú xī</i>	Radix Achyranthis Bidentatae
黄柏	<i>huáng bǎi</i>	Cortex Phellodendri Chinensis
薏苡仁	<i>yì yǐ rén</i>	Semen Coicis

On May 31, the erythrocyte sedimentation rate was 20 mm/h, and cholesterol was 4.55 mmol/L. *Léi Gōng Téng Hé Jì*—Tripterygium Glycosides Mixture was reduced to 5 ml, 3 times daily.

On June 8, *Léi Gōng Téng Hé Jì*—Tripterygium Glycosides Mixture was withdrawn, but *Sì Miào Wán*—Wonderfully Effective Four Pill was still used.

On June 25, his 24-hour urine protein test was 0.12 g. After this he regained full health and the routine urine examinations were normal until July 3, when he was discharged from hospital in a condition of “clinical remission”.

Analysis

The initial relapse was first due to wind-heat attacking the lung with dysfunction in governing and regulating the waterways and water-dampness diffusion. After dispersing wind, clearing heat, diffusing the lung and promoting urination the exterior syndrome was released, but his edema remained. Therefore, treatment to diffuse the lung and promote urination was applied upon which all swelling symptoms disappeared, but urine protein was still (+++).

Léi Gōng Téng—Tripterygium Glycosides was then used to dispel wind, remove toxins, remove dampness, and disperse swelling. After that, the child presented with a heat syndrome (yellow urine, a red tongue with a yellow greasy coating at the root), so he was also given *Sì Miào Wán*—Wonderfully Effective Four Pill to clear heat and drain dampness. After being treated with Chinese medicinals for 2 months, the child's condition had improved and stabilized, with the likelihood of progressing to a full recovery.

Source: Wang Shou-chuan. Treating Nephrotic Syndrome in Children by Mainly Using *Léi Gōng Téng*—Tripterygium Glycosides [J]. ZheJiang Journal of Traditional Chinese Medicine. 1985; 20 (9): 405-406.

► **Case #2. Male, age 8. Hospitalized 5/12/1987**

The patient was admitted to hospital due to recurrent edema with turbid frothy urine for more than three years and a fever for the previous 2 days. He was diagnosed with nephrotic syndrome and upper respiratory infection.

Over the past three years he had developed edema and proteinuria after becoming exposed to windy weather or catching a cold. He had already been treated 5 times by standard courses of prednisone, and had taken cyclophosphamide up to 4.5 g six months prior. This time the disease relapsed again after catching a cold.

The manifestations included a temperature 37.8°C with clinical signs of steroid effected appearance, mild eyelid edema, red pharyngeal area, swollen tonsils I°, and pitting edema in the lower limbs. His tongue was dark red with a thin yellow coating; the pulse was rapid and forceless. The laboratory tests showed WBC $11.0 \times 10^9/L$, urinary protein (++++), plasma total protein 46 g, albumin 17 g, globulin 29 g, and serum cholesterol 8.9 mmol/L.

The parents refused to have their child treated again with steroids, therefore TCM syndrome differentiation and treatment were applied to the condition; the original steroid dose was also maintained (prednisone 25 mg, once every other day).

Yín Qiào Sǎn—Lonicera and Forsythia Powder was used firstly to scatter wind and dissipate heat in order to treat the branch.

Formula

***Yín Qiào Sǎn*—Lonicera and Forsythia Powder**

金银花	<i>jīn yín huā</i>	15 g	Flos Lonicerae Japonicae
芦根	<i>lú gēn</i>	15 g	Rhizoma Phragmitis
连翘	<i>lián qiào</i>	12 g	Fructus Forsythiae
葛根	<i>gé gēn</i>	12 g	Radix Puerariae Lobatae
桔梗	<i>jié gěng</i>	9 g	Radix Platycodonis
苏梗	<i>sū gěng</i>	9 g	Caulis Perillae
杏仁	<i>xìng rén</i>	6 g	Semen Armeniacae Amarum
薄荷	<i>bò he</i>	6 g	Herba Menthae
甘草	<i>gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae
赤小豆	<i>chì xiǎo dòu</i>	60 g	Semen Phaseoli

Chì xiǎo dòu (Semen Phaseoli) was decocted first to 500 ml into which the other medicinals were then added and decocted again.

After 2 doses in 2 days, his fever subsided, the cough was relieved, swelling lessened and the tongue coating turned white. Then *bò he* (Herba Menthae) was replaced by 6 g of *zhì má huáng* (liquid-fried Herba Ephedrae). After another 2 daily doses his cough and swelling disappeared, but urine protein was (++).

The formula was adjusted as follows:

Formula

黄芪	<i>huáng qí</i>	15 g	Radix Astragali
茯苓	<i>fú líng</i>	12 g	Poria
石韦	<i>shí wéi</i>	12 g	Folium Pyrrosiae
连翘	<i>lián qiào</i>	12 g	Fructus Forsythiae
牡丹皮	<i>mǔ dān pí</i>	9 g	Cortex Moutan
丹参	<i>dān shēn</i>	9 g	Radix et Rhizoma Salviae Miltiorrhizae
陈皮	<i>chén pí</i>	6 g	Pericarpium Citri Reticulatae
防风	<i>fáng fēng</i>	6 g	Radix Saposhnikoviae
甘草	<i>gān cǎo</i>	6 g	Radix et Rhizoma Glycyrrhizae

After taking 12 bags in 12 days, his condition was markedly improved; urine protein was (+)-(++).

The following medicinals were added to the above formula:

党参	<i>dǎng shēn</i>	15 g	Radix Codonopsis
仙灵脾	<i>xiān líng pí</i>	12 g	Herba Epimedii
水蛭	<i>shuǐ zhì</i>	3 g	Hirudo
黄芪	<i>huáng qí</i>	30 g	Radix Astragali

After 12 doses, his urine protein was (\pm) and he was discharged from the hospital. After taking another 10 bags of the formula, urine protein turned negative; steroids were withdrawn within 6 months.

The child received follow-up visits for 9 years. During those years, the above formula was repeatedly taken intermittently to consolidate the curative effect, significantly reducing his susceptibility to catching colds. If proteinuria occurred accidentally, it usually disappeared after intramuscular injection of penicillin for 3-5 days. After 9 years of treatment, the nephrosis was clinically cured.

Analysis

Most child patients with refractory nephrotic syndrome have already been treated with steroids or cytotoxics for a long time, and they are prime candidates for contracting external pathogens which result in relapses because of the yin-yang imbalance, qi and blood deficiency and poor resistance. Therefore, for this child, *Fú Zhèng Sǎn*—Healthy Qi-Reinforcing Powder was used to harmonize qi and blood, balance yin and yang and create healthy qi in the body to prevent pathogenic attack.

Fú Zhèng Sǎn—Healthy Qi Reinforcing Powder consists of *huáng qí* (Radix Astragali), *dǎng shēn* (Radix Codonopsis), *xiān líng pí* (Herba Epimedii), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) and others.

In this formula, *huáng qí* (Radix Astragali) supplements the lung, consolidates the exterior, raises yang and consolidates *wei* qi.



Dǎng shēn (Radix Codonopsis) fortifies the spleen and boosts qi in order to nourish the source.

Xiān líng pí (Herba Epimedii) warms the kidney and fortifies the spleen in order to reinforce original qi.

Dān shēn (Radix et Rhizoma Salviae Miltiorrhizae) invigorates blood and dissolves stasis to assist qi movement.

All medicinals were used together to strengthen the lung, spleen and stomach, harmonize qi and blood, recover healthy qi and consolidate the root to help avoid relapse.

Source: Pan YL, LU XH. The Experiences of Xu He-ying in Treating Refractory Nephrotic Syndrome in Children [J]. Modern Traditional Chinese Medicine, 1996; 33 (4): 200-201.

[QUESTIONS]

1. A patient age 3 presented with recurrent edema with abnormal urine tests due to catching colds repeatedly for 6 months. His edema disappeared after treatment but his urine test had not returned to normal. Present manifestations include a pale and dull complexion, fatigue, lack of strength, sweating easily and susceptibility to colds. His tongue was pale with a white and thin coating; the pulse is moderate and weak. He has been diagnosed with nephrotic syndrome.

Which pattern does this syndrome belong to?

- | | |
|--------------------------------------|----------------------------------|
| A. Contention between wind and water | B. Qi and yin deficiency |
| C. Lung-spleen qi deficiency | D. Spleen-kidney yang deficiency |
| E. Liver-kidney yin deficiency | |

2. A patient age 6 presenting with edema fluctuating between mild and severe has already been treated with prednisone for 2 months. Present manifestations include headaches, dizziness, vexation, restlessness, dry mouth and throat, hot feeling in the palms and soles, a flushed complexion, dry eyes, acne, insomnia and profuse sweating. His tongue is red with little coating; the pulse is rapid, wiry and thready.

Which pattern is this?

- | | |
|--|----------------------------------|
| A. Lung-spleen qi deficiency | B. Spleen-kidney yang deficiency |
| C. Liver-kidney yin deficiency | D. Qi and yin deficiency |
| E. External contraction of wind pathogen | |

3. A patient, age 9, presents with general severe edema especially in the lower limbs which pits deeply with sluggish recovery. He has a dull complexion, squamous dry skin, fatigue and a lack of strength. He often has lumbago, scanty urine and dark lips. His tongue is purple with petechia and no coating; his pulse is wiry and rough.

What treatment methods should be used for this patient?

- | | |
|---|---|
| A. Promote urination to alleviate edema | B. Invigorate blood and dissolve stasis |
| C. Warm yang qi to promote urination | D. Resolve dampness and descend turbidity |
| E. Diffuse the lung and drain water | |

4. A patient age 7 with nephrotic syndrome and mild edema. He has a pale dull complexion, fatigue, lack of strength, is prone to sweating and catching colds. His tongue is light red with a white coating; the

pulse is moderate and weak.

Which formula should be the first choice of treatment?

- A. *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder, with *Yì Gōng Sǎn*—Special Achievement Powder
- B. *Shēn Líng Bái Zhú Sǎn*—Poria and Atractylodes Macrocephalae Powder with *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder
- C. *Bǔ Zhōng Yì Qì Tāng*—Center-Supplementing Qi-Boosting Decoction with *Guì Zhī Lóng Gǔ Mǔ Lì Tāng*—Cinnamon Twig Decoction, Dragon Bone and Oyster Shell
- D. *Sì Jūn Zǐ Tāng*—Four Gentlemen Decoction with *Wǔ Líng Sǎn*—Five Substances Powder with Poria
- E. *Fáng Jǐ Fú Líng Tāng*—Stephania Root and Poria Decoction with *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder

5. A patient aged 6 presents with generalized edema which when pressed barely refills the dent. He urinates frequently at night, and has a dull complexion, fatigue, fear of cold, cold in the four limbs, loose stools and diarrhea before dawn.

What treatment methods should be used for this patient?

- A. Fortify the spleen and boost qi, promote urination and resolve dampness
- B. Enrich yin and supplement the kidney, drain water and dispel dampness
- C. Warm the kidney and fortify the spleen, warm yang qi to promote diuresis
- D. Supplement and replenish the lung and kidney, unblock yang and drain water
- E. Boost qi and nourish yin, fortify the spleen and drain dampness

[REFERENCES]

- [1] Hu YM, Jiang ZF. Zhu Futang Practical Pediatrics [M]. The People's Medical Publishing House, 2002:1641-1647.
- [2] Kosuke Fujita, Chen YP. The Progress of Japan-Chinese Medicinal Formulas to Treat Children with Nephrotic Syndrome [J]. Chinese Nephrology Journal of Integrated Traditional and Western Medicine, 2008; 9 (1): 81-82.
- [3] Wu LQ, Ding Y. Clinical Observations of 45 Cases of Refractory Nephrotic Syndrome in Children with Complimentary Treatment to Reinforce Healthy Qi, Nourish the Kidney and Activate Blood [J]. Shanxi College of TCM, 2002; 3 (3): 20-22.
- [4] Weng DY, Zeng ZC. TCM Clinical Analysis of Frequent Relapsers in Nephrotic Syndrome in Children [J]. Chinese Nephrology Journal of Integrated Traditional and Western Medicine, 2005; 6 (5): 298-299.

Chapter 28

Frequent Urination (*Niào Pín*)

Frequent urination, or polyuria, is in TCM defined as belonging to “strangury”, which is characterized by frequent short voidings of urine. This condition is commonly seen in pediatric clinics often accompanying urinary system infections and daytime urinary frequency syndrome. In Western medicine, frequent urination appears as a symptom of urinary tract infections (UTIS), urinary stones, tumors, and urge incontinence (daytime urinary frequency syndrome).

It is reported that 3%-5% of girls and 1% of boys have a history of urinary tract infections. The average age diagnosed with urinary tract infections for the first time is 3 years old in girls and 12 months in the majority of boys; morbidity also varies according to age and sex.

In 1999 it was also reported that in children under the age of 12 months, the incidence of urinary tract infections was 6.5% in girls and 3.3% in boys. In the age 1-2 year-old group the rate was 8.1% in girls and 1.9% in boys.

Among children under 2 years old with fevers of undetermined origin, urinary tract infections accounted for 5%, with the number of girls twice that of the boys. In addition, the number of boys with urinary tract infections who had not been circumcised was 5-20 times more than those that had.

In 1982, according to an investigation of urinary tract disorders in hospitalized pediatric patients in 105 hospitals from 20 cities and provinces in China, urinary tract infections accounted for 8.5% of all urinary tract diseases, ranking fourth in total pediatric cases.

Guo Yi-nan^[1] et al. treated 30 cases of childhood frequent urination with traditional Chinese medicinal decoctions that clear heat, resolve accumulation, promote urination and relieve strangury.

The ingredients of the prescriptions included *bái máo gēn* (Rhizoma Imperatae), *é zhú* (Rhizoma Curcumae), *tōng cǎo* (Medulla Tetrapanacis), *biǎn xù* (Herba Polygoni Avicularis), *qú mài* (Herba Dianthi), *huá shí* (Talcum), *chē qián zǐ* (Semen Plantaginis), *zhī zǐ* (Fructus Gardeniae), *huáng bǎi* (Cortex Phellodendri Chinensis), *lián qiào* (Fructus Forsythiae), *bái huā shé shé cǎo* (Herba Hedyotis Diffusae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

30 cases in the control group were treated with *Bā Zhèng Hé Jì* (Eight Corrections Liquid) which composed of *mù tōng* (Caulis Akebiae), *qú mài* (Herba Dianthi), *chē qián zǐ* (Semen Plantaginis), *biǎn xù* (Herba Polygoni Avicularis), *dà huáng* (Radix et Rhizoma Rhei), *huá shí* (Talcum), *gān cǎo* (Radix et Rhizoma Glycyrrhizae) and *zhī zǐ* (Fructus Gardeniae). The formula was given for five days as a treatment course with 1-2 courses of treatment generally required.

Results showed that in the treatment group, 25 cases were cured, 2 cases had marked improvement, one case showed improvement, and 2 cases had no improvement; the overall effective rate was 93.33%. In the control group, 14 cases were cured, 6 cases showed marked improvement, 5 cases showed improvement, and 5 cases had no improvement; the overall effective rate was 83.33%. The effective rate of the test group was superior to the control group with statistical significance ($P < 0.05$)^[1].

Ye Jian et al.^[2] applied a modification of *Gù Pāo Tāng*—Urinary Bladder-Consolidating

Decoction consisting of 15 g *tài zǐ shēn* (Radix Pseudostellariae), 6 g *shēng má* (Rhizoma Cimicifugae), 10 g *wū yào* (Radix Linderae), 10 g *sāng piāo xiāo* (Oötheca Mantidis), 10 g *jīn yīng zǐ* (Fructus Rosae Laevigatae), 10 g *fù pén zǐ* (Fructus Rubi), 5 g *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), 5 g *mài dōng* (Radix Ophiopogonis) and 5 g *bì xiè* (Rhizoma Dioscoreae Hypoglaucae) in the treatment of 37 cases of childhood frequent urination syndrome. The decoction was administered as one daily dose. 35 cases in the control group were treated with Ribavirin 0.3-0.5 mg/kg three times daily. The course of treatment in both groups was one week.

Results for the test group showed a cure rate of 56.76% with an overall effective rate of 89.19%. In the control group, the cure rate was 40.0% with an overall effective rate of 65.71%. There was a significant difference between the two groups in both cure and the overall effective rates ($P < 0.05$).

The prognosis of frequent urination is good if the patient is treated in time. However, childhood urinary tract infections have a tendency to recur and persist to adulthood, even with possible deterioration into renal failure as an adult.

[ETIOLOGY & PATHOMECHANISM]

1. ETIOLOGY

The main causes of frequent urination are damp-heat accumulation in the lower *jiao* or kidney and spleen qi deficiency which lead to dysfunction of bladder qi transformation. In addition, prolonged and uncured diseases may consume kidney yin, and lead to yin deficiency with internal heat. The disease location involves the kidney and bladder, and the main pathogenic factor is damp-heat.

2. PATHOMECHANISMS

Damp-Heat Pouring Downwards

External contraction of damp-heat or lack of genital hygiene may lead to damp-heat steaming in the lower *jiao*. Spleen and stomach qi are easily damaged in children by inadequate feeding, often causing impaired transportation and transformation which results in stagnation that transforms into damp-heat. Damp-heat then invades the kidney and bladder, leading to dampness obstruction with heat constraint. As a result, the kidney cannot properly control the opening and closing of the urinary bladder.

Spleen-Kidney Qi Deficiency

Prolonged and intractable disease or congenital debility can lead to spleen and kidney qi deficiency, where spleen qi deficiency results in middle qi sinking, transportation and transformation disorder, and failure to control body fluids. Kidney qi deficiency leads to kidney qi insecurity, dysfunction of qi transformation, and kidney failure to control opening and closing of the bladder.

Yin Deficiency with Internal Heat

Lingering and stagnated damp-heat consumes kidney yin, or spleen-kidney yang deficiency affects yin and results in kidney yin insufficiency. Constitutional yin deficiency can also lead to deficiency heat settling in the bladder, where the bladder fails to constrain urine. All of these patterns can generate internal heat which resides in and affects the urinary bladder.

The main external factor of this disorder involves damp-heat, with the predominant internal factor being spleen-kidney deficiency. The main pathological changes include retention of damp-heat and spleen-kidney qi deficiency. Long-term stagnation of damp-heat damages the collaterals of the urinary bladder, leading to bloody strangury; heat scorches and concentrates the urine, leading to sand formation in the urine causing stony strangury; damp-heat consumes qi and yin, leading to dual deficiency of kidney yin and yang, resulting in a deficiency-excess complex pattern.

Long-term spleen and kidney qi deficiency impairs yang qi, where yang cannot transform qi and qi cannot transform water, thus giving rise to edema. This can also lead to insecurity of the *wei* exterior qi, which increases vulnerability to external pathogens, thus aggravating the patient's condition and leading to recurrent frequent urination.

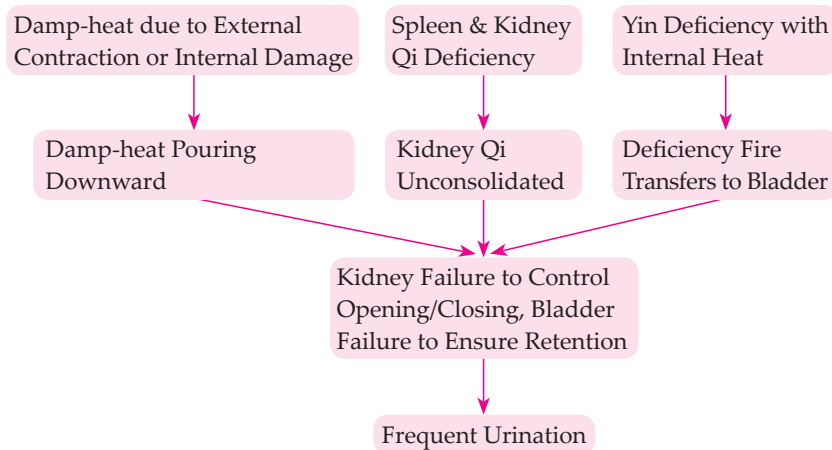


Fig. 28-1 Etiology and Pathomechanism of Frequent Urination

[DIAGNOSIS & DIFFERENTIATION]

► Essentials of Diagnosis

This condition is commonly associated with urinary tract infection and daytime urinary frequency syndrome.

1. URINARY TRACT INFECTION

(1) History: there may be a lack of genital hygiene, or a history of damp-heat external contraction, or sitting on the ground which causes interior accumulation of dampness that transforms into damp-heat in the lower *jiao*.

(2) Symptoms: urgent onset characterized by frequent dribbling and difficult painful urination, sometimes combined with fever or lumbar pain.

In infants, frequent urination, urinary urgency and dysuria are often undetectable and mainly present with fever and other systemic symptoms.

(3) Laboratory Examination: urine examination shows increased leucocytes or pus cells with leukocyte casts. Erythrocytes can be increased or decreased in the urine samples of those with renal calyces papillitis or cystitis. There is a small amount or no protein in the urine. The midstream urine culture is positive (care needs to be taken to ensure that the

sample is uncontaminated).

2. DAYTIME URINARY FREQUENCY SYNDROME (URGE INCONTINENCE)

- (1) Age: common in infants and young children.
- (2) Symptoms: frequent urination occurs while awake with dripping urine, and possibly voidings every few minutes; the symptoms disappear after the child falls asleep. It may recur with no other obvious discomfort.
- (3) Laboratory examinations: routine urine examination and urine cultures are unremarkable.

► Differential Diagnosis

While frequent urination is a clinical symptom, the underlying disorder must be identified when making a clinical diagnosis, i.e. whether it is a urinary tract infection or daytime urinary frequency syndrome. In addition, the symptoms of frequent urination can be caused by acute glomerulonephritis, nephronophthisis (renal tuberculosis), hypercalciuria, etc.

These are shown in Table 28-1.

Table 28-1 Differential Diagnosis of Urinary Tract Infection, Urge Incontinence, Acute Glomerulonephritis, Nephronophthisis and Hypercalciuria

Differential Diagnosis	Urinary Tract Infection	Urge Incontinence	Acute Glomerulonephritis	Nephronophthisis	Hypercalciuria
Symptoms of Urinary Tract Stimulation	Obvious	Obvious	Mild	Possible	Present
Simultaneous Phenomenon	Fever, possible hematuria, without edema or hypertension	Frequent urination during waking, disappears when asleep, no edema, hematuria, or hypertension	With edema, oliguresis, hypertension & hematuria	With symptoms of tuberculosis, possible hematuria, pyuria, no edema & hypertension	With possible pyuria, no edema, or hypertension
Routine Urine Examination	Numerous leucocytes, leukocyte casts	Normal	Erythrocytes cellular casts urine protein	Possible leucocytes, erythrocytes	Leucocytes, small amount of erythrocytes
Urine Culture for Bacteria	Positive	Negative	Negative	Bacillus tuberculosis positive	Negative
Others			Complement of C ₃ decreased, ASO increased	Tuberculin test positive	Increased 24-hour urinary calcium determination

Patients who are diagnosed with nephronophthisis or hypercalciuria through laboratory examination generally require treatment with Western medicine.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

The key point of pattern differentiation for frequent urination is to distinguish whether it is a deficiency or excess condition.

The excess pattern of frequent urination due to damp-heat pouring downwards is marked by urgent onset, short course of disease, frequent urination, dark scanty urine, burning pain in the urethra, chills and fever, thirst, restlessness, nausea and vomiting.

The deficiency pattern is marked by slow onset, long course of disease, and frequent dribbling urination without hot or painful sensations while voiding. If the patient presents with listlessness, a pale complexion, cold extremities, and edema of the eyelids, the cause is spleen and kidney qi deficiency. If the patient has low-grade fever, night sweats, malar flush and sensations of heat in the chest, palms and soles, yin deficiency with internal heat is the cause.

► Treatment Principles

Treatment is based on the determination of whether the patient has a deficiency or excess pattern. The excess pattern can be treated by clearing and reducing damp-heat, while a deficiency pattern can be treated by warming and supplementation of the spleen and kidney, or by enriching yin and clearing heat. Chronic or recurrent relapses are always associated with a root deficiency and an excess branch. With a deficiency-excess pattern, the branch and root should be treated at the same time; the treatment principles of supplementing insufficiency and reducing excess are employed simultaneously.

► Classification of Patterns and Treatments

Damp-Heat Pouring Downwards

Signs and Symptoms

Manifestations include urgent onset of frequent and dark scanty urine with a painful burning sensation in the urethra, dripping and turbid urine, bearing-down distension of the lower abdomen, and aching of the lumbar area. In an infant, manifestations may include weeping and restlessness, constant fever, dysphoria and thirst, headache, body pain, nausea and vomiting. The tongue is red with a thin greasy light yellow or yellow greasy coating; the pulse is rapid and powerful.

Pattern Differentiation

This pattern belongs to heat strangury (*rè lín*), common in acute urinary tract infections. This results from the internal accumulation of damp-heat pouring downwards into the bladder. It is an excess pattern.

Treatment Principles

Clear heat, drain dampness, and promote bladder function.

Formula

Modified *Bā Zhèng Sǎn*—Eight Corrections Powder

篇蓄	<i>biǎn xù</i>	Herba Polygoni Avicularis
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
瞿麦	<i>qú mài</i>	Herba Dianthi
滑石	<i>huá shí</i>	Talcum
金钱草	<i>jīn qián cǎo</i>	Herba Lysimachiae
大黄	<i>dà huáng</i>	Radix et Rhizoma Rhei
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
地锦草	<i>dì jīn cǎo</i>	Herba Euphorbiae Humifusae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Biǎn xù (Herba Polygoni Avicularis), *chē qián zǐ* (Semen Plantaginis), *qú mài* (Herba Dianthi), *huá shí* (Talcum) and *jīn qián cǎo* (Herba Lysimachiae) clear heat and drain dampness.

Dà huáng (Radix et Rhizoma Rhei) and *zhī zǐ* (Fructus Gardeniae) clear heat and purge fire.

Dì jīn cǎo (Herba Euphorbiae Humifusae) resolves toxins and cools the blood.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For fever and aversion to cold, add *chái hú* (Radix Bupleuri) and *huáng qín* (Radix Scutellariae) to relieve the muscles and expel heat.

For a bulging abdomen and loose stools, remove *dà huáng* (Radix et Rhizoma Rhei), add *dà fù pí* (Pericarpium Arecae) and *jiāo shān zhā* (scorch-fried Fructus Crataegi) to move qi and assist transportation.

For nausea and vomiting, add *zhú rú* (Caulis Bambusae in Taenia) and *huò xiāng* (Herba Agastachis) to descend adverse qi and arrest vomiting.

For hematuria, stabbing pain in the urethra and sudden interruption by sediment while voiding, use a large dose of *jīn qián cǎo* (Herba Lysimachiae) in combination with *hǎi jīn shā* (Spora Lygodii), *jī nèi jīn* (Endothelium Corneum Gigeriae Galli), *dà jì* (Herba Cirsii Japonici), *xiǎo jì* (Herba Cirsii) and *bái máo gēn* (Rhizoma Imperatae) to clear heat and drain dampness, expel stones and stanch bleeding.

For uneven voiding of dark urine, scorching heat and stabbing pain in the urethra, thirst, dysphoria, a red tongue with little coating (all caused by fire-heat in the heart channel moving down through the small intestine), use *Dǎo Chì Sǎn*—Red Guiding Powder to clear heart fire and promote urination.

For frequent urination with scanty dark urine and lower abdominal bulging due to liver failure to ensure the free flow of qi, add *chái hú* (Radix Bupleuri), *xiāng fù* (Rhizoma Cyperi) and *chuān liàn zǐ* (Fructus Toosendan) to soothe the liver and rectify qi.

Chinese Patent Medicines

a. *Niào Gǎn Níng Kē lì*—Urinary Tract Infection-Relieving Granules

Take 5 g, 3-4 times daily.

b. *Bā Zhèng Sǎn*—Eight Corrections Powder

Take 3 g, 3 times daily.

Acupuncture

BL 40 (<i>wěi zhōng</i>)	BL 34 (<i>xià liáo</i>)	SP 9 (<i>yīn líng quán</i>)
BL 65 (<i>shù gǔ</i>)		

For heat predominance, add LI 11 (*qū chí*).For hematuria, add SP 10 (*xuè hǎi*) and SP 6 (*sān yīn jiāo*).For bulging painful lower abdomen, add LV 8 (*qū quán*).For alternating chills and fever, add PC 6 (*nèi guān*).For lumbar pain, use ear points Kidney (*shèn*) and Lumbosacral Vertebrae (*yāo dǐ zhuī*).

Treat once daily for 7 days as one course of treatment; 1-3 courses are generally required.

Spleen-Kidney Qi Deficiency**Signs and Symptoms**

Manifestations include a prolonged course, frequent urination, vesical tenesmus, clear profuse urine, mental fatigue, lack of strength, a sallow complexion, poor appetite, possible aversion to cold, cold limbs, loose stools and edema of the eyelids. The tongue is pale or with tooth marks and a thin greasy coating; the pulse is weak and thready.

Pattern Differentiation

Dysfunction of the urinary bladder due to spleen-kidney qi deficiency leads to the pattern of qi strangury, often associated with daytime urinary frequency syndrome and chronic urinary tract infections.

Treatment Principles

Warm and supplement the spleen and kidney, uplift middle qi and reduce urination

Formula**Modified *Suō Quán Wán*—Stream-Reducing Pill**

山药	<i>shān yào</i>	Rhizoma Dioscoreae
益智仁	<i>yì zhì rén</i>	Fructus Alpiniae Oxyphyllae
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
薏苡仁	<i>yì yǐ rén</i>	Semen Coicis
仙灵脾	<i>xiān líng pí</i>	Herba Epimedii
乌药	<i>wū yào</i>	Radix Linderae

Formula Analysis

Shān yào (Rhizoma Dioscoreae), *yì zhì rén* (Fructus Alpiniae Oxyphyllae), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *yì yǐ rén* (Semen Coicis) and *xiān líng pí* (Herba Epimedii) warm and supplement the spleen and kidney to secure essence and reduce urination.

Wū yào (Radix Linderae) moves qi and dissipates cold, assists qi transformation and restrains urination.

Modifications

For internal accumulation of turbid-damp, add *fú líng* (Poria) and *chē qián zǐ* (Semen Plantaginis) to promote urination and drain dampness to boost qi, supplement the kidney, fortify the spleen and drain urine.

For predominant spleen qi deficiency, use *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder to fortify the spleen, replenish qi, harmonize the stomach and drain dampness.

For predominant kidney yang deficiency, use *Jì Shēng Shèn Qì Wán*—Life-Saving Kidney Qi Pill to warm yang, supplement the kidney and promote urination to alleviate edema.

For frequent nocturia, add *sāng piāo xiāo* (Oötheca Mantidis), *duàn lóng gǔ* (calcined Os Draconis) and *duàn mǔ lì* (calcined Concha Ostreae) to astringe and consolidate qi and calm the mind.

For a lung and spleen qi deficiency, use a modification of *Bǔ Zhōng Yì Qì Tāng*—Middle-Supplementing Qi-Boosting Decoction combined with *Suō Quán Wán*—Stream-Reducing Pill to replenish qi, supplement the lung, consolidate qi and restrain urination.

Chinese Patent Medicines

a. *Suō Quán Jiāo Náng*—Stream-Reducing Capsules

Take 0.3-0.9 g, 3 times daily.

b. *Jīn Guì Shèn Qì Wán*—Golden Cabinet Kidney Qi Pill

Take 2-3 g, twice daily.

c. *Bǔ Zhōng Yì Qì Wán* Middle-Supplementing Qi-Boosting Pill

Take 3-6 g, 2-3 times daily.

Tuǐ na

Points	Repetitions	Methods
<i>Dān tián</i> (丹田)	200	Kneading
<i>Fù</i> (腹)	20 minutes	Rubbing
<i>Guī wěi</i> (龟尾)	30	Kneading

Knead *dān tián* 200 times, rub *fù* 20 minutes, and knead *guī wěi* 30 times every afternoon. For older children, horizontally scrub BL 23 (*shèn shù*) and BL 31-34 (*bā liáo*) until the patient feels heat.

Applicable for patients with spleen and kidney qi deficiency.

Acupuncture

BL 40 (<i>wěi zhōng</i>)	KI 10 (<i>yīn gǔ</i>)	KI 7 (<i>fù liú</i>)
KI 6 (<i>zhào hǎi</i>)	KI 3 (<i>tài xī</i>)	

Modifications

For soreness of the loins and backache, add RN 4 (*guān yuán*) and BL 23 (*shèn shù*).

For profuse sweating, needle KI 7 (*fù liú*) with supplementation and LI 4 (*hé gǔ*) with drainage.

For frequent and urgent urination with dysuria, add RN 3 (*zhōng jí*) and SP 9 (*yīn líng quán*).

For qi and yin deficiency, add RN 12 (*zhōng wǎn*) and RN 6 (*qì hǎi*).

For kidney-yang deficiency, add RN 4 (*guān yuán*) and BL 23 (*shèn shù*).

Acupuncture therapy is applied once daily for 7 days as one course of treatment.

1-3 treatment courses are generally required.

Yin Deficiency with Internal Heat

Signs and Symptoms

Manifestations include a long disease course, frequent or scanty dark urine, low fever, night sweating, malar flush, sensations of heat in the chest, palms and soles, thirst, and dry lips and pharynx. There is a red tongue with little coating and a rapid thready pulse.

Pattern Differentiation

This pattern is common in those with prolonged or recurrent urinary tract infections caused by deficiency-heat due to prolonged disease consuming yin-essence.

Treatment Principles

Enrich yin and supplement kidney, clear heat and reduce fire.

Formula

Modified *Zhī Bǎi Dì Huáng Wán*—*Anemarrhena, Phellodendron and Rehmannia Pill*

生地黃	<i>shēng dì huáng</i>	Radix Rehmanniae
山茱萸	<i>shān zhū yú</i>	Fructus Corni
澤瀉	<i>zé xiè</i>	Rhizoma Alismatis
茯苓	<i>fú líng</i>	Poria
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
黃柏	<i>huáng bǎi</i>	Cortex Phellodendri Chinensis
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
女貞子	<i>nǚ zhēn zǐ</i>	Fructus Ligustri Lucidi

Formula Analysis

Shēng dì huáng (Radix Rehmanniae), *nǚ zhēn zǐ* (Fructus Ligustri Lucidi) and *shān zhū yú* (Fructus Corni) enrich and supplement kidney yin.

Fú líng (Poria) and *zé xiè* (Rhizoma Alismatis) reduce turbidity and drain dampness.

Mǔ dān pí (Cortex Moutan), *zhī mǔ* (Rhizoma Anemarrhenae) and *huáng bǎi* (Cortex Phellodendri Chinensis) together with *shēng dì huáng* (Radix Rehmanniae) nourish yin, clear heat and reduce fire.

Modifications

For urinary urgency and persistent odynuria and dark urination, add *huáng lián* (Rhizoma Coptidis), *dàn zhú yè* (Herba Lophatheri), *biǎn xù* (Herba Polygoni Avicularis) and *qú mài* (Herba Dianthi) to clear heart-fire and drain damp-heat.

For low grade fever, add *qīng hāo* (Herba Artemisiae Annuae) and *dì gǔ pí* (Cortex Lycii) to clear deficiency-heat and relieve steaming bone syndrome.

For night sweating, add *biē jiǎ* (Carapax Trionycis), *lóng gǔ* (Os Draconis) and *mǔ lì* (Concha Ostreae) to astringe yin and check sweating.

General speaking, it is more difficult to treat lingering damp-heat, because the medicinals that enrich yin may cause lingering dampness, while those used for draining having a tendency to consume yin-fluids. Therefore, it is important to evaluate whether deficiency or excess is predominant and to treat carefully according to the presentation.

If the course of this disease is prolonged, it may damage healthy qi and lead to a

complex deficiency-excess pattern. For this situation, the treatment should be varied according to the differentiation of deficiency and excess: use supplementation or draining as the major principles, or reinforce healthy qi and eliminate pathogenic factors simultaneously.

Chinese Patent Medicines

Zhī Bǎi Dì Huáng Wán—Anemarrhena, Phellodendron and Rehmannia Pill

Take 3-4.5 g, 2-3 times daily

[WESTERN MEDICINE THERAPIES]

1. ROUTINE TREATMENT

In the acute stage provide bed rest and increased fluid intake to increase the urinary volume. Antipyretic analgesics are used for symptoms manifesting as high fever, headache and lumbar pain. For obvious urinary tract irritation, use anticholinergics such as Atropine or oral Sodium Bicarbonate to alkalinize the urine and relieve the urinary tract irritation.

2. ANTIBACTERIAL THERAPY

To select potent broad-spectrum antibacterials that are less likely to result in the emergence of resistant strains of bacteria, and are also less likely to cause kidney damage. The course of treatment is up to 10-14 days.

3. TREATMENT OF RECURRENT URINARY TRACT INFECTIONS

Most patients suffer UTI recurrences within one month after treatment. Reinfections are more common in girls, mainly occurring within six months after stopping treatment. Therefore, combination therapy with two antibiotics that are selected according to the results of urine culture and antimicrobial susceptibility tests is used for those cases in a 10- to 14-day course of treatment. Afterward, low-dose maintenance therapy should be given to prevent relapse.

[PREVENTION AND NURSING CARE]

1. PREVENTION

- a. Maintain good hygiene, changing diapers or pants often, and avoid tight-fitting pants. Clean the external genitalia area frequently to prevent bacterial invasion.
- b. Discover and treat phimosis, hymen umbrella, pinworm infection, etc.
- c. Correct any urinary tract malformation and prevent and treat urinary tract obstruction and renal scar formation.

2. NURSING

- a. Drink adequate water and avoid spicy foods.
- b. Clean the external genital area after defecating and before sleeping.
- c. Maintain sufficient nutrition and exercise to strengthen the physique.

[CASE STUDIES]

► Case #1.

Female, age 9 years. Initial Visit: 9/10/1979

The patient presented with frequent and urgent urination with dysuria for 4 days, with lower abdominal discomfort and occasional pain. The initial symptoms of common cold had been relieved after previous treatment.

Physical Examination: good spirits, even breathing, a lustrous complexion, dry lips, and no edema in the lower limbs. She had a red tongue with a thick white coating and a powerful rapid pulse. The abdomen was soft with lower abdominal tenderness. No abnormalities of heart and lung.

Laboratory Examination: White blood cells (WBC) $9.1 \times 10^9/L$, Neutrophils 58%, Lymphocytes 42%.

Routine Urine Examination: Protein \pm , Red blood cells +, WBC +++.

Western Diagnosis: Acute urinary tract infection.

TCM Diagnosis: Frequent urination due to heat strangury.

Pattern Differentiation:

Damp-heat accumulation pouring downward to the bladder.

Therapeutic Methods: Clear heat, relieve strangury, drain dampness and regulate qi.

Formula:

黄芩	<i>huáng qín</i>	10 g	Radix Scutellariae
黄柏	<i>huáng bǎi</i>	10 g	Cortex Phellodendri Chinensis
紫荆皮	<i>zǐ jīng pí</i>	10 g	Cortex Cercis Chinensis
石韦	<i>shí wéi</i>	10 g	Folium Pyrrosiae
海金沙	<i>hǎi jīn shā</i>	10 g	Spora Lygodii
延胡索	<i>yán hú suǒ</i>	10 g	Rhizoma Corydalis
白芍	<i>bái sháo</i>	10 g	Radix Paeoniae Alba
瞿麦	<i>qú mài</i>	10 g	Herba Dianthi
篇蓄	<i>biǎn xù</i>	10 g	Herba Polygoni Avicularis

Decocted in water.

After 7 doses the symptoms were alleviated; the urgency and odynuria disappeared and the frequent urination was obviously mitigated. After taking the formula for 4 days, all symptoms disappeared.

To consolidate the effects of the treatment, *Qīng Lìn Sǎn*—Stranguria-Clearing Powder was prescribed: *zǐ jīng pí* (Cortex Cercis Chinensis), *lián qiào* (Fructus Forsythiae), *huá shí* (Talcum), *mù tóng* (Caulis Akebiae), *chē qián zǐ* (Semen Plantaginis), and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) were used 3 times daily for 8 days to consolidate the curative effect.

Analysis

Qīng Lìn Sǎn—Stranguria-Clearing Powder is an empirical formula of Prof. Wang Lie. In this formula, *zǐ jīng pí* (Cortex Cercis Chinensis) is an empirical herb for treating urinary

tract disease in children. It activates blood to free the channels and relieve edema and pain, thus relieving strangury and promoting urination. It appeared in *Ri Hua-zi's Materia Medica* (*Rì Huá Zǐ Běn Cǎo*) of the Tang Dynasty and is named for its bark color, also known as *ròu hóng* and *mǎn tiáo hóng*. The bark of this leguminous plant is neutral, bitter, non-toxic, and enters the liver channel.

Source: Wang L. Medical Records of Pediatrics [M]. Jilin Science and Technology Press, 2000; 185.

► Case #2.

Male, age 6 years. Initial Visit: 10/14/1995

The patient had been suffering from frequent and urgent urination for two months. He urinated dozens of times everyday, worsening when he was criticized. The urine was scanty with normal color, and he was able to control it. There was no dysuria or fever, and urination was normal at night time. The tongue was light red with a thin white coating.

Physical Examination: routine urine examination was normal, normal development, general nutrition status, external genitals normal.

Formula

生地黃	<i>shēng dì huáng</i>	20 g	Radix Rehmanniae
通草	<i>tōng cǎo</i>	6 g	Medulla Tetrapanacis
淡竹叶	<i>dàn zhú yè</i>	6 g	Herba Lophatheri
篇蓄	<i>biǎn xù</i>	10 g	Herba Polygoni Avicularis
瞿麦	<i>qú mài</i>	10 g	Herba Dianthi
车前子	<i>chē qián zǐ</i>	15 g	Semen Plantaginis
滑石	<i>huá shí</i>	15 g	Talcum
川楝子	<i>chuān liàn zǐ</i>	15 g	Fructus Toosendan

On the return visit after taking 3 doses, his urination frequency was obviously reduced, but was still over ten times daily.

10 g of *zhū líng* (Polyporus) was added to the above formula for 3 doses. The symptom of urgency disappeared, but he still urinated over a dozen times daily.

6 doses of modified *Sūo Quán Wán*—Stream-Reducing Pill were used with 20 g *shēng dì huáng* (Radix Rehmanniae), 20 g *shú dì huáng* (Radix Rehmanniae Praeparata), 15 g *tù sī zǐ* (Semen Cuscutae), 10 g *qián shí* (Semen Euryales), 10 g *chǎo bái zhú* (dry-fried Rhizoma Atractylodis Macrocephalae), 6 g *yì zhì rén* (Fructus Alpiniae Oxyphyllae), 12 g *chǎo shān yào* (dry-fried Rhizoma Dioscoreae) and 6 g *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) after which urination was normalized.

Analysis

This patient had few symptoms with which to differentiate a pattern, except for the symptoms of frequent and urgent urination. Because the physical character of children is of a pure yang constitution, there are very few children with kidney deficiency. Although this patient can control his urination without enuresis, he still had urgency. The main pathomechanism here involves damp-heat stagnation in the urinary bladder rather than

deficiency of kidney qi with bladder failing to ensure retention. To relieve frequent and urgent urination, it is important to drain damp-heat from the urinary bladder.

Dǎo Chì Sǎn—Red Guiding Powder with *Bā Zhèng Sǎn*—Eight Corrections Powder were used to clear heat and drain dampness. The symptoms worsened when he was criticized which may have been due to constrained liver qi and spasms of the liver channel, so *chuān liàn zǐ* (Fructus Toosendan) was added to soothe the liver and regulate qi. The symptoms were obviously relieved after 3 doses, but were ineffective when he took the subsequent three doses. It was considered that although the damp-heat had been removed the kidney qi was deficient, so *Suō Quán Wán*—Stream-Reducing Pill was used to good effect.

Through this case we can learn that when there are minimal symptoms to differentiate, we should weigh the advantages and disadvantages. In this case, the best approach is to first slightly drain and then apply neutral supplementation; this approach avoids further damage to the body by lingering pathogens in the case of over-supplementation or excessive drainage.

Source: Lu XH, Pan YL. A Record of Bi Keen's Experiences for Treating Difficult and Complicated Cases of Pediatric Diseases [J]. Research of Traditional Chinese Medicine, 1997; 13 (1): 1-2.

[QUESTIONS]

1. A 5-year-old patient has been suffering from frequent painful urination for 2 days, with scanty, dark urine, fever and nausea. The tongue is red with a greasy coating and the pulse is rapid and powerful.

Which is the best choice of formula?

- A. *Liù Yī Sǎn*—Six-to-One Powder
- B. *Sì Miào Wán*—Wonderfully Effective Four Pill
- C. *Wǔ Líng Sǎn*—Five Substances Powder with Poria
- D. *Èr Miào Wán*—Two Mysterious Pill
- E. *Bā Zhèng Sǎn*—Eight Corrections Powder

2. A 14-year-old patient has been suffering from recurrent frequent urination for 6 months with dribbling urination, mental fatigue, lack of strength, sallow complexion, slight edema in the eyelids, poor appetite, and fear of the cold. The tongue is pale with thin and greasy coating; there is a thready weak pulse.

Which is the best choice of formula?

- A. *Suō Quán Wán*—Stream-Reducing Pill
- B. *Bǔ Zhōng Yì Qì Tāng*—Center-Supplementing and Qi-Boosting Decoction
- C. *Yì Gōng Sǎn*—Special Achievement Powder
- D. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill
- E. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill

3. A 5-year-old patient has prolonged frequent dribbling urination with cold limbs, a sallow complexion, a poor appetite and loose stools. The tongue is pale and there is a thready pulse.

Which of the following is the presenting pattern?

- A. Damp-heat pouring downwards

- B. Yin deficiency with internal heat
- C. Qi deficiency of the spleen and kidney
- D. Failure of lung qi to ascend and descend
- E. Excessive heat damaging fluids

4. A 5-year-old child has presented with frequent urination for 6 months with dribbling and urinary incontinence, a sallow complexion, fatigue, and cold limbs. There is a pale tongue and a thready pulse.

What is the best treatment principle?

- A. Warm and supplement spleen and kidney, uplift middle qi, check enuresis
- B. Enrich yin and supplement the kidney, supplement middle qi
- C. Clear heat and drain dampness, promote bladder function
- D. Supplement the middle and replenish qi, uplift middle qi and check enuresis
- E. Warm the kidney-yang, enrich yin and clear heat

5. A 7-year-old child has presented with frequent urination for 3 months with a dry throat and thirst, a low fever, night sweating, vexation, and dry lips. The tongue is red with little coating and the pulse is thready-rapid.

What is the correct formula?

- A. *Dǎo Chì Sǎn*—Red Guiding Powder
- B. *Jì Shēng Shèn Qì Wán*—Life-Saving Kidney Qi Pill
- C. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill
- D. *Suō Quán Wán*—Stream-Reducing Pill
- E. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill

[REFERENCES]

- [1] Guo YN, Li Y, Zhang GF et al. Observation of Efficacy in 30 Cases of Children with Frequent Urination with Modified Eight Corrections Powder [J]. Journal of Changchun University of Traditional Chinese Medicine, 2008; 24 (2): 218.
- [2] Ye J, Lin XX. Treatment of 37 Cases of Children with Urge Incontinence with Bladder-Consolidating Decoction [J]. Zhejiang Journal of Traditional Chinese Medicine, 2008; 43 (3): 160.
- [3] Wang L. Medical Records of Pediatrics [M]. Jilin Science and Technology Press, 2000; 185.
- [4] Lu XH, Pan YL. Records of Bi Keen's Experiences in the Treatment of Difficult and Complicated Cases of Pediatric Disease. [J]. Research of Traditional Chinese Medicine, 1997; 13 (1): 1-2.

Chapter 29

Enuresis (Yí Niào)

Enuresis (*yí niào*) is a disorder in children (over 5 years old) characterized by involuntary loss of bladder control and the passing of urine while sleeping, especially at night, also called nocturnal enuresis. The condition can be mild with bedwetting once every few nights, or there may be a serious loss of control occurring nightly or even several times per night. The disorder usually has a long course and has a tendency to easily recur. Some cases may last for years, even extending to adulthood. The persistent nature of this condition can affect a child's physical and psychological health and may even hinder growth and development.

There are various definitions of nocturnal enuresis with the main differences distinguished by the age of the patients and frequency of the bed-wetting. The standards that WHO established in the definition of the condition (ICD-10) are for children aged 5 years or over, who have been bed-wetting at least once per month continuously for at least 3 months.

The criteria in the American Psychiatric Association *Diagnostic and Statistical Manual* (DSM) stipulates enuresis in children as those aged 5 years or above who had been bed-wetting at least twice weekly for at least 3 consecutive months^[1].

In the second International Continence Society (ICS), Dr. Nijman considers children 5 years old and over as having enuresis if they are bed-wetting 3 or more times per week^[2]. At present, the second and the third standards are commonly used in China^[3].

According to various reports, the difference in clinical incidence rates is between 2.3%-25.0%. In general, it is 5%-6% at the age of 7 years old. A report from the United Kingdom, the Netherlands, New Zealand and Ireland indicated that the clinical incidence for boys was 13%-19% at age 5, 15%-22% at 7 years, 9%-13% at 9 years, and 1%-2% at 16 years respectively; and for girls, 9%-16%, 7%-15%, 5%-10% and 1%-2% respectively. One reason for the different incidence rates was related to the discordant diagnostic standards as mentioned above.

Kim investigated 23,949 cases of children aged 5-12 years chosen randomly from 21 areas in Korea; results showed that the clinical incidence among pre-school children was 27.8% in boys and 21.5% in girls, but 11.2% in boys and 6.9% in girls among primary school children.

Kawauchi observed 157 cases of children between the ages 3-5 years old in Japan. Bed-wetting occurs at least once per month among half of the 3 year-olds, and the percentage drops to 21% among 5 year-olds. Statistics from Europe and America indicated an incidence of enuresis in 10 year-old children at about 10%.

In China, Dr. Li investigated 14,862 students from 14 secondary and primary schools in Tengzhou city, then chose 200 enuresis cases randomly. The clinical incidence was 9.13% within the ages of 6-16 years old, with 8.7% in the city and 9.89% in the countryside, 9.80% in boys and 8.15% in girls with statistical significance ($P < 0.05$); the rate was 12.38% in primary school students and 7.77% in secondary school students with higher statistical significance ($P < 0.01$)^[4].



The etiology of enuresis remains unclear at this point, although according to recent studies many factors have been considered including genetic factors; most patients have a family history of enuresis, and the incidence in children with both parents who had enuresis is 77%. Research from Denmark reported a connection with the gene located in chromosome 13. Other factors may include impediments to sleep and waking, abnormal secretions of arginine vasopressin at night (about 70% patients have insufficient secretion), bladder dysfunction (mainly refers to functional reduction of bladder capacity, instability of the detrusor muscles, and excessive contractions caused by urethral obstruction), as well as psychological factors and developmental retardation.

There is also an obvious family tendency in children with nocturnal enuresis with the twice the incidence in boys.

The prognosis of enuresis is usually favorable; every year about 15% of patients recover spontaneously without treatment. 1%-2% of adults also suffer from enuresis. But if enuresis is persistent, it may cause depression in children that may seriously affect their psychosomatic health and normal growth development. If enuresis is caused by a congenital disease, it may be difficult to resolve.

Traditional Chinese Medicine shows distinct advantages in treating this condition, and the long-term efficacy is definite.

Dr. Fan considers the principal causes of enuresis to be congenital insufficiency, kidney qi deficiency, lower original qi deficiency cold, and life gate fire deficiency. *Wēn Yáng Zhǐ Yí Tāng*—Yang-Warming Enuresis-Stopping Decoction was used, mainly composed of *hēi fù zǐ* (Radix Aconiti Lateralis Praeparata), *ròu guì* (Cortex Cinnamomi), *shān zhū yú* (Fructus Corni), *shú dì huáng* (Radix Rehmanniae Praeparata), *jīn yīng zǐ* (Fructus Rosae Laevigatae), *qiàn shí* (Semen Euryales), *yì zhì rén* (Fructus Alpiniae Oxyphyllae), *fù pén zǐ* (Fructus Rubi), *sāng piāo xiāo* (Oötheca Mantidis), *bái guǒ* (Semen Ginkgo) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli).

For cold limbs, add *guì zhī* (Ramulus Cinnamomi).

For cold lower abdomen, add *wū yào* (Radix Linderae) and *gān jiāng* (Rhizoma Zingiberis).

For loose stools, add *fú lóng gān* (Terra Flava Usta) and *bái zhú* (Rhizoma Atractylodis Macrocephalae).

For deep sleep with difficulty in waking, add *shí chāng pú* (Rhizoma Acori Tatarinowii) and *lián zǐ xīn* (Plumula Nelumbinis).

Administration

The medicinals were decocted with water as one divided dose taken 2-3 times daily, with one month as one course of treatment.

Results: In 180 cases, 106 cases were cured, 55 cases were improved, and 19 cases were unresolved. The total effective rate reached 89.4%, with a cure rate of 58.8%. The average time to show an effect was 8 ± 3.14 days. At a one year follow-up, 11 of the 106 cases were found to have had recurrence^[5].

Dr. Wang considers the etiology of enuresis as disharmony of the heart and bladder channels, and accordingly treated 56 cases with acupuncture. The main acupoints included the *shu*-stream point of the hand *shaoyin* heart channel HT 7 (*shén mén*), and BL 40 (*wěi zhōng*), the lower *he*-sea point of the foot *taiyang* bladder channel.

In accordance with the presenting patterns, he needled RN 3 (*zhōng jí*), BL 23 (*shèn shù*),

BL 28 (*pāng guāng shù*) and KI 3 (*tài xī*) with supplementation to warm and supplement the lower original qi.

RN 6 (*qì hǎi*), LU 9 (*tài yuān*), ST 36 (*zú sān lǐ*) and SP 6 (*sān yīn jiāo*) were needled with supplementation to boost qi and supplement the middle.

LV 3 (*tài chōng*), LV 2 (*xíng jiān*), GB 34 (*yáng líng quán*) were needled with drainage to clear heat and drain dampness.

7 days was one course of treatment, with a 3 day interval between each course. Of the 56 cases, 34 cases were cured, 14 cases were effective, 6 cases improved and 2 cases were ineffective, with a total effective rate of 96%^[6].

[ETIOLOGY & PATHOMECHANISM]

1. ETIOLOGY

Congenital Insufficiency

Congenital insufficiency is characterized by constantly weak body with kidney qi insufficiency, and lower original qi with deficiency cold that causes failure to warm the bladder; bladder dysfunction finally leads to enuresis.

Disharmony Following Illness

Improper recuperation after a lengthy and serious illness results in lung and spleen qi deficiency. As the lung and spleen fail to regulate the waterways, enuresis results. The kidney can also become affected, leading to kidney qi insufficiency with bladder dysfunction and enuresis.

Internal Damp-Heat Accumulation

Disease or improper diets cause an internal accumulation of damp-heat that stagnates in the liver channel, leading to liver failure of free coursing. As heat distresses the bladder, the bladder fails to control and enuresis results.

Others Factors

Enuresis may be due to a lack of proper training and encouragement of good living habits in regards to urination during early childhood, or from overindulgence in play during the day that results in loss of bladder control during the deepest stage of sleep, or due to pinworm infections which may move out from the anus and stimulate the urethra, also causing enuresis.

2. PATHOMECHANISMS

Lower Original Qi Deficiency Cold with Kidney Qi Insufficiency

The kidney is the foundation of the congenital constitution, stores the true yin and original yang, governs the storing of essence, opens to the anus and urethra, and controls urination and stools. There is an interior-exterior relationship between the kidney and bladder. The kidney qi controlling function enables urine to be stored in the bladder and avoid leakage. The discharge of urine from the bladder depends on the kidney function of free flowing and regulation, called the opening and closing processes of the kidney. This process is harmonized by the kidney qi transformation function. Kidney qi deficiency leads to lower *jiao* deficiency cold and disharmony of qi transformation. Thus, the kidney is unable to store essence and regulate the waterways properly, resulting in enuresis.

The bladder is the house of the body's fluids, and urine is the surplus of fluids. The



excretion, discharge and storage of urine depend on bladder qi transformation as well as the kidney yang warming functions.

If young children have a congenital insufficiency or improper recuperation after diseases, or a generally weak body, the resulting kidney qi insufficiency and lower original qi deficiency cold will cause failure to nourish and warm the bladder, causing dysfunctions in qi transformation and control. Or, kidney yang deficiency fails to store, and the bladder fails to control, also giving rise to enuresis.

Lung-Spleen Qi Deficiency, Bladder Failing to Control

The bladder has the function of regulating the waterways, which not only depends on the warming action of kidney yang and the consolidation of kidney qi, but also the relationship with the lung and spleen. The lung governs qi, is located in the upper *jiao*, and is the upper source of water. It governs regulation of the waterways, and also transfers water to the bladder. The spleen is Earth, located in the middle, and governs the transportation and transformation of fluids. It likes dryness, is averse to dampness, and acts to control and maintain transportation and excretion of body fluids; these functions are also dependent upon normal functioning of the lung and spleen.

Prolonged and serious disease or improper recuperation after disease may cause lung and spleen qi deficiency. Lung qi deficiency leads to dysfunctions of management and regulation, purification and descent, and non-consolidation of kidney water. This results in disorders of water circulation and bladder dysfunction in managing storage and discharge of body fluids. When spleen qi is deficient, it is unable to scatter the fluids to the lung and to regulate water circulation and as a result the water descends.

Damp-Heat in the Liver Channel, Fire-Heat Distressing Internally

The liver governs the free flow of qi and serves to smooth qi movement in the *sanjiao*. As the foot *jueyin* liver channel passes along the medial side of the thigh and curves around the external genitalia, the functions of the liver governing the free flow of qi can affect the fluid metabolism, including the excretion and discharge of urine.

If pathogenic damp-heat stagnates in the liver channel, or improper diet causes damp-heat to accumulate internally in the spleen and stomach, these pathogens may harass the liver channel and lead to liver failure to govern the free flow of qi. Stagnation of damp-heat will transform into fire which disturbs bladder function and control, thus giving rise to enuresis.

Failure of Interaction between Heart and Kidney

The heart governs mental activity and deposits the monarch fire, while the kidney governs water and stores the ministerial fire. Heart-fire descends to warm the kidney water, and kidney water ascends to regulate the heart-fire. It is only by the regulation of water and fire that the functions of heart and kidney remain normal.

If the patient has difficulty in waking up, and loses their alertness regarding the need to urinate due to improper training, or too deep of a sleep, this is attributed to a functional disorder of the heart in controlling mental activities. Disordered heart-spirit and disharmony of water and fire can lead to profuse dreaming and enuresis during sleep, or an inability to wake up with spontaneous enuresis.

It is also common for exuberant phlegm-dampness to cause deep sleeping with difficulty waking up even when called, which also gives rise to enuresis.

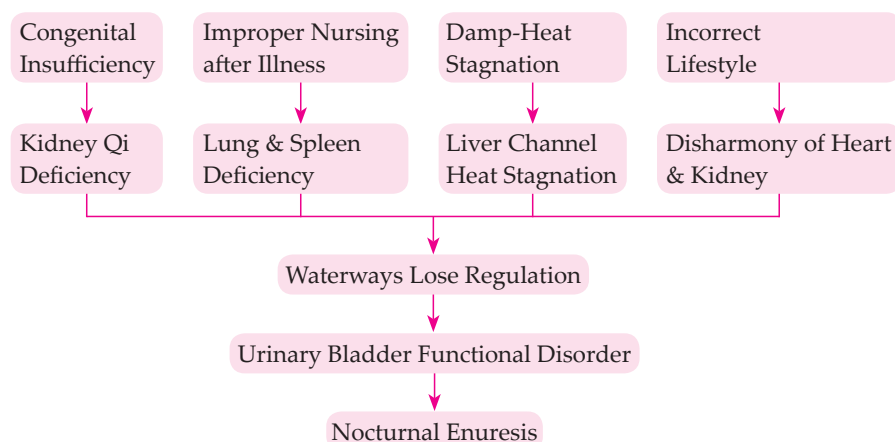


Fig. 29-1 Etiology and Pathomechanism of Nocturnal Enuresis

[DIAGNOSIS & DIFFERENTIATION]

► Essentials of Diagnosis

- Children over 5 years old with involuntary urination during sleep.
- Difficulty waking from deep sleep.
- Urine examination is normal.
- X-ray reveals occult spinal bifida in some patients.

► Differential Diagnosis

This disease should be differentiated from urinary incontinence, as illustrated in Table 29-1.

Table 29-1 Differential Diagnoses of Nocturnal Enuresis and Urinary Incontinence

	Nocturnal Enuresis	Urinary Incontinence
Patient Groups	Common in children over 5 years old	Elderly persons suffering from stroke, paralysis, trauma or other diseases; or children with congenital hypoplasia or encephalopathy sequela
Main Characteristics	Involuntary discharge of urine during sleep	Involuntary discharge of urine at anytime
Urinary Volume	Large amount	Small amount
Frequency	Mild: once a week, Serious: nightly or several times a night	Frequently
Complications	None	Common with primary diseases

If patients with urinary incontinence have an underlying disease, these should be treated first. Mild cases may be treated by Chinese medicine based on differentiation of the signs and symptoms. For severe cases, (depending on the condition of the disease) patients may be hospitalized for combined Western and Chinese medicine treatment or Western

medicine alone.

Enuresis patterns should also be defined as belonging to deficiency, excess, cold, or heat. See Table 29-2.

Table 29-2 Differentiation of Enuresis in Deficiency, Excess, Cold and Heat Patterns

Disease	Deficiency & Cold	Excess & Heat
Course	Slightly long	Short
Main Manifestations	Frequent enuresis with profuse urine, usually clear and odorless	Scanty volume, less frequency, yellow urine with odor
Tongue Coating	Pale tongue, little coating, or teeth-marked, enlarged, tender	Slightly red tongue, yellow coating
Pulse	Thready or deep-slow pulse	Wiry, slippery or wiry, rapid
Concurrent Symptoms	Pale complexion, fatigue, poor appetite, lack of strength, cold limbs, spontaneous sweating, loose stools	Flushed complexion, red lips, irritability, head sweating, teeth grinding, fits during sleep, restless sleep, dry stools

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

Pattern differentiation for enuresis is applied according to eight-principle differentiation, mainly focusing on deficiency, excess or cold and heat.

Deficiency cold enuresis is commonly marked by a long course, clear and profuse urine, frequent urination, cold body and limbs, a pale complexion, fatigue, lack of strength, and spontaneous sweating.

Excess heat enuresis is commonly marked by a short course, scanty yellow urine, difficult burning urination, a strong body build, and restless sleep.

Deficiency cold enuresis mostly results from kidney qi deficiency and insecurity, qi deficiency failing to control, and bladder deficiency cold.

Excess heat enuresis usually results from liver channel damp-heat.

Deficiency-excess complex type enuresis is due to failure in the interaction of the heart and kidney.

Clinically, enuresis with deficiency and cold is more common, with excess and heat patterns relatively less common.

► Treatment Principles

The basic treatment principles are to treat deficiency with supplementation and the excess with drainage, while also checking enuresis with consolidation and astringents. For patients with lower original qi deficiency cold, the main treatment principle is to warm the kidney and consolidate its control. For patients with spleen-lung qi deficiency, the method is to boost qi to consolidate. For damp-heat in the liver channel, apply clearing, draining, scattering and discharging medicinals.

In clinical practice, deep sleep with difficulty waking and therefore being unaware of the need to urinate is a common manifestation in all of the mentioned patterns, and also often associated with phlegm clouding the heart orifices. Medicinals which clear heart-heat,

dissolve phlegm and awaken the spirit should be combined to restore interaction between heart and kidney. In addition to oral medicinal treatment, acupuncture and massage can also be effective.

► Classification of Patterns and Treatments

Lower Original Qi Deficiency Cold

Signs and Symptoms

Manifestations include frequent bed-wetting with clear profuse urine, often several times each night. They are only aware of this upon awakening. There are also symptoms of fatigue, lack of strength, a pale complexion, cold limbs, fear of cold, weak lower limbs, and aching lumbus and legs with long voidings of clear urine. The tongue is pale with a white coating; the pulse is deep and thready, or deep and slow.

Kidney qi insufficiency and deficiency cold of the lower original qi is the most common pattern, often due to congenital insufficiency or incomplete recuperation after illness.

Treatment Principles

Warm and supplement kidney yang, check enuresis with consolidating astringents

Formula

Modified *Tù Sī Zǐ Wán*—**Semen Cuscutae Pill**

菟丝子	<i>tù sī zǐ</i>	Semen Cuscutae
肉苁蓉	<i>ròu cōng róng</i>	Herba Cistanches
附子	<i>fù zǐ</i>	Radix Aconiti Lateralis Praeparata
补骨脂	<i>bǔ gǔ zhī</i>	Fructus Psoraleae
益智仁	<i>yì zhì rén</i>	Fructus Alpiniae Oxyphyllae
桑螵蛸	<i>sāng piāo xiāo</i>	Oötheca Mantidis
牡蛎	<i>mǔ lì</i>	Concha Ostreae
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
山药	<i>shān yào</i>	Rhizoma Dioscoreae
鸡内金	<i>jī nèi jīn</i>	Endothelium Corneum Gigeriae Galli
乌药	<i>wū yào</i>	Radix Linderae

Formula Analysis

Tù sī zǐ (Semen Cuscutae), *ròu cōng róng* (Herba Cistanches), *fù zǐ* (Radix Aconiti Lateralis Praeparata), *bǔ gǔ zhī* (Fructus Psoraleae) and *yì zhì rén* (Fructus Alpiniae Oxyphyllae) warm and supplement kidney yang to warm the lower original qi without scattering, while also securing and astringing.

Sāng piāo xiāo (Oötheca Mantidis), *mǔ lì* (Concha Ostreae) and *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) boost the kidney while also securing and astringing.

Shān yào (Rhizoma Dioscoreae), *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) and *wū yào* (Radix Linderae) fortify the spleen to assist transportation, warm the bladder, and transform qi to check enuresis.

**Modifications**

For somnolence with difficulty waking due to internal accumulation of turbid phlegm, add *dǎn nán xīng* (Arisaema cum Bile), *shí chāng pú* (Rhizoma Acori Tatarinowii), *yuǎn zhì* (Radix Polygalae) and *yù jīn* (Tumeric Root Tuber) to dissolve phlegm, open the orifices, clear the heart, and awaken the mind.

For poor appetite and loose stools, add *dǎng shēn* (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Indian bread) and *shān zhā* (Fructus Crataegi) to fortify the spleen and harmonize the middle.

Chinese Patent Medicines

- a. *Wǔ Zǐ Yǎn Zōng Wán*—Five-Seed Progeny Pill
3-6 g twice daily. For kidney qì insufficiency.
- b. *Suō Quán Wán*—Stream-Reducing Pill
6 g twice daily. For spleen and kidney insufficiency.
- c. *Suō Quán Jiāo Náng*—Stream-Reducing Capsules
0.3-0.9 g 3 times daily.

Single Medicinals and Recipes

a. *Sāng piāo xiāo* (Oötheca Mantidis) 3 g is dry-fried until scorched, ground to powder and then mixed with an appropriate amount of white sugar. Take with warm boiled water. Applicable for patients with kidney qì insufficiency and bladder failure to control.

b. *Yì zhì rén* (Fructus Alpiniae Oxyphyllae) 10 g is dry-fried with vinegar then ground to powder. Take with warm boiled water three times daily. Applicable for patients with kidney qì insufficiency and bladder deficiency cold.

Lung-Spleen Qi Deficiency**Signs and Symptoms**

Manifestations include enuresis that occurs during sleep with scanty urine, frequent lassitude, lack of strength, weak breathing, no desire to speak, a withered-yellow complexion, poor appetite, loose stools, and frequent spontaneous sweating. The tongue is pale or enlarged and tender with a thin coating; the pulse is weak.

Pattern Differentiation

This pattern mostly results from lung and spleen qì deficiency after illness, leading to deficiency in the upper failing to control the lower.

Treatment Principles

Fortify the spleen and boost qì, raise yang and consolidate urine

Formula

Modified *Bǔ Zhōng Yì Qì Tāng*—Center-Supplementing Qi-Boosting Decoction with *Suō Quán Wán*—Stream Reducing Pill

黄芪	<i>huáng qí</i>	Radix Astragali
党参	<i>dǎng shēn</i>	Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
升麻	<i>shēng má</i>	Rhizoma Cimicifugae
柴胡	<i>chái hú</i>	Radix Bupleuri



当归	<i>dāng guī</i>	Radix Angelicae Sinensis
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
益智仁	<i>yì zhì rén</i>	Fructus Alpiniae Oxyphyllae
山药	<i>shān yào</i>	Rhizoma Dioscoreae
乌药	<i>wū yào</i>	Radix Linderae

Formula Analysis

Huáng qí (Radix Astragali), *dāng shēn* (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) fortify the spleen and boost qi (cultivate Earth to generate Metal).

Shēng má (Rhizoma Cimicifugae) and *chái hú* (Radix Bupleuri) raise yang qi. The lung and spleen can work normally when clear qi rises normally.

Dāng guī (Radix Angelicae Sinensis) combined with *huáng qí* (Radix Astragali) supplements and nourishes qi and blood.

Chén pí (Pericarpium Citri Reticulatae) acts to rectify qi to harmonize the middle and regulate qi movement.

Yì zhì rén (Fructus Alpiniae Oxyphyllae) acts to warm the kidney and check enuresis.

Shān yào (Rhizoma Dioscoreae) acts to fortify the spleen and boost kidney qi.

Wū yào (Combined Radix Linderae) warms the bladder and transforms qi.

Modifications

For somnolence with difficulty in waking, add *shí chāng pú* (Rhizoma Acori Tatarinowii) and *yuǎn zhì* (Radix Polygalae) to clear the heart, awaken the mind, and dissolve phlegm and dampness.

For loose stools, add *páo jiāng* (Rhizoma Zingiberis Praeparatum) to warm the spleen and dispel cold to check diarrhea.

Single Medicinals and Recipes

Use appropriate amounts of *qiàn shí* (Semen Euryales) and *lián zǐ* (Plumula Nelumbinis) to cook as a thick soup. Applicable for lung and spleen qi deficiency and bladder failing to control.

Damp-Heat in the Liver Channel

Signs and Symptoms

Manifestations include bed wetting during sleep with a relatively reduced amount of urine and less frequency, but the urine is yellow and has a strong odor. Usually such patients are easily angered, irritable, or talk in their sleep, with grinding teeth and a tendency to night terrors. The lips and tongue are red with a yellow or greasy yellow tongue coating. The pulse is slippery, rapid and powerful.

Pattern Differentiation

Damp-heat internal accumulation constraining the liver channel and transmitting to the bladder.

Treatment Principles

Drain the liver and clear heat, soothe the liver and check enuresis.

Formula

Modified *Lóng Dǎn Xiè Gān Tāng*—Gentian Liver-Draining Decoction



龙胆草	<i>lóng dǎn cǎo</i>	Radix et Rhizoma Gentianae
黄芩	<i>huáng qín</i>	Radix Scutellariae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
柴胡	<i>chái hú</i>	Radix Bupleuri
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Lóng dǎn cǎo (Radix et Rhizoma Gentianae), *huáng qín* (Radix Scutellariae) and *zhī zǐ* (Fructus Gardenia) clear excess heat in the liver channel.

Zé xiè (Rhizoma Alismatis) and *chē qián zǐ* (Semen Plantaginis) clear damp-heat in the bladder.

Chái hú (Radix Bupleuri) soothes the liver and rectifies qi.

Dāng guī (Radix Angelicae Sinensis) softens the liver and nourishes blood.

Shēng dì huáng (Radix Rehmanniae) acts to enrich yin and moisten dryness.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the middle by treating the liver to restore the spleen. It also harmonizes the actions of all formula medicinals to prevent the stomach from damage by cold medicinals.

Modifications

For severely restless nocturnal sleep, grinding teeth and night terrors, add *huáng lián* (Rhizoma Coptidis), *lián qiào* (Fructus Forsythiae), *fú líng* (Poria) and *zhū líng* (Polyporus) to clear the heart and calm the mind, discharge and guide heat outward through the urine.

For deep sleep with difficulty waking, add *shí chāng pú* (Rhizoma Acori Tatarinowii), *yuǎn zhì* (Radix Polygalae) and *hǔ pò* (Succinum) to awaken the spirit, open the orifices and free heat constraint.

For those with prolonged illness consuming yin fluids leading to liver and kidney yin deficiency presenting as emaciation, low grade fever, night sweats, red tongue, and thready and rapid pulse, *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill can be selected to enrich yin and reduce fire.

Chinese Patent Medicines

a. *Lóng Dǎn Xiè Gān Wán*—Gentian Liver-Draining Pill

3-6 g twice daily.

b. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill

Small honeyed pills, 3-4.5 g twice daily.

[OTHER THERAPIES]

1. ACUPUNCTURE

a. Body Acupuncture

yí niào diǎn (遗尿点)

For enuresis and frequent urination at night, needle the enuresis point (located at the mid-point of the crease on the palmar surface of the second phalangeal joint of the little finger). Retain the needle for 15 minutes. Treat once every two days, with 7 times as one course of treatment.

DU 20 (<i>bǎi huì</i>)	RN 4 (<i>guān yuán</i>)	RN 3 (<i>zhōng jī</i>)
SP 6 (<i>sān yīn jiāo</i>)		

Needle DU 20 (*bǎi huì*), RN 4 (*guān yuán*), RN 3 (*zhōng jī*) and SP 6 (*sān yīn jiāo*), then apply moxibustion; treat once every afternoon.

b. Ear Acupuncture

Kidney (<i>shèn</i>)	Urinary bladder (<i>páng guāng</i>)	Urethra (<i>niào dào</i>)
Subcortex (<i>pí zhì xià</i>)	Sympathetic (<i>jiāo gǎn</i>)	Adrenal gland (<i>shèn shàng xiàn</i>)
<i>Shen men</i> (<i>shén mén</i>)		

c. Auricular Acupoint-Plaster Therapy

Kidney (<i>shèn</i>)	Urinary bladder (<i>páng guāng</i>)	Urethra (<i>niào dào</i>)
<i>nǎo diǎn</i> (脑点)	<i>Shen men</i> (<i>shén mén</i>)	

Plaster *wáng bù liú xíng* (Semen Vaccariae) on all points bilaterally. The patient presses the points several times each day to cause a sensation of pain and distention. Change the plaster every 3-4 days. Continue treatment for 3 courses.

d. Electro-Acupuncture

RN 6 (<i>qì hǎi</i>)	RN 4 (<i>guān yuán</i>)	RN 3 (<i>zhōng jī</i>)
ST 36 (<i>zú sān lǐ</i>)	SP 6 (<i>sān yīn jiāo</i>)	BL 28 (<i>páng guāng shù</i>)

Modifications

For asthenia and fatigue with clear profuse urine, add BL 23 (*shèn shù*) and KI 3 (*tài xī*).

For poor appetite or loose stools, add BL 20 (*pí shù*).

For impatience and dreaminess with yellow urine, add GB 34 (*yáng líng quán*) and LV 2 (*xíng jiān*).

For deep sleep and difficulty in waking, add EX-HN 1 (*sì shén cōng*).

For frequent urination, add DU 20 (*bǎi huì*) and RN 6 (*qì hǎi*).

Procedure

Disinfect the acupoints and use (0.32 mm × 12-36 mm) filiform needles with the supplementation method. When the patient has the sensation of qi arrival, connect a G-6805

electric stimulator to the main points. Use a continuous wave setting for 20-25 minutes.

After removing the needles, apply cupping on RN 4 (*guān yuán*), RN 3 (*zhōng jī*), BL 28 (*páng guāng shù*) and ST 36 (*zú sān lǐ*) for 10-15 minutes.

6 times as one course of treatment.

e. Moxibustion

Points	Minutes	Position
DU 20 (<i>bǎi huì</i>)	15	Supine
RN 3 (<i>zhōng jī</i>)	15	Supine
BL 40 (<i>wěi zhōng</i>)	15	Prone

With the patient on their back, apply moxa on DU 20 (*bǎi huì*), RN 3 (*zhōng jī*), and BL 40 (*wěi zhōng*). Light the moxa cone and put the burning side about 2-3 cm from DU 20 (*bǎi huì*) and RN 3 (*zhōng jī*) for 15 minutes, until the patient has a warm sensation of comfort and slight heat.

Then ask the patient to turn over to a face down position and press BL 40 (*wěi zhōng*) on both legs with the thumbs for 15 minutes to cause soreness, tingling and distention. Treat once daily, with 5 days as one course of treatment. The patient may need a second or third course of treatment; allow a 2-day interval in between.

2. TUI NA

Points	Repetitions	Methods
<i>Dān tián</i> (丹田)	200	Kneading
<i>Fù</i> (腹)	20 minutes	Rubbing
<i>Guī wěi</i> (龟尾)	30	Kneading
BL 23 (<i>shèn shù</i>)	Stop when the patient feels heat	Scrubbing

a. Knead *dān tián* (丹田) 200 times, rub *fù* (腹) 20 minutes and knead *guī wěi* (龟尾) 30 times every afternoon. For older children, scrub BL 23 (*shèn shù*) to produce a heat sensation. 7 days as one course of treatment.

Points	Repetitions	Methods
<i>Pí tǔ</i> (脾土)	800	Supplementing
<i>Shèn shuǐ</i> (肾水)	800	Supplementing
<i>Sān guān</i> (三关)	300	Pushing
<i>Dān tián</i> (丹田)	20 minutes	Kneading
DU 20 (<i>bǎi huì</i>)	50	Pressing

b. Supplement both *pí tǔ* (脾土) and *shèn shuǐ* (肾水) 800 times, push *sān guān* (三关) 300 times, knead *dān tián* (丹田) 20 minutes, and press DU 20 (*bǎi huì*) 50 times. Apply once every afternoon, with 7 days as one course of treatment.

3. TRANSDERMAL THERAPY

Use a CZT-9 type Transdermal Therapy Apparatus produced by Shenyang University Electronic Medical Instrument Factory, with transdermal enuresis plaster made by Hong Kong De Sheng Tang Pharmaceutical Co., Ltd.

Formula

Yí Niào Tiē Piàn—Transdermal Enuresis Plaster

党参	dǎng shēn	Radix Codonopsis
白术	bái zhú	Rhizoma Atractylodis Macrocephalae
菟丝子	tù sī zǐ	Semen Cuscutae
枸杞子	gǒu qǐ zǐ	Fructus Lycii
黄芪	huáng qí	Radix Astragali
淮山药	shān yào	Rhizoma Dioscoreae
桑螵蛸	sāng piāo xiāo	Oötheca Mantidis

Fix the plaster on two electrodes, attach to BL 23 (*shèn shù*) bilaterally or RN 6 (*qì hǎi*) and RN 4 (*guān yuán*) acupoints (alternate the four acupoints, two acupoints each time). Adjust the parameter according to age with temperature 36°C for the patient's comfort. Turn on the electricity for 25-30 minutes. After treatment, remove the electrodes and leave the plaster on for 12 hours, unless it irritates the patient. 7 days is one course of treatment; the next course can be started with a 3-5 day interval. Generally 3 courses are required.

4. CUPPING

Commonly used points:

RN 3 (<i>zhōng jī</i>)	RN 4 (<i>guān yuán</i>)	BL 23 (<i>shèn shù</i>)
--------------------------	---------------------------	---------------------------

Once daily, with 7 days as one course of treatment.

5. UMBILICAL COMPRESS THERAPY

a. Grind *wǔ bèi zǐ* (*Galla Chinensis*) 3 g and *hé shǒu wū* (*Radix Polygoni Multiflori*) 3 g into powder, mix with vinegar into a paste, and apply to the umbilicus once nightly; continue for 3-5 days.

b. Mix equal amounts of *shēng liú huáng* (*Sulphur*) 45 g and fresh *cōng bái* (*Bulbus Allii Fistulosi*) 7 pieces (mashed), and apply to the umbilicus before sleep; cover with oil paper and fix with gauze. Remove it in morning and re-apply the next night.

c. Mix three portions of powdered *yì zhì rén* (*Fructus Alpiniae Oxyphyllae*), *wǔ wèi zǐ* (*Fructus Schisandrae Chinensis*), *ròu guì* (*Cortex Cinnamomi*) and two portions of powdered *jī nèi jīn* (*Endothelium Corneum Gigeriae Galli*). Dry and keep moisture proof for reserve. Mix the herbal powder with maltose to make a paste and wrap into a thumb-size shape. Clean the navel with warm water before treatment. Put the paste on the center of a 7 cm × 7 cm gauze and apply to the navel, pressing with the thumb to make the paste fill the navel. Fix the gauze with adhesive plaster or *Shāng Shī Zhǐ Tòng Gāo* (*Dampness*



Damage Pain-Relieving Plaster). Change once daily, with 7 days as one course of treatment.

[WESTERN MEDICINE THERAPIES]

The medications commonly used are imipramine hydrochloride, anisodamine and Meclofenoxate Hydrochloride (Centrophenoquine), but there are some side effects, and the disorder easily relapses after stopping medication.

The most recent reported chemical treatment is Vasopressin (antidiuretic hormone, ADH) or arginine Vasopressin (Desmopressin acetate). The therapeutic actions include concentrating urine to produce a reduced volume, lowering intravascular pressure to causes the bladder neck to lower, and reduces detrusor contraction. Recent research suggests that Vasopressin also affects the ascending reticular activating system, making it more alert and sensitive to the signals from the bladder; especially effective for nocturnal urination with large volumes of urine. This medication is too expensive for the majority of patients, and the long-term efficacy after stopping the drug is uncertain.

[PREVENTION AND NURSING CARE]

1. PREVENTION

- (1) Cultivate regular urination and healthy life habits from early childhood.
- (2) Avoid letting children indulge in too much play during the daytime that could result in a very deep sleep. Encourage children to sleep on their sides.

2. NURSING CARE

- (1) Decrease fluid intake for a few hours before sleeping. Reduce liquids in the diet and water intake during and after dinner. Take decoctions during the daytime and reduce fluid intake at night.
- (2) Ask the child to empty their bladder before going to sleep. Observe the time of enuresis and wake them up before that time. Cultivate voluntary urination habits gradually.
- (3) Consistently and patiently train the child to cultivate healthy voiding and elimination habits, encourage them to eliminate shyness and anxiety. Establish self-confidence to overcome the disorder.
- (4) Treat any primary diseases actively and facilitate proper exercise to improve their physique.

[CASE STUDIES]

► Case # 1. Male, age 6. Initial Visit: 8/26/03

The child has had enuresis since early childhood, with bed-wetting 2-3 times per night. He had been treated at a local hospital with *Gé Jiè Bǔ Shèn Wán*—Gecko Kidney-Supplementing Pill and Oxybutynin without result.

Signs and Symptoms

A lusterless complexion and poor appetite. The tongue is pale with white coating; the pulse is moderate and thready.

Pattern Differentiation

Lung-spleen qi deficiency with deficiency cold of lower original qi

Treatment Principles

Bank up and boost the original qi, supplement kidney, secure and astringe to control urination.

Formula

黄芪	<i>huáng qí</i>	10 g	Radix Astragali
益智仁	<i>yì zhì rén</i>	10 g	Fructus Alpiniae Oxyphyllae
桑螵蛸	<i>sāng piāo xiāo</i>	10 g	Oötheca Mantidis
补骨脂	<i>bǔ gǔ zhī</i>	10 g	Fructus Psoraleae
党参	<i>dǎng shēn</i>	10 g	Radix Codonopsis
金樱子	<i>jīn yīng zǐ</i>	10 g	Fructus Rosae Laevigatae
韭菜子	<i>jǐu cài zǐ</i>	10 g	Semen Allii Tuberosi
浮小麦	<i>fú xiǎo mài</i>	10 g	Fructus Triticis Levis
芡实	<i>qiàn shí</i>	10 g	Semen Euryales
乌药	<i>wū yào</i>	6 g	Radix Linderae
炙甘草	<i>zhì gān cǎo</i>	6 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle

Decoct with water to 200 ml; take separately 30 minutes before lunch and dinner, 1 bag per day. Use in combination with umbilical compress therapy with Chinese medicinals once nightly.

After being treated for ten days, the child's appetite improved and his complexion became ruddy. He had only one bed-wetting episode during the treatment period. After two more courses of treatment, the enuresis and other symptoms had all disappeared. 3 months after treatment, no relapses were reported.

Analysis

The patient presented with enuresis from a very young age, because of kidney qi congenital insufficiency and the kidney failing to store essence, leading to dysfunction of the bladder qi transformation and loss of control of the waterways.

The lung governs the qi of the body with functions of freeing and regulating the waterways and transferring the water to the bladder.

The spleen governs transportation and transformation to control fluids. If lung and spleen functions are normal then the body's fluids can be transported and excreted normally. If there is spleen and lung qi deficiency, the waterways lose their regulation due to deficiency in the upper with failure to control the lower; the deficient lower is unable to harmonize with the upper, resulting in enuresis.

Huáng qí (Radix Astragali), *dǎng shēn* (Radix Codonopsis) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) supplement the spleen and boost qi. These actions mainly focus on treating the upper source of water.

Jīn yīng zǐ (Fructus Rosae Laevigatae), *yì zhì rén* (Fructus Alpiniae Oxyphyllae), *wū yào*

(Combined Radix Linderae), *bǔ gǔ zhī* (Fructus Psoraleae), *sāng piāo xiāo* (Oötheca Mantidis), *qiàn shí* (Semen Euryales) and *jiǔ cài zǐ* (Semen Allii Tuberosi) supplement the spleen, warm the kidney and secure control by astringing and warming the lower original qi to control the lower pathways of water.

Yì zhì rén (Fructus Alpiniae Oxyphyllae), *sāng piāo xiāo* (Oötheca Mantidis) and *fú xiǎo mài* (Fructus Triticis Levis) have an antidiuretic effect. All the medicinals combined act together to nourish and boost original qi, supplement the kidney and control urination.

Source: Huang MZ. 38 Cases with Nocturnal Enuresis Treated by Chinese Herbs Associated with Appl Navel Cure [J]. Sichuan Journal of Traditional Chinese Medicine. 2006; 24(6): 72.

► Case #2. Male, age 10. Initial Visit: March, 2001

He had suffered nocturnal enuresis for more than 1 year.

The patient presented with nightly or alternate nights of bed-wetting for more than one year, with yellow scanty urine with a foul odor, teeth grinding during sleeping, a bitter taste in the mouth, a red complexion, red eyes, and irascible behavior. His tongue was red with a light greasy yellow coating; the pulse was wiry and rapid.

Routine urine examination, lumbosacral roentgenogram-X-ray examination, and color ultrasonograph examination of the urinary system were normal.

Pattern Differentiation

Heat constraint in the liver channel

Treatment Principles

Soothe the liver and clear heat, secure and control urination with astringing medicinals.

Formula

牡丹皮	<i>mǔ dān pí</i>	10 g	Cortex Moutan
黑山栀	<i>hēi shān zhī</i>	6 g	Fructus Gardeniae
柴胡	<i>chái hú</i>	10 g	Radix Bupleuri
白芍	<i>bái sháo</i>	10 g	Radix Paeoniae Alba
当归	<i>dāng gūi</i>	10 g	Radix Angelicae Sinensis
炒白术	<i>chǎo bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae (dry-fried)
茯苓	<i>fú líng</i>	10 g	Poria
龙胆草	<i>lóng dǎn cǎo</i>	2 g	Radix et Rhizoma Gentianae
黄柏	<i>huáng bǎi</i>	6 g	Cortex Phellodendri Chinensis
石菖蒲	<i>shí chāng pú</i>	6 g	Rhizoma Acori Tatarinowii
桑螵蛸	<i>sāng piāo xiāo</i>	10 g	Oötheca Mantidis
益智仁	<i>yì zhì rén</i>	10 g	Fructus Alpiniae Oxyphyllae
煅牡蛎	<i>duàn mǔ lì</i>	20 g	Concha Ostreae (calcined) (decocted first)
甘草	<i>gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae

1 bag decocted with water. Divide into 2 portions, taken twice as one daily dose.

After two weeks of treatment, the frequency of bed wetting was reduced. After another two courses of treatment, the enuresis disappeared.

Modified *Zhī Bǎi Dì Huáng Tāng*—Anemarrhena, Phellodendron and Rehmannia Decotion was then used to consolidate the curative effect. The disease had no relapse during six months of follow-up visits.

Analysis

This case presented with the symptoms of yellow and scanty urine with a foul odor, red complexion, red eyes and irascibility. The tongue was red with yellow coating and the pulse wiry and rapid. These symptoms and signs are manifestations of exuberant liver channel heat, all of which belong to an excess pattern. Treatment should mainly soothe the liver and clear heat while consolidating and controlling urination.

Mǔ dān pí (Cortex Moutan) clears liver heat.

Zhī zǐ (Fructus Gardeniae) clears and drains *sanjiao* heat, preferred for clearing liver heat and guiding heat downwards.

Chái hú (Radix Bupleuri) as the envoy of the liver, soothes the liver and resolves constraint.

Bái sháo (Paeoniae Alba) emolliates and soothes the liver.

Dāng guī (Radix Angelicae Sinensis) nourishes blood and harmonizes the liver.

Bái zhú (Rhizoma Atractylodis Macrocephalae) and *fú líng* (Poria) harmonize the middle and fortify the spleen.

Shí chāng pú (Rhizoma Acori Tatarinowii) opens the heart orifices.

Sāng piāo xiāo (Oötheca Mantidis), *yì zhì rén* (Fructu Alpiniae Oxyphyllae) and *duàn mǔ lì* (calcined Concha Ostreae) secure and astringe urine.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals and relaxes the liver's urgency.

The whole prescription has both supplementation and scattering properties that dispel pathogens without damaging healthy qi, so it is fairly effective.

Source: Xia M. 50 Cases of Nocturnal Enuresis Treated by *Jiā Wèi Dān Zhī Xiāo Yáo Sǎn*—Supplemented Moutan and Gardenia Free Wanderer Powder [J]. Jiangsu Journal of Traditional Chinese Medicine, 2004; 25(2): 25.

[QUESTIONS]

1. A 7-year-old child presents with bedwetting at night (nocturnal enuresis), with clear and profuse urine, a pale complexion, cold limbs and lassitude in the back and knees.

Which is the pattern?

- | | |
|-----------------------------------|---|
| A. Spleen-lung qi deficiency | B. Deficiency cold of lower original qi |
| C. Spleen-kidney yang deficiency | D. Heat constraint in the liver channel |
| E. Liver deficiency after illness | |

2. A 5 and half year old child who tends to catch cold easily, presents with bed wetting 1-2 times nightly for half a year. The child has profuse light yellow urine and a poor appetite. The tongue is light red with a thin and white coating. The pulse is deep and weak.

Which is the first choice formula combination for treatment?

- A. *Bǔ Zhōng Yì Qì Tāng*—Center Supplementing Qi-Boosting Decoction and *Suō Quán Wán*—Stream Reducing Pill
- B. *Jīn Guì Shèn Qì Wán*—Golden Cabinet's Kidney Qi Pill and *Yù Fēng Sǎn*—Jade Wind-Barrier Powder
- C. *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder and *Jiāo Tài Wán*—Keeping Communication Between the Heart and Kidney Pill
- D. *Lóng Dǎn Xiè Gān Tāng*—Gentian Liver-Draining Decoction and *Dǎo Chì Sǎn*—Red-Guiding Powder
- E. *Tù Sī Zǐ Sǎn*—Semen Cuscutae Powder and *Sì Jūn Zǐ Tāng*—Four Gentlemen Decoction

3. A 9-year-old child presents with bedwetting (enuresis) 1-2 times nightly with clear and profuse urine, a lusterless complexion, cold limbs and a fear of cold. The tongue is pale with white glossy coating. The pulse is deep, weak and thready.

Which is the first choice of formula for treatment?

- A. *Bǔ Zhōng Yì Qì Tāng*—Center-Supplementing and Qi-Boosting
- B. *Jīn Guì Shèn Qì Wán*—Golden Cabinet's Kidney Qi Pill
- C. *Lóng Dǎn Xiè Gān*—Gentian Liver-Draining Decoction
- D. *Tù Sī Zǐ Sǎn*—Semen Cuscutae Powder
- E. *Dǎo Chì Sǎn*—Red-Guiding Powder

4. A 6-year-old child presents with bedwetting (enuresis) during sleep with yellow odorous urine, an impetuous temper, red eyes, red lips and thirst. The tongue is red with a greasy yellow coating. The pulse is smooth and rapid.

Which is the correct treatment principle?

- A. Warm and supplement kidney yang, calm the mind and stop enuresis.
- B. Clear and drain liver heat, soothe the liver and stop enuresis.
- C. Clear heat and drain dampness, secure and control urination with astringing medicinals.
- D. Enrich the kidney and clear heat, secure and control urination with astringing medicinals.
- E. Clear heart heat and enrich the kidney, secure and control urination with astringing medicinals.

5. A 6-year-old child presents with bedwetting (enuresis) during sleeping, shortness of breath without a desire to speak, a sallow complexion, poor appetite and loose stools.

Which is the correct pattern?

- A. Deficiency cold of lower original qi.
- B. Kidney qi insecurity.
- C. Lung-spleen qi deficiency.
- D. Heat constraint in the liver channel.
- E. Liver-kidney yin deficiency.

[REFERENCES]

- [1] Kanaheswari Y. Epidemiology of Childhood Nocturnal Enuresis in Malaysia [J]. J Paediatr Child Health, 2003; 39: 118-123.
- [2] Nijman RJ, Butler RJ, van Gool JD, et al. Conservative Management of Urinary Incontinence in Childhood. In: Abrams P, Cardozo L, Khoury S, et al. Incontinence [M]. Plymouth: Health Publication Ltd, 2002: 515-552.
- [3] Yang JY. The Progress in Pathomechanism, Diagnosis and Treatment of Children's Nocturnal Enuresis [J]. Clinical Journal of Practical Pediatrics, 2005; 20(5): 385-387.



- [4] Li J, Chen CY, Ding Y. The Epidemiology Investigations of Children with Nocturnal Enuresis at 6-16 Years Old [J]. Chinese General Practice, 2003; 6(10): 846-847.
- [5] Fan HL, Li J, Guo XY. The Mechanism and Clinical Observation of Supplementing *mìng mén* to Astringe Enuresis [J]. Chinese Journal of Clinicians, 2007; 35(8): 181-182.
- [6] Wang YP, Li RF, Hua K. 56 Cases of Nocturnal Enuresis Treated by Acupuncture Therapy [J]. Shanxi Journal of Chinese Medicine, 2005; 26 (5): 447-448.
- [7] Huang MZ. 38 Cases of Nocturnal Enuresis Treated by Chinese Herbs Associated with Applying Navel Cures [J]. Sichuan Journal of Chinese Medicine, 2006; 24(6): 72.
- [8] Xia M. 50 Cases of Nocturnal Enuresis Treated by *Jiā Wèi Dān Zhī Xiāo Yáo Sǎn*—Supplemented Moutan and Gardenia Free Wanderer Powder [J]. Jiangsu Journal of TCM, 2004; 25(2): 25.



Chapter 30

Cerebral Palsy

Infantile cerebral palsy (CP) refers to syndromes associated with non-progressive brain damage as well as developmental defects present in the prenatal and infant periods; the main clinical manifestations include motor dysfunction and postural disorders. In TCM, cerebral palsy pertains to categories of the “five stiffnesses” (*wǔ yìng*), “five retardations” (*wǔ chí*) and “five kinds of flaccidity” (*wǔ rǎn*).

“Five retardations” refers to delays in standing, walking, hair growth, tooth eruption and speech faculties. “Five kinds of flaccidity” refers to flaccidity of head and neck, mouth, hand, foot, and muscles. “Five stiffnesses” refers to stiffness of the hand, foot, waist, muscles, and the head and neck. This disease mostly occurs in children under 3 years old, especially in those from 6 months to 1 year of age. It can also occur in premature infants or children from multiple births.

Along with the recent developments in perinatal medicine and the increasing survival rates in high-risk infants, there are also escalating percentages of infantile cerebral palsy cases each year. As a major cause of disability in children, cerebral palsy attracts increasing attention. Epidemiological surveys show various incidence levels of cerebral palsy in different countries and regions.

A large-scale epidemiological survey of cerebral palsy was carried out in various regions of China from 1997 to 1999, finding the prevalence of cerebral palsy at 0.12%-0.27% in children 1-7 years old. Now that poliomyelitis has been essentially controlled^[1], cerebral palsy has become one of the major disease causes of physical disability.

Chinese medicine has been widely used in the treatment of infantile cerebral palsy since ancient times. Its advantage is based on the embodiment of the theory of pattern differentiation and treatment, which is combined with using *zang-fu* pattern differentiation and channel pattern differentiation. Traditional Chinese medicine, acupuncture, massage and other therapies can improve children's muscle strength and tension, correct abnormal posture and improve movement, enhance immunity, and provide a foundation for rehabilitation training.

Yu YP et al. used medicinal powder applied to back-*shu* points along with acupoint massage and rehabilitation training in 24 cases of infantile cerebral palsy. The results showed 3 cases recovered, 5 cases were remarkably effective, 15 cases were effective, 1 case was ineffective and the total effective rate was 95.8%^[2].

Acupuncture therapy also shows a satisfying efficacy. Fang XM et al. treated 106 cases of children with cerebral palsy, randomly divided into a treatment group (scalp acupuncture plus acupoint injection) and a control group (traditional acupuncture group).

Scalp Acupuncture:

DU 24 (<i>shén tíng</i>) → DU 20 (<i>bǎi huì</i>)	DU 20 (<i>bǎi huì</i>) → DU 17 (<i>nǎo hù</i>)
DU 21 (<i>qián dǐng</i>) → GB 6 (<i>xuán lí</i>) (bilateral)	
For lower limb paralysis: DU 20 (<i>bǎi huì</i>) → BL 8 (<i>luò què</i>)	
DU 20 (<i>bǎi huì</i>) → 2.25 <i>cun</i> lateral to the top line (bilateral)	



The scalp treatment group used the basic scalp acupuncture regions with subcutaneous insertion from DU 24 (*shén tíng*) to DU 20 (*bǎi huì*), from DU 20 (*bǎi huì*) to DU 17 (*nǎo hù*) and from DU 21 (*qián dǐng*) to GB 6 (*xuán lí*) (bilateral). If there was lower limb paralysis, they chose acupoints from DU 20 (*bǎi huì*) to BL 8 (*luò què*) and from DU 20 (*bǎi huì*) to 2.25 *cun* lateral to the top line (bilateral).

Needling methods and treatment course:

Apply electric stimulator instrument (6805-II model) dense-wave for 45 minutes once daily for 10 days, with a one week interval; 30 times as one treatment course.

Point Injection:

GB 20 (<i>fēng chí</i>) (bilateral)	BL 23 (<i>shèn shù</i>) (bilateral)
ST 36 (<i>zú sān lǐ</i>) (bilateral)	LI 11 (<i>qū chí</i>) (bilateral)

Acupoint-injection therapy: GB 20 (*fēng chí*) (bilateral), BL 23 (*shèn shù*) (bilateral), ST 36 (*zú sān lǐ*) (bilateral), LI 11 (*qū chí*) (bilateral).

Drug: Cerebrolysin injection 6-8 ml, 0.5-2 ml for each point. The acupuncture points were used alternately once daily, 30 times as a treatment course of treatment. The control group used traditional acupuncture therapy, selecting points based on the fifth edition textbook *Acupuncture and Moxibustion Therapy For the National Institutions of Higher Education of Chinese Medicine*. The treatment course was the same as in the treatment group treated only with acupuncture.

Results showed that in the treatment group the effective rate and total effective rate were 54.7% and 92.4% respectively, while in the control group they were 26.4% and 66.0% respectively. The therapeutic effect in the two groups was significantly different ($P < 0.01$), with the treatment group significantly superior to the control^[3].

With regard to a long-term prognosis for cerebral palsy, a survey in Great Britain showed that: at the age of 20, the survival rate for cerebral palsy is 87%; at the age of 30, the survival rate is 85% in females and slightly higher than 83% in males; infants with a heavier birth weight have a higher prevalence and more severe sequela than those with a lower birth weight^[4].

[ETIOLOGY & PATHOMECHANISM]

1. ETIOLOGY

a. Inadequate Congenital Endowment

This can occur due to the child's parents having deficient essence and blood or improper health care during the pregnancy. Fetal qi can become damaged by factors such as moods, lifestyle, diet and the pregnant mother's medication. Babies from an older parent, fetuses that survive after failed abortions and premature infants may have deficient congenital essential qi, insufficient brain marrow and weak organ qi with failure to nourish the tendons, bones and muscles.

b. Improper Postnatal Nursing

Retarded development and growth can be caused by dystocia, birth trauma, intracranial hemorrhage, premature detachment of the placenta, an umbilical cord wrapped around the neck, improper care after birth, asphyxia, hypoxia, poisoning, brain damage caused



by febrile convulsions, or coma in warm febrile diseases. Lack of lactation or insufficient feeding that damages the spleen and stomach leading to blood and qi deficiency and insufficiency of essence and marrow.

2. PATHOMECHANISMS

The disease mechanism can be divided into healthy qi deficiency and pathogenic qi excess. Healthy qi deficiency refers to insufficiency of the five organs, blood and qi deficiency, and inadequate essence and marrow. Pathogenic qi excess refers to phlegm and static-blood obstructing the heart channels and the brain collaterals, leading to abnormal heart and brain functioning.

Healthy Qi Deficiency

The kidney governs bones, the liver governs tendons and the spleen governs the muscles of the four limbs. If deficient liver, kidney and spleen fail to properly nourish the bones, tendons and muscles, then the patient may present with impaired standing and walking, a flaccid and weak neck and head which they cannot lift, inability to hold and lift objects, weak drooping arms, and inability to walk due to flaccid legs.

The teeth are considered the “ends of the bones” in TCM, and deficient kidney essence may cause delayed tooth eruption. Hair is the surplus of blood and “seedlings of the kidney”. Insufficient kidney qi and deficient blood may cause delayed hair growth or sparse withered hair.

The heart governs the blood and vessels, has its specific opening in the tongue, and thus controls speech. The brain is the sea of marrow, and speech is said to be a manifestation of wisdom. If heart qi and kidney essence are insufficient and the brain marrow is deficient, then speech will develop slowly and intellectual development will be disturbed.

The spleen governs the muscles and has its specific opening in the mouth. If spleen qi is insufficient, then the mouth will be flabby with difficult mastication, and the muscles will be feeble and weak.

Pathogenic Qi Excess

Birth trauma or other injuries can damage the brain marrow, and stasis obstructs the brain collaterals; or during febrile disease, phlegm-fire moves upwards to harass and cloud the orifices, resulting in impaired activity of the heart, brain and mind, and limited motility of the extremities.

These factors can lead to “*wǔ chí*” (five retardations) and “*wǔ rǎn*” (five kinds of flaccidity). If static turbid-phlegm obstructs the heart channel and the brain collaterals, then the original spirit will lose its way, the heart orifice will become obstructed and there will be mental confusion. As a consequence, feeble-mindedness and cerebral palsy may appear.

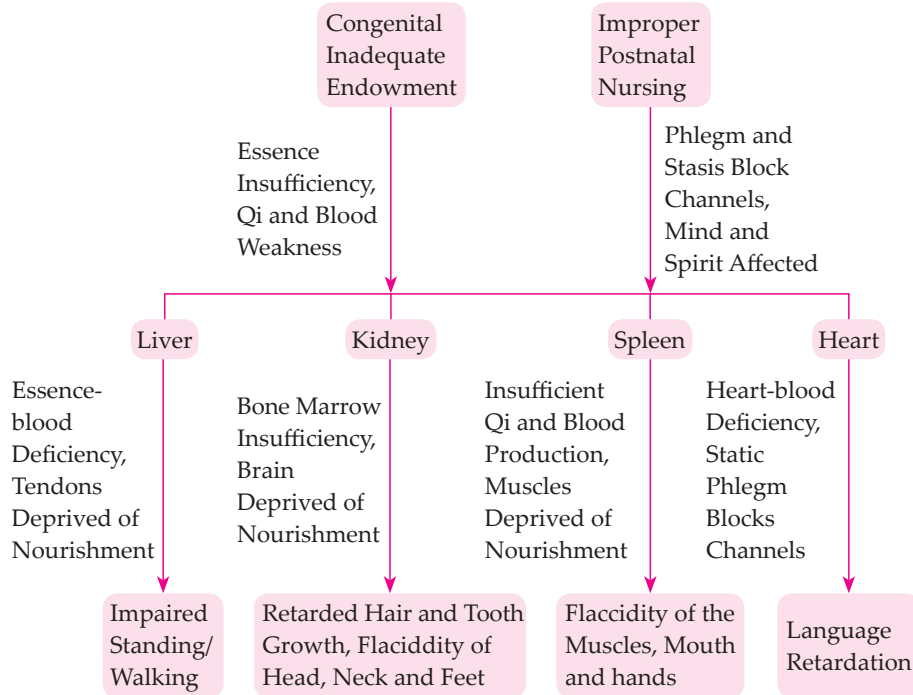


Fig. 30-1 Etiology and Pathomechanism of Cerebral Palsy

[DIAGNOSIS & DIFFERENTIATION]

► Essentials of Diagnosis

a. There can be a history of threatened abortion during the mother's pregnancy, or pernicious vomiting, drug damage, birth trauma, asphyxia, premature birth, improper feeding, hereditary disease, or related parents (consanguineous marriage).

b. If the child cannot stand or walk at 2-3 years old, this is called standing retardation and walking retardation. If the child has no hair or slow and sparsely growing hair, this is called hair growth retardation. If the child has no teeth until 12 months of age, or has delayed teeth eruption, this is called retarded tooth eruption. If the child cannot speak until 1-2 years old, this is called speech retardation.

c. When the child's head and neck are still flaccid and drooping at one year old, this is called head and neck flaccidity. Feeble mastication with drooling clear saliva is called mouth flaccidity. If a child's hands and arms cannot grip or lift, this is called hand flaccidity. Inability to stand or walk at two years old is called foot flaccidity, and flabby muscles is called muscle flaccidity.

d. The symptoms of the "five retardations" and "five kinds of flaccidity" do not necessarily appear at the same time; it is however possible to diagnose with only one or two symptoms present. To enable the early detection, the child's growth and development should be compared and observed closely along with developmental intelligence screening.

► Differential Diagnosis

Suspected cases should be diagnosed by Western medicine to avoid missed diagnosis and treatment.

The differential diagnosis is illustrated in Table 30-1.

Table 30-1 Differences between cerebral palsy, mental retardation, spinal muscular atrophy, and progressive muscular dystrophy

	Cerebral Palsy	Feeble-mindedness	Spinal Muscular Atrophy	Progressive Muscular Dystrophy
Typical Performance	Preference for a recumbent position, scissors gait when walking or ataxia, involuntary movements, uncoordinated motion	Intelligence significantly lower than children of the same age	Symptoms emerge 3-6 months after birth, reduced physical activity, symmetrical weakness of upper and lower limbs & progressive deterioration, muscle atrophy	Progressive muscular weakness & atrophy
Accompanying Symptoms	Feeble-mindedness, epilepsy, vision, hearing & sensory impairments, learning difficulties	Adaptive functional defects or damage		
Signs	Increased muscle tension, tendon hyperreflexia		Tendon reflexes diminished or difficult to elicit, atonic	
Laboratory Examination	Cranial CT examination may have brain abnormalities or abnormal calcification	Varies due to primary disease	EMG shows neurogenic damage, normal serum creatine kinase (CK), normal intelligence	EMG shows myogenic damage, elevated serum CK, muscle biopsy reveals muscular dystrophy

Children diagnosed with mild spinal muscular atrophy and progressive muscular dystrophy may be treated with Chinese medicine, depending on the syndrome differentiation. Serious cases maybe hospitalized and given integrated Chinese and Western medicine treatments or Western medicine alone. The prognosis of this condition is unfavorable. Children diagnosed with mental retardation require special education and training along with treatment focusing on the underlying disease.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

(1) Treatment Based on Zang-Fu Pattern Differentiation

Differentiation of the *zang-fu*: “standing retardation”, “walking retardation”, “retarded teeth growth”, “head and neck flaccidity”, “hand flaccidity” and “foot flaccidity” are all due to liver-spleen-kidney deficiency.

“Speech retardation”, “hair growing retardation”, “muscle flaccidity” and “mouth flaccidity” are due to spleen-heart deficiency. The pathogenesis for children with cerebral palsy and mental retardation is often complicated with phlegm-turbidity and blood stasis blocking the heart channels and brain collaterals.

(2) Etiology Differentiation

Encephalopathy (including the genetic variance, which can be visually detected), congenital factors of unknown origin and chromosomal diseases can all be attributed to congenital deficiencies in the liver, kidney and brain marrow; nutritional and metabolic diseases involve the spleen. Diseases with mental illness caused by environmental, social and psychological factors involve the heart and liver. Diseases caused by infection, poisoning, injury and physical factors are due to turbid phlegm and blood stasis.

(3) Severity Differentiation

If the patient presents only one or two symptoms of the “five retardations” or “five kinds of flaccidity”, then the condition is considered mild. If the patient presents with all the symptoms of the “five retardations” or “five kinds of flaccidity”, then the condition is considered as serious.

Patients that present with an unsteady gait, delayed closure of the fontanelle, retarded dentition, vexation, restless sleep, sweating, and those without motor function impairment are considered as mild cases. Patients that present with flaccid tendons and weak bones with an inability to stand, sparse thin yellow hair, speechlessness (tongue-tie), emaciation, listlessness and mental retardation are considered as serious cases.

► Treatment Principles

Most cases belong to deficiency patterns, so the treatment principles are to reinforce healthy qi and supplement deficiency.

Atelencephalia (incomplete brain development) is mostly due to liver-kidney deficiency, and thus the treatment principle is to supplement and boost the liver and kidney to strengthen the tendons and bones.

Cerebral palsy and mental retardation are mostly due to heart-spleen deficiency, thus treatment should fortify the spleen, nourish the heart and brain, and open the orifices.

The treatment principle for those with phlegm and blood stasis obstruction caused by

birth trauma, poisoning or warm febrile diseases are to resolve phlegm, dissolve stasis, unblock the collaterals and open the orifices. These cases should be diagnosed and treated as early as possible. Beneficial therapeutic effects may be achieved after a long treatment course, which needs to include acupuncture, massage, special education and functional training.

► Classification of Patterns and Treatment

Liver-Kidney Depletion

Signs and Symptoms

Slow development in sitting, standing and walking significantly behind normal children of the same age; there may be inability to walk at 4 or 5 years old or with abnormal hair and teeth development. They may present with weakness and asthenia of the neck and drooping head (called “*tian zhu gu dao*”: cervical flaccidity), a large and square skull, glazed eyes, sluggish responses, large fontanelle, insomnia with restlessness, disinclination to activity, easily fatigued, weak limbs, restless sleep, lusterless complexion, and a thin body build. The tongue is pale with less coating, the pulse is deep thready and powerless, and the finger venules are light.

Pattern Differentiation

When the liver and kidney and essence and blood are deficient, there is inability to nourish the tendons and bones, which leads to the retardations of standing, running and tooth growth. The head is the intersection of all yang, and the bones are governed by the kidney. If kidney yang and essence fail to nourish the head and bones, then the neck will be unable to hold up the head upright.

Kidney essence deficiency leads to mental exhaustion and weakness with a preference for lying down. Liver blood deficiency manifests with an inability to nourish the face, resulting in a lusterless complexion. A pale tongue with less coating and light finger venules are signs of a qi and blood deficiency.

Treatment Principles

Supplement the kidney and boost marrow, nourish the liver and strengthen tendons

Formula

Modified *Jiā Wèi Liù Wèi Dì Huáng Wán*—Supplemented Six Ingredients Rehmannia Pill

熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
山茱萸	<i>shān zhū yú</i>	Fructus Corni
鹿茸	<i>lù róng</i>	Cornu Cervi Pantotrichum
五加皮	<i>wǔ jiā pí</i>	Cortex Acanthopanax
山药	<i>shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
麝香	<i>shè xiāng</i>	Moschus

Formula Analysis

Shú dì huáng (Radix Rehmanniae Praeparata) and *shān zhū yú* (Fructus Corni) nourish the kidney and liver.

Lù róng (Cornu Cervi Pantotrichum) warms the kidney and boosts essence.

Wǔ jiǎ pí (Cortex Acanthopanax) strengthens tendons and bones.

Shān yào (Rhizoma Dioscoreae) fortifies the spleen and boosts qi.

Fú líng (Poria) and *zé xiè* (Rhizoma Alismatis) fortify the spleen and drain dampness.

Mǔ dān pí (Cortex Moutan) cools and invigorates blood.

Shè xiāng (Moschus) invigorates blood and opens orifices.

All of the above herbs work together to supplement kidney and marrow, nourish the liver, and strengthen tendons.

Modifications

For retarded tooth growth, add *zǐ hé chē* (Placenta Hominis), *hé shǒu wū* (Radix Polygoni Multiflori), *lóng gǔ* (Os Draconis) and *mǔ lì* (Concha Ostreae) to supplement the kidney.

For standing and walking retardation, add *niú xī* (Radix Cyathulae), *dù zhòng* (Cortex Eucommiae) and *sāng jì shēng* (Herba Taxilli) to supplement the kidney and strengthen tendons and bones.

For head and neck flaccidity, add *suǒ yáng* (Herba Cynomorii), *gǒu qǐ zǐ* (Fructus Lycii), *tù sī zǐ* (Semen Cuscutae Australis) and *bā jǐ tiān* (Radix Morindae Officinalis) to supplement and nourish the kidney and liver.

For frequent panic and restless sleep, add *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) and *yuǎn zhì* (Radix Lysimachiae Insignis) to nourish the heart and calm the mind.

For a square and large skull with twisted lower limbs, add *zhēn zhū mǔ* (Concha Margaritiferae Usta) and *lóng gǔ* (Os Draconis) to strengthen tendons and bones.

Chinese Patent Medicines

a. *Qǐ Jú Dì Huáng Wán*—Lycium Berry, Chrysanthemum and Rehmannia Pill. Dosage: 3 g, 3 times daily. Used for liver-kidney depletion.

b. *Hé Chē Dà Zào Wán*—Placenta Major Supplementation Pill. Dosage: 3 g, 3 times daily. Used for deficiency of essence and blood and emptiness of the sea of marrow.

Heart and Spleen Deficiency

Signs and Symptoms

Patients with this pattern present with speech retardation, mental sluggishness and retardation, often accompanied by difficulties in standing and walking, delayed hair growth, limb weakness, flaccid muscles, fatigue and weakness, drooling saliva, weak suckling and chewing, or a wagging tongue, poor appetite and constipation. The tongue is enlarged and pale with a thin and minimal coating. The pulse is thready, moderate and weak, and the finger venules are pale.

Pattern Differentiation

The heart governs mental activity, so if heart qi is deficient and the brain and marrow are insufficient, there will be deficiency of the spirit, mental retardation and sluggishness. Speech is the sound of the heart, so heart qi deficiency causes disturbance of the spirit-orifice, thus patients cannot speak or will have slurred speech. Heart qi deficiency also creates an inability to nourish the skin, so the skin appears pale.

Spleen deficiency leads to the insufficiency of blood and qi, limb weakness and flaccid

muscles. The lips belong to the spleen, and the mouth is the opening of the spleen. Spleen deficiency leads to soft thin lips, drooling, and weak suckling and chewing.

Hair is the surplus of blood and if blood is deficient, it is unable to nourish the hair so the hair appears sparse, yellow and withered. Qi and blood deficiency presents with an enlarged pale tongue and minimal coating. The pulse is thready, moderate and weak, and there are light finger venules.

Treatment Principles

Fortify the spleen and nourish the heart, replenish qi and blood.

Formula

Modified *Tiáo Yuán Sǎn*—Original Qi-Regulating Powder

人參	<i>rén shēn</i>	Radix Ginseng Alba
黃芪	<i>huáng qí</i>	Radix Astragali
白朮	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
山藥	<i>shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
當歸	<i>dāng guī</i>	Radix Angelicae Sinensis
熟地黃	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
川芎	<i>chuān xiōng</i>	Rhizoma Chuanxiong
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowi

Formula Analysis

Rén shēn (Radix Ginseng Alba), *huáng qí* (Radix Astragali), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *shān yào* (Rhizoma Dioscoreae), *fú líng* (Poria) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) boost qi and fortify the spleen.

Dāng guī (Radix Angelicae Sinensis), *shú dì huáng* (Radix Rehmanniae Praeparata), *bái sháo* (Radix Paeoniae Alba) and *chuān xiōng* (Rhizoma Chuanxiong) supplement blood and nourish the heart.

Shí chāng pú (Rhizoma Acori Tatarinowi) opens the orifices and benefit intelligence.

All of the medicinals act together to fortify the spleen, nourish the heart, and replenish qi and blood.

Modifications

For speech and mental retardation, add *yuǎn zhì* (Radix Lysimachiae Insignis) and *yù jīn* (Radix Curcumae) to resolve constraint and open the orifices.

For hair growth retardation, add *hé shǒu wū* (Radix Polygoni Multiflori) and *ròu cōng róng* (Semen Myristicae) to nourish blood, supplement the kidney and grow hair.

For flaccid limbs, add *guì zhī* (Ramulus Cinnamomi) to warm and unblock the channels and collaterals.

For drooling, add *yì zhì rén* (Fructus Alpiniae Oxyphyllae) to warm the spleen, supplement the kidney, and secure and astringe essence.

For qi deficiency and yang decline, add *ròu guì* (Cortex Cinnamomi) and *fù zǐ* (Rhizoma Typhonii) to warm and strengthen original yang.

For weak pulse, add *wǔ wèi zǐ* (Fructus Schisandrae Sphenantherae) and *mài dōng* (Radix Ophiopogonis) to nourish yin and engender the pulse.

Chinese Patent Medicines

Shí Quán Dà Bǔ Wán—Perfect Major Supplementation Pill.

Dosage: 2-4 g, 3 times daily. Use for deficiency of the heart and spleen with qi and blood insufficiency.

Phlegm-Stasis Blockage

Signs and Symptoms

Patients with this pattern present with deafness and aphasia, sluggish responses, unconsciousness, involuntary movements, drooling, gurgling in the throat, stiff joints, muscle weakness, or seizures. The tongue is enlarged with ecchymosis and petechia and a greasy coating. The pulse is deep, choppy or slippery, and the finger venules are dark with stasis.

Pattern Differentiation

Exuberance of internal phlegm can cloud the brain, leading to deafness and aphasia, sluggish responses, and unconsciousness. Phlegm and stasis block the brain, resulting in sluggish qi and blood and undernourishment of the brain which causes stiff joints and muscle flaccidity. The tongue has ecchymosis and petechia and a greasy coating. The pulse is deep, choppy and slippery, and there are dark finger venules showing stasis; all these signs are manifestations of phlegm-stasis and blockage.

Treatment Principles

Clear up phlegm and open the orifices, invigorate blood and unblock the collaterals.

Formula

Modified *Tōng Qiào Huó Xuè Tāng*—Orifices-Unblocking Blood-Invigorating Decoction combined with *Èr Chén Tāng*—Two Matured Substances Decoction

半夏	<i>bàn xià</i>	Rhizoma Pinelliae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
茯苓	<i>fú líng</i>	Poria
远志	<i>yuǎn zhì</i>	Radix Polygalae
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii
桃仁	<i>táo rén</i>	Semen Persicae
红花	<i>hóng huā</i>	Flos Carthami
郁金	<i>yù jīn</i>	Radix Curcumae
丹参	<i>dān shēn</i>	Radix et Rhizoma Salviae Miltiorrhizae
川芎	<i>chuān xiōng</i>	Rhizoma Chuanxiong
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
麝香	<i>shè xiāng</i>	Moschus

Formula Analysis

Bàn xià (Rhizoma Pinelliae), *chén pí* (Pericarpium Citri Reticulatae), *fú líng* (Poria), *yuǎn zhì* (Radix Polygalae) and *shí chāng pú* (Rhizoma Acori Tatarinowii) clear phlegm to open the orifices.

Táo rén (Semen Persicae), *hóng huā* (Flos Carthami), *yù jīn* (Radix Curcumae), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *chuān xiōng* (Rhizoma Chuanxiong), *chì sháo* (Radix Paeoniae Rubra) and *shè xiāng* (Moschus) invigorate the blood and unblock the collaterals.

All the medicinals work together to clear up phlegm, open the orifices, invigorate blood and unblock the collaterals.

Modifications

For shouting and convulsions caused by the exuberant fire of the heart and liver, add *huáng lián* (Rhizoma Coptidis), *lóng dǎn cǎo* (Radix et Rhizoma Gentianae) and *líng yáng jiǎo* (Cornu Saigae Tataricae) to clear heart heat and calm the liver.

For restlessness, add *guī bǎn* (Plastrum Testudinis), *tiān má* (Rhizoma Gastrodiae) and *mǔ lì* (Concha Ostreae) to subdue yang and extinguish wind.

For dry stools, add *dà huáng* (Radix et Rhizoma Rhei) to unblock the bowels and clear phlegm.

Chinese Patent Medicines

Kǒng Shèng Zhǐ Zhōng Dān—Confucius Sages Pillow Elixir

Dosage: 3 g, 3 times daily. Used for deficiency and weakness of heart qi who present with restlessness, amnesia and insomnia. Acts to supplement the heart, calm the mind and improve intelligence.

[OTHER THERAPIES]

1. TUI NA

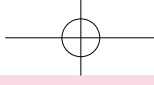
Extra Points of the Upper Extremities		
DU 14 (<i>dà zhuī</i>)	GB 21 (<i>jiān jǐng</i>)	LI 15 (<i>jiān yú</i>)
LI 11 (<i>qū chí</i>)	SJ 4 (<i>yáng chí</i>)	LI 4 (<i>hé gǔ</i>)
Extra Points of the Lower Extremities		
BL 23 (<i>shèn shù</i>)	DU 4 (<i>mìng mén</i>)	DU 3 (<i>yāo yáng guān</i>)
GB 29 (<i>jū liáo</i>)	GB 30 (<i>huán tiào</i>)	BL 37 (<i>yīn mén</i>)
BL 40 (<i>wěi zhōng</i>)	BL 57 (<i>chéng shān</i>)	BL 60 (<i>kūn lún</i>)
ST 41 (<i>jiě xī</i>)	ST 36 (<i>zú sān lǐ</i>)	GB 34 (<i>yáng líng quán</i>)

For upper limbs, use DU 14 (*dà zhuī*), GB 21 (*jiān jǐng*), LI 15 (*jiān yú*), LI 11 (*qū chí*), SJ 4 (*yáng chí*) and LI 4 (*hé gǔ*).

For lower limbs, use BL 23 (*shèn shù*), DU 4 (*mìng mén*), DU 3 (*yāo yáng guān*), GB 29 (*jū liáo*), GB 30 (*huán tiào*), BL 37 (*yīn mén*), BL 40 (*wěi zhōng*), BL 57 (*chéng shān*), BL 60 (*kūn lún*), ST 41 (*jiě xī*), ST 36 (*zú sān lǐ*) and GB 34 (*yáng líng quán*).

The methods include pushing, grasping, pressing, kneading, twisting and thrusting.

Apply once daily for 6 days with a one-day interval. 3 months as one treatment course.



Applicable for children with retarded movement.

2. ACUPUNCTURE

a. Acupuncture

DU 14 (<i>dà zhuī</i>)	DU 20 (<i>bǎi huì</i>)	ST 36 (<i>zú sān lǐ</i>)	BL 23 (<i>shèn shù</i>)
RN 4 (<i>guān yuán</i>)			

For inferior intelligence, add EX-HN1 (*sì shén cōng*) and EX-HN3 (*yìn táng*).

For paraplegia, add GB 30 (*huán tiào*), BL 54 (*zhì biān*) and GB 34 (*yáng líng quán*).

For drooping wrist, add SJ 5 (*wài guān*) and SJ 4 (*yáng chí*).

For equinovarus foot (club foot), add *jué gǔ* (绝骨) and BL 60 (*kūn lún*).

For valgus feet, add SP 6 (*sān yīn jiāo*) and KI 3 (*tài xī*).

Choose 2-3 main points each time with 4-5 adjunct acupuncture points, apply with supplementation or neutral supplementation and drainage methods without needle retention. 3 times daily, with 3 months as one course of treatment.

b. Moxibustion

Apply moxibustion on both ankles, 3 moxa cones once daily for heart and spleen deficiency. Moxibustion on *xīn shù* (BL 15), 3 moxa cones once daily for speech retardation.

c. Ear Acupuncture

Heart (<i>xīn</i>)	Kidney (<i>shèn</i>)	Liver (<i>gān</i>)	Spleen (<i>pí</i>)
Subcortex (<i>pí zhì xià</i>)	Brain stem (<i>nǎo gàn</i>)		

Apply once every two days for all patterns.

3. COMBINED ACUPUNCTURE AND MASSAGE ON SHU-STREAM POINTS AND HE-SEA POINTS

Shu-stream points and *he*-sea points are important areas of the five transport points. *Shu*-stream points treat peripheral diseases of the channels, and *he*-sea points treat internal diseases of the *zang-fu* organs. The *shu*-stream and *he*-sea point combination acts to disperse pathogenic qi accumulated in the limbs, benefit the collaterals, stimulate channel qi, and invigorate the circulation of blood ^[5].

a. Acupuncture

Points of the Upper Extremities		
LI 3 (<i>sān jiǎn</i>)	LI 11 (<i>qū chí</i>)	SI 3 (<i>hòu xī</i>)
SI 8 (<i>xiǎo hǎi</i>)		
Points of the Lower Extremities		
GB 41 (<i>zú lín qì</i>)	GB 34 (<i>yáng líng quán</i>)	SP 3 (<i>tài bái</i>)
SP 9 (<i>yīn líng quán</i>)	ST 43 (<i>xiàn gǔ</i>)	ST 36 (<i>zú sān lǐ</i>)

Use the upper extremity points LI 3 (*sān jiǎn*) and LI 11 (*qū chí*) of the hand *yangming* large intestine channels and SI 3 (*hòu xī*) and SI 8 (*xiǎo hǎi*) of the hand *taiyang* small

intestine channels, alternating every other day.

Use the lower extremity points GB 41 (*zú lín qì*) and GB 34 (*yáng líng quán*) of the foot *shaoyang* gallbladder channels, SP 3 (*tài bái*) and SP 9 (*yīn líng quán*) of the foot *taiyin* spleen channels and ST 43 (*xiàn gǔ*) and ST 36 (*zú sān lǐ*) of the foot *yangming* stomach channels, alternating every other day.

Extend three needles to the medial malleolus and lateral malleolus respectively. The treatment starts from the upper to the lower limbs, and from the left to the right. Needle with neutral supplementation and drainage; after obtaining *qì* withdraw the needles. Treat once daily for 6 days with a one-day interval for 1 month as one treatment course.

b. Tui na

Place the patient in a supine position and apply kneading, rolling, pinching and grasping methods on the limbs, and point-pressing methods with the thumbs on the body at the same time (acupuncture points are the same as the *shu*-stream points and *he*-sea point combined acupuncture). Treat every point for 1.5 minutes. Apply once daily for 30 minutes for 6 consecutive days with a one-day interval; one month as one course of treatment.

4. MOXIBUSTION

During the therapy, children over the age of 3 can be in a sitting or prone position; those under 3 years old can be held by the parent. The three methods including mild moxibustion, sparrow-pecking moxibustion and circling moxibustion can be used^[6].

a. Mild Moxibustion

The moxa stick is lit at one end, targeting the moxibustion acupoints or the lesion site about 2-3 cm from the skin. The correct technique is to make the patient feel warm at the localized point without a burning sensation for about 3-5 minutes till the skin looks flushed. The operator separates the index and middle fingers and places them on both sides of the moxibustion points to feel the degree of heat so as to adjust the distance and prevent scalding.

b. Sparrow-Pecking Moxibustion

With a moxa stick, apply heat with a motion described as a bird pecking up and down.

c. Circling Moxibustion

Place the lit moxa cone close to the skin where it is needed at 3-4 cm away. Repeatedly move the moxa-cone from left to right or rotate it within a 3-5 cm diameter until the skin looks flushed. Apply for 10-20 minutes each day with 20 days as one course of treatment. Evaluate after 3 courses.

Basic points:

DU 14 (*dà zhuī*)

DU 12 (*shēn zhù*)

DU 3 (*yāo yáng guān*)

Use the *dū mài* (governor vessel) points as the major points, such as DU 14 (*dà zhuī*), DU 12 (*shēn zhù*) and DU 3 (*yāo yáng guān*). Combine with points of the hand *taiyang* large intestine channels to dredge the yang vessels and promote movement of *qì* and blood.

Points Selection Based on the Pattern Differentiation:

For kidney *qì* deficiency, add BL 23 (*shèn shù*), RN 4 (*guān yuán*), DU 4 (*mìng mén*), RN 6 (*qì hǎi*) and GB 20 (*fēng chí*).

With enuresis, add RN 3 (*zhōng jí*).

For spleen deficiency, add BL 20 (*pí shù*), ST 36 (*zú sān lǐ*), SP 6 (*sān yīn jiāo*), SP 10 (*xuè*



hǎi), RN 12 (*zhōng wǎn*), BL 23 (*shèn shù*) and SP 4 (*gōng sūn*) (with poor appetite).

For liver blood deficiency, add BL 18 (*gān shù*), BL 23 (*shèn shù*), SP 10 (*xuè hǎi*), RN 6 (*qì hǎi*) and BL 17 (*gé shù*).

5. FUNCTIONAL TRAINING

The treatment of the five retardations and five kinds of flaccidity caused by cerebral palsy must include the adjunct treatment of functional training with therapeutic aids, including physical skill and speech training. Through a series of training lessons with mechanical and physical devices (depending on the different conditions of the movement disorders and abnormal postures caused by cerebral palsy), these training techniques may improve residual motor function, inhibit abnormal postural reflexes, induce normal motor development, and improve the patient's daily living ability.

[WESTERN MEDICINE THERAPIES]

1. MEDICINE THERAPY

No effective remedies are available for children with cerebral palsy at this time. For younger children with a shorter course of disease, neurotrophic drugs such as cerebrolysin may be used according to the condition, but it is inadequate for long term use.

Botulinum toxin type A injections given intramuscularly have a lasting relaxation effect on muscles, and can be used to treat children with spastic cerebral palsy. Anti-epileptic drugs are currently used for patients with epileptic seizures.

2. EXERCISE THERAPY

Functional training may promote motion development, inhibit abnormal movement patterns, correct abnormal posture and accomplish rehabilitation.

3. SPEECH TRAINING

Speech ability and communication skills may be improved through special speech therapy training for those with speech retardation and motor dysarthria.

4. PHYSIOTHERAPY

This includes electrotherapy, light therapy, magnetic therapy, ultra short wave therapy, thermotherapy, laser therapy, hydrotherapy, and biofeedback therapy.

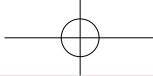
5. SURGERY

If the effect of comprehensive treatment is unsatisfactory, surgery may be considered, but with uncertain results.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) Educate the public on the health risks to their future offspring if they are closely related, i.e. marriage between first cousins. Carry out premarital health examinations in order to avoid the occurrence of congenital hereditary diseases. Couples with a history



of family genetic disease are advised to have DNA tests or amniotic fluid analysis to monitor the health of the fetus. If an abnormality is confirmed, artificial termination of the pregnancy should be considered as soon as possible.

(2) Pregnant mothers are advised to avoid extreme emotional disturbance, have a rich nutritional intake, have adequate exposure to the sun and avoid using drugs which might be harmful to the qi of the fetus.

(3) Breastfeeding is recommended, while complementary feed should be added at an appropriate time to guarantee a nutritionally balanced diet. Appropriate physical exercise is also recommended.

2. NURSING CARE

(1) Cerebral palsy is a deficiency pattern disease, so dietary regulation is essential. Food should be both nutritious and easily digestible.

(2) Rehabilitation of cerebral palsy is a long-term process. Parents must pay attention to the patient's functional and intellectual training.

(3) Massage with squeezing and rubbing methods on flaccid limbs to prevent muscle atrophy.

[CASE STUDIES]

► Case #1. Female, age 13. Initial Visit: 3/11/2002.

The child's physical development after birth was the same as normal as other children of the same age, but she had delayed speech, hyperactivity and a bad temper. She went to kindergarten at 3 years old, where the teachers reported that she lacked comprehension and showed sluggish responses. In primary school, she was easily distracted and fidgety, often leaving her seat without authorization.

Her academic records were always poor; marks for language were about 10 points and mathematics 7-8 points (of 100 points). She was inattentive with a poor memory and although could express her meaning clearly, she lacked a sufficient vocabulary. She had difficulty getting along with her classmates, and was sent to a special school because of the difficulties with general education.

She had experienced restless sleep with many dreams, and there were occasional epileptic seizures. There was a good appetite with normal elimination and adequate self-care ability in daily life.

Examinations showed a normal CT examination, EEG mildly abnormal, and the Webster IQ test score was 67. She had a history of neonatal hemolysis (ABO blood group incompatibility) just after birth.

Her parents were of normal intelligence, without a similar family history nor significant history during the pregnancy. She had received acupuncture and brain tissue fluid acupoint injection therapy. After that, the epileptic attacks were reduced.

In the clinic, the child presented with a tall large physique, a sluggish expression, timidity, reluctance to speak, restlessness, violent behavior and yelling when slightly unhappy. Her tongue was pale and red on the tip with petechia and a thick greasy yellowish-white coating. The pulse was moderate and slippery.

Formula

法半夏	<i>fǎ bàn xià</i>	10 g	Rhizoma Pinelliae Praeparatum
陈皮	<i>chén pí</i>	5 g	Pericarpium Citri Reticulatae
枳实	<i>zhǐ shí</i>	10 g	Fructus Aurantii Immaturus
茯苓	<i>fú líng</i>	15 g	Poria
竹茹	<i>zhú rú</i>	10 g	Caulis Bambusae in Taenia
石菖蒲	<i>shí chāng pú</i>	10 g	Rhizoma Acori Tatarinowii
远志	<i>yuǎn zhì</i>	8 g	Radix Polygalae
郁金	<i>yù jīn</i>	10 g	Radix Curcumae
丹参	<i>dān shēn</i>	15 g	Radix et Rhizoma Salviae Miltiorrhizae
磁石	<i>cí shí</i>	20 g	Magnetitum
甘草	<i>gān cǎo</i> (decocted first)	6 g	Radix et Rhizoma Glycyrrhizae cum Melle

5 doses for 5 days.

At the second visit on 3/18/2002, she complained of feeling restless, though her dreams had reduced. The other symptoms remained the same as before. Her tongue was red with a white and thick and greasy slightly yellow coating.

Some progress had been made, so treatment incorporated the former method but with added 4 g of *huáng lián* (Rhizoma Picrorhizae) for another five days. This prescription became the fundamental formula for the follow-up treatments at 5-7 doses per week for 2 months^[6].

Analysis

This case was diagnosed as mental retardation with a mental age significantly lower than the normal level. The disease belongs to the “five retardations” category in TCM. When a fetus is attacked by damp-heat, the pathogens may hinder activities of qi and lead to fetal jaundice. Lingering damp-heat stagnated in the body may cause stasis and phlegm, which stagnates and blocks the brain collaterals and obstructs the mind. The brain and the spinal cord then cannot be nourished properly, so the mind becomes clouded. Therefore, dampness, heat, phlegm and stasis are the main causes in this case.

The sluggish expression, a tongue covered with a thick greasy yellowish-white coating, petechia on the tongue body, and a moderate and slippery pulse are all signs of phlegm and stasis obstruction.

This case belongs to an excess pattern, although most of these cases belong to a deficiency-excess complex or are deficient at the root and excess at the branch, especially in those cases caused by congenital factors.

The treatment principles here are to clear phlegm, open the orifices, invigorate blood, and unblock the collaterals.

Tōng Qiào Huó Xuè Tāng—Orifices-Unblocking Blood-Invigorating Decoction was used and combined with *Èr Chén Tāng*—Two Matured Substances Decoction to which was added *shí chāng pú* (Rhizoma Acori Tatarinowii), *yù jīn* (Radix Curcumae), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) and *cí shí* (Magnetitum).

Source: Li SM. Experiences from a Renowned Set of Traditional Chinese Medicine Books [M]. Beijing, People's Health Publishing Press, 2004: 397.

► **Case #2. Female, age 1 year.**

She was admitted to hospital due to lagging motor and mental development.

On admission she presented with flaccid tendons and bones. She was unable to turn over, sit alone steadily, kneel or crawl. She had a pallid complexion with saliva drooling from the mouth, spontaneous perspiration which worsened after physical activity, poor appetite, and loose stools. Her finger venules were pink and did not reach the wind pass. Her tongue was pale with teeth marks and had a thin white coating. Her pulse was weak and slow. She was diagnosed with cerebral palsy (hypomyotonia type II) by Western medicine and with a spleen-kidney yang deficiency pattern by traditional Chinese medicine.

Moxibustion

BL 23 (<i>shèn shù</i>)	BL 20 (<i>pí shù</i>)	RN 8 (<i>shén què</i>)
RN 4 (<i>guān yuán</i>)	DU 20 (<i>bǎi huì</i>)	

Moxibustion was used on BL 23 (*shèn shù*), BL 20 (*pí shù*), RN 8 (*shén què*), RN 4 (*guān yuán*) and DU 20 (*bǎi huì*) once daily combined with Chinese medicinals, acupuncture, and massage therapy.

After comprehensive treatment for 60 days, the child's bones and tendons became stronger with warmer extremities and decreased salivation and sweating. Her appetite returned to normal and she could turn over, sit alone, kneel, crawl, and walk with support^[7].

Analysis

Chinese medicine considers the moxa (mugwort) leaf as warm in nature with an aromatic flavor, which can connect the 12 channels, rectify qi and blood, expel cold-dampness, warm the channels, stanch bleeding, and soften peripheral capillaries.

Congenital cerebral palsy is due to inadequate congenital endowment and improper postnatal nursing. Therefore, with moxibustion it is possible to reinforce healthy qi and expel pathogenic qi, fortify the spleen, promote the generation of blood and qi, improve digestion and absorption of the gastrointestinal tract, and strengthen the bones and muscles. Moxibustion can be widely used as adjuvant therapy to help rehabilitate cerebral palsy cases.

Source: Xie JS, Zhao Y, Liu ZH. Clinical Application of Rehabilitation in Children with Cerebral Palsy with Moxibustion [J]. Pediatrics Journal of Traditional Chinese Medicine, 2006; 2(5): 40-41.

[QUESTIONS]

1. A 2-year-old child presents as being unable to talk, mentally sluggish, mentally retarded, with sparse hair, sallow, flaccid limbs, drooling saliva, poor appetite and constipation. The tongue is pale and enlarged with minimal coating. The finger venules are pale.

What is the diagnosis?

A. Five retardations and five kinds of flaccidity with the pattern of liver and kidney deficiency.



- B. Five retardations and five kinds of flaccidity with the pattern of heart and spleen deficiency.
- C. Five retardations and five kinds of flaccidity with the pattern of phlegm-stasis blockage.
- D. Rickets with the pattern of heart and spleen deficiency.
- E. Rickets with the pattern of heart and spleen deficiency.

2. A 2-year-old child presents with growth retardation. The child's sitting, standing and walking development is behind other children of the same age. There are flaccid muscles and the child is easily panicked when asleep. The tongue is light in color with little coating. The pulse is weak, deep and thready.

Which is the best choice of formula?

- A. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill.
- B. *Shí Quán Dà Bǔ Wán*—Perfect Major Supplementation Pill.
- C. *Tōng Qiào Huó Xuě Tāng*—Orifices-Unblocking and Blood-Invigorating Decoction.
- D. *Kǒng Shèng Zhěn Zhōng Dān*—Confucius Sages Pillow Elixir.
- E. *Tiáo Yuán Sǎn*—Original-Qi-Regulating Powder.

3. A two and a half year old child presents with flaccid bones and tendons and delayed development. Sitting, standing, walking and eruption of teeth are all significantly lagging behind normal children of the same age. The child also has flabby muscles, strabismus, salivation and a dull expression.

Which acupoints from the lower extremities are best used for this case?

- A. LI 11 (*qū chí*), LI 4 (*hé gǔ*)
- B. DU 14 (*dà zhuī*), DU 20 (*bǎi huì*)
- C. GB 34 (*yáng líng quán*), SJ 5 (*wài guān*)
- D. ST 36 (*zú sān lǐ*), LI 11 (*qū chí*)
- E. GB 34 (*yáng líng quán*), GB30 (*huán tiào*)

4. A 5-year-old child, born prematurely, has shown a weak constitution up to the present time and presents with emaciation, asthenia, and flabby bones and muscles. The child was unable to walk until 3 years old, often stumbling with sluggish reactions, mental retardation, restless sleep, sweating and being easily panicked. The tongue is pale with minimal coating. The pulse is deep thready and weak.

Which pattern is this?

- A. Kidney qi deficiency.
- B. Kidney-liver deficiency.
- C. Acquired dystrophy.
- D. Phlegm and stasis blockage.
- E. Heart-spleen deficiency.

5. A 4-year-old child, born 6 weeks early, presents with stunted bones. Sitting, standing, walking and eruption of teeth are all obviously lagging behind the growth of normal children at the same age. He is reluctant to do any physical activity; he easily feels tired and prefers bed rest. He has a pale complexion and feels ill. His tongue is pale with a thin and white coating. The diagnosis is the five kinds of retardation.

Which pathogenesis is applicable?

- A. Spleen-stomach deficiency.
- B. Kidney-liver deficiency.
- C. Kidney-spleen deficiency.
- D. Depletion of kidney-water.
- E. Qi and blood deficiency.

[REFERENCES]

- [1] Hu YM, Jiang ZF. Zhu Futang Practical Pediatrics [M]. People's Health Press, 2002: 1903.
- [2] Yu YP, Sun TL. The Treatment Effects of 24 Cases with Cerebral Palsy Treated by External Chinese



- Medicine [J]. Chengdu Medical Journal, 2001, 27 (1): 50-51.
- [3] Fang XM, Feng MG, Liu CF. Observations of 53 Cases in Treating Children with Cerebral Palsy by Scalp Acupuncture plus Acupoint-Injection [J]. Chinese Journal of the Practical Chinese with Modern Medicine, 2004; (2): 123.
- [4] HuRon J. Cerebral Palsy Life Expectancy. Clin Perinatol, 2006; 33: 545-555.
- [5] Wang XF, Hu XL. *Shu*-stream Points and *He*-sea Points Combined Acupuncture and Massage to Treat Children with Spastic Cerebral Palsy [J]. The First Session of the World Traditional Chinese Medicine Pediatric Academic Seminar Proceedings. Tianjin: Tianjin University of Chinese Medicine. 2009: 182-185.
- [6] Li SM. The Experiences of a Renowned Set of Traditional Chinese Medicine Books [M]. Beijing, People's Health Publishing Press, 2004: 397.
- [7] Xie JS, Zhao Y, Liu ZH. The Clinical Applications of Rehabilitation in Children with Cerebral Palsy by Moxibustion [J]. Pediatrics Journal of Traditional Chinese Medicine, 2006; 2(5): 40-41.

Chapter 3 | Sexual Precocity

Sexual Precocity (*xìng zǎo shú*) is an endocrine condition affecting both boys and girls, presenting with adolescent secondary sex characteristics that develop before the appropriate age. In boys, the age limit is usually defined under the age of 9; for girls, the age limit varies with different nations and regions, generally defined as 2-2.5 SD below the average age of normal puberty. In TCM, although there is no disease named “sexual precocity”, cases presenting with manifestations of mammoplasia are classified as “breast hypertrophy (*rǔ lì*)”.

Current studies show significant differences in the development of adolescent secondary sex characteristics between different races, nations and regions, so the age limitations of precocious puberty also vary accordingly. The age limit for early sex development (precocious puberty) is defined by European standards and in China as below the age of 8 in girls and below the age of 9 in boys.

The incidence of this condition is gradually increasing, although it varies in different regions and countries. In Denmark, the statistical data from 1993 to 2001 showed that the incidence of sexual precocity was about 0.5/10,000 in girls under 2 years old, falling to 0.05/10,000 in 2-4 year olds, and rising to 8/10,000 in 5-9 year olds. In boys it was below 1/10,000 under 8 years of age, slightly rising to (1-2)/10,000 in 8-10 year olds.

The total incidence in girls was about (20-23)/10,000, while the incidence in boys (below 5/10,000) was 5 times lower than that in girls. China's data showed that in accordance with findings from a mass survey of children from older kindergarten to third grade (age about 4-9 years) in Zhejiang province in June 2000, the incidence of precocious puberty was 38/10,000 with girls having a higher prevalence (67/10,000). A survey from Shanghai in 2001 showed that there were 102 cases with breast development within 6005 girls at age 4-7 years, with morbidity at 170/10,000.

In Beijing school-age girls, the incidence of early menarche was 0.79%, and the rates of early development of breasts and pubic hair were 2.91% and 0.22%. Incidence rates in girls were significantly higher than in boys.

The incidence in urban areas is higher than that in country areas, with a ratio of 7 : 4 for boys aged 7-9 and 8 : 4 for girls^[1].

TCM pays attention to the holistic regulation of idiosyncratic constitutions in children suffering from sexual precocity, and shows certain advantages and characteristics in prevention and treatment. The differential treatment of TCM for children with sexual precocity can effectively improve the clinical symptoms, lower sex hormone levels, make sex characteristics regress or no longer progress, reduce the volume of the uterus and ovaries, and slow down bone aging.

Wang ZR et al. used *Dà Bǔ Yīn Wán*—Major Yin-Supplementing Pill to treat 30 cases of true precocious puberty. Medicinal treatment was given over a range of 6 months to 2 years for an average time of 1.2 years. The dosage was reduced when the patient's condition was relieved, and withdrawn completely when they regained normal gonadal hormones. Most children's secondary sexual characteristics subsided gradually after treatment, and the

stages of breast development before and after treatment had a notable statistical significance ($P < 0.01$). After treatment, the children's uterine and ovarian volume was reduced, and egg follicles were reduced or disappeared. The differences in increasing bone age, changes in hormone levels and final height before and after treatment were also statistically significant [2].

Shi YM et al. used *Zǎo Shú Hé Jì*—Precocious Puberty Decoction composed of *shēng dì* (Radix Rehmanniae), *zhī mǔ* (Rhizoma Anemarrhenae), *zhì guī bǎn* (dry-fried Plastrum Testudinis), *huáng bǎi* (Cortex Phellodendri Chinensis), *xuán shēn* (Radix Scrophulariae) and *xià kǔ cǎo* (Spica Prunellae) to treat 90 cases of true precocious puberty children. The course of treatment was 1-4 years, with the average at 1.79 years. The total effective rate was 86.7% [3].

Zhao J et al. used *Kàng Zǎo Èr Hào*—Anti-Precocity Formula No. 2 composed of *zhì bàn xià* (prepared Rhizoma Pinelliae), *jú pí* (Pericarpium Citri Reticulatae), *fú líng* (Poria), *sān léng* (Rhizoma Sparganii), *hǎi zǎo* (Sargassum), *zhī mǔ* (Rhizoma Anemarrhenae) and *huáng bǎi* (Cortex Phellodendri Chinensis) to treat 150 cases of true precocious puberty. The control group was given *Zhī Bǎi Dì Huáng Tāng*—Anemarrhena, Phellodendron and Rehmannia Decoction. The course of treatment was 3 months.

Results: the total effective rate of the treatment group and control group reached 84.0% and 66.7% respectively, and the difference was statistically significant ($P < 0.05$).

Kàng Zǎo Èr Hào can significantly improve symptoms and signs and reduce enlarged breasts. The test group results were improved as compared to the control group ($P < 0.01$) [4] in reducing the volume of the ovaries and uterus after treatment, and also slowing down the rate of the bone aging.

[ETIOLOGY & PATHOMECHANISM]

1. ETIOLOGY

The kidney governs growth and development; the breast and pudendum are all *luo*-connected by the foot *jueyin* liver channels. Advanced secondary sexual characteristics can appear due to illness, excessive consumption of certain supplements or food derived from livestock that are fed by forage containing growth hormones, or oral intake of certain drugs leading to yin-yang disharmony, yin deficiency resulting in exuberant fire, frenetic stirring of ministerial fire or liver constraint transforming into fire, all resulting in early breast development or early arrival of *tiān guǐ* (reproduction-stimulating essence).

2. PATHOMECHANISMS

Yin-yang disharmony is the basic pathomechanism, located mainly in the kidney, liver, and the *chong* and *ren mai*. Various factors lead to yin-yang disharmony, yin deficiency resulting in exuberant fire, frenetic stirring of ministerial fire, liver constraint transforming into fire and phlegm-damp obstruction, and they can all result in advanced development of secondary sexual characteristics.

Yin Deficiency with Exuberant Fire

The kidney is the foundation of the congenital constitution, with functions including the storing of essence, containing original yin and yang, and governing growth and reproduction. The child kidney is often deficient, so yin-yang disharmony of the kidney can easily occur due to pathogenic factors. If kidney yin is insufficient and cannot restrict

yang, hyperactivity of ministerial fire will lead to advanced “*tiān guǐ*” and secondary sexual characteristics. This fire tends to flare upwards, so symptoms of irritability, flushed face, tidal fever and profuse sweating are seen simultaneously.

Liver Constraint Transforming into Fire

The liver stores blood and governs the free flow of qi. Illness or mental factors can cause binding constraint of liver qi with failure of free coursing. As the ascending and descending of qi becomes out of control, qi constraint transforms into fire. As a result, advanced *tiān guǐ* appears as in precocious puberty, also with symptoms of distending breast pain and chest distress with restlessness. When the liver channel is blocked, this leads to interior damp-heat steaming upward, causing facial acne. Damp-heat pouring downward leads to increased yellow leukorrhea. Yin and yang disharmony also leads to imbalances in the *chong* and *ren mai* that allow other illnesses to develop.

Phlegm-Dampness Obstruction

These children are usually physically inactive with long-term overeating of greasy, sweet and rich foods; there may be spleen and kidney deficiency, or insufficient innate endowment. When the spleen and stomach are damaged, accumulated dampness transforms into phlegm, leading to qi and phlegm stagnation blocking the breast collaterals, disharmony of the *chong* and *ren mai*, and imbalances of kidney yin and kidney yang. All of these patterns can contribute to the early development of secondary sexual characteristics.

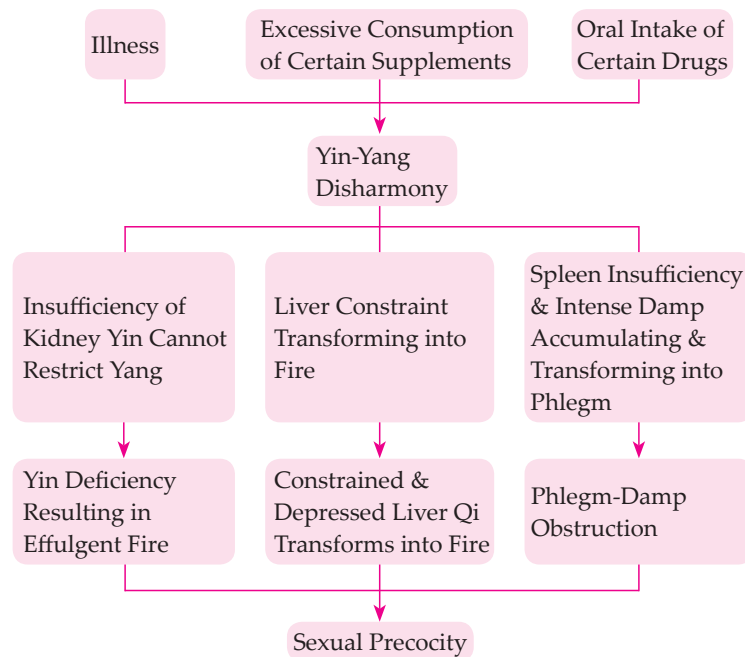


Fig. 31-1 Etiology and Pathomechanisms of Sexual Precocity

[DIAGNOSIS & DIFFERENTIATION]

► Essentials of Diagnosis

1. CLINICAL MANIFESTATIONS

Girls under 8 years old or boys under 9 years old presenting with secondary sexual

characteristics. Generally, girls have breast development first, followed by increased vaginal discharge, the appearance of pubic hair and development of the external genitalia followed by menarche and axillary hair. Boys have a prematurely enlarged penis and testicles, possibly with erections, pubic hair, acne, and a low, deep voice. They may even have sperm maturation and nocturnal emissions, also becoming physically stronger than normal boys of the same age.

2. PHYSICAL AND CHEMICAL EXAMINATION

a. Serum sex hormones: Gonadotropin-releasing hormone (GnRH), follicle-stimulating hormone (FSH), luteinizing hormone (LH), estradiol (E_2) and plasma testosterone levels are significantly elevated.

b. X-ray: Anterior-posterior views of the wrist reveals osseous maturation more advanced than the actual age, consistent with the stage of pubertal development.

c. Exfoliative cytoscopy of vaginal smears: Observation of the degree of maturation of exfoliative vaginal cytology is a simple and reliable way to ascertain levels of estrogen and activity, and is also an important basis for diagnosis and identification of true and false precocious puberty. It is more stable and reliable than determination by serum estrogen concentrations.

d. Pelvic type-B ultrasonography to assess uterine and ovarian development.

► Differential Diagnosis

According to the cause, the condition can be divided into three categories: true precocious puberty, pseudo-precocious puberty and incomplete (partial) precocious puberty. The three causes are identified in Table 31-1, and the differential diagnosis is shown in Table 31-2.

Table 31-1 Differential Causes of True, Pseudo- and Partial Precocious Puberty

True Precocious Puberty	Pseudo-Precocious Puberty	Incomplete (Partial) Precocious Puberty
1. Idiopathic 2. Central nervous system disease: hypothalamic hamartoma, arachnoid cyst, intracranial tumor, viral encephalitis, tuberculous meningitis 3. Primary hypothyreosis	1. Gonadal tumor: ovarian cyst, theca type of ovarian granulosa cell tumor, Leydig's cell tumor 2. Adrenal gland diseases: congenital or acquired adrenocortical hyperplasia, adrenocortical tumor 3. Ectopic secreting gonadotropin hormone tumor 4. Exogenous gonadal hormone 5. McCune-Albright syndrome 6. Familial Testotoxicosis	1. Premature thelarche (simple development of breasts) 2. Premature pubarche (simple development of sexual hair)

Table 31-2 Differential Diagnosis of Three Type of Precocious Puberty

	True Precocious Puberty	Pseudo-Precocious Puberty	Incomplete (Partial) Precocious Puberty	
			Premature Thelarche	Premature Pubarche
Clinical Manifestations	Early breast development, increased vaginal discharge, pubic hair, menstruation onset, & axillary hair. Boys have enlarged penis & testicles, erections, pubic hair, acne & a low deep voice, possibly mature sperm & nocturnal emissions, physically stronger than normal boys of same age	Irregular vaginal bleeding is discordant with breast development in girls & volume of testes is discordant with boys' age. Unilateral enlargement of testes or ovaries.	Manifestation of partial precocious puberty in girls, occurs commonly under 2 years old & with mild breast development with periodical changes	Special type of precocious puberty, commonly in 6 yr old boys & girls. Pubic & axillary hair, no other sex characteristics, gonadal development or virilism
Gonadotropin-Releasing Hormone (GnRH) Stimulation Test	Peak value of luteinizing hormone (LH): girls > 12 IU/L, boys > 25 IU/L; peak value of LH/FSH > 0.6-1.0	Decrease in gonadotropin-releasing hormone (GnRH) No changes of follicle-stimulating hormone (FSH) or luteinizing hormone (LH) in LHRH stimulation test	Increase of peak value in follicle-stimulating hormone (FSH)	Increased peak value in follicle-stimulating hormone (FSH)
Increase of Gonadal Volume	B type ultrasonography shows ovary volume > 1 ml, with follicles > 4 mm diameter; boys' testes volume > 4 ml, progressively increasing	Gonadal volume increasing in children with gonadal tumor.	No	No
Abnormal Osseous Maturation	Osseous maturation is advanced for age ≥ 1 year	No	No	Light

After excluding organic causes, children with functional or idiopathic precocious puberty should adopt TCM treatment according to the principles of pattern differentiation, or integrated traditional and Western medicine treatment as early as possible.

The treatment for pseudo-precocious puberty is to first focus on the primary condition.



[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

In precocious puberty, the main symptom is an advanced appearance of secondary sexual characteristics. Deficiency and excess patterns should be first differentiated.

The deficiency pattern lies in kidney yin insufficiency manifesting with tidal fever, night sweats and vexing heat in chest, palms and soles. The tongue is red with little coating, and the pulse is thready and rapid.

The excess pattern lies in liver constraint transforming into fire, manifesting with irritability, chest oppression and sighing. The tongue is red with a yellow coating, and the pulse is wiry, thready and rapid.

► Treatment Principles

The basic principle of treatment is to harmonize yin and yang. For yin deficiency resulting in exuberant fire, enrich yin and drain fire. For liver constraint transforming into fire, soothe the liver, resolve constraint, clear heat, and drain dampness in order to balance yin and yang, control the *chong* and *ren mai*, and harmonize qi and blood.

► Classification of Patterns and Treatments

Yin Deficiency Resulting in Effulgent Fire

Signs and Symptoms

Girls have advanced development of the breasts and genitalia followed by the onset of menarche. Boys have enlarged genitals, a low deep voice and erections accompanied by malar flash, tidal fever, night sweats, dizziness, and vexing heat in the chest, palms and soles. The tongue is red with little coating, and the pulse is thready and rapid.

Pattern Differentiation

This is the most common clinical pattern which results from yin-yang disharmony, kidney yin deficiency and ministerial fire hyperactivity. In addition to the early appearance of secondary sexual characteristics, there are also signs and symptoms of yin deficiency resulting in exuberant fire.

Treatment Principles

Harmonize yin and yang, enrich yin and drain fire.

Formula

Modified *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill

知母	zhī mǔ	Rhizoma Anemarrhenae
生地	shēng dì	Radix Rehmanniae
玄参	xuán shēn	Radix Scrophulariae
龟板	guī bǎn	Plastrum Testudinis
山药	shān yào	Rhizoma Dioscoreae
黄柏	huáng bǎi	Cortex Phellodendri Chinensis
龙胆草	lóng dǎn cǎo	Radix et Rhizoma Gentianae

牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
茯苓	<i>fú líng</i>	Poria

Formula Analysis

Zhī mǔ (Rhizoma Anemarrhenae), *shēng dì* (Radix Rehmanniae), *xuán shēn* (Radix Scrophulariae), *guī bǎn* (Plastrum Testudinis) and *shān yào* (Rhizoma Dioscoreae) enrich and supplement kidney yin.

Huáng bǎi (Cortex Phellodendri Chinensis), *lóng dǎn cǎo* (Radix et Rhizoma Gentianae) and *mǔ dān pí* (Cortex Moutan) clear heat and drain fire.

Zé xiè (Rhizoma Alismatis) and *fú líng* (Poria) fortify the spleen and enrich the kidney.

Modifications

For vexing heat in chest, palms and soles, add *zhú yè* (Folium Phyllostachydis Henonis) and *lián zǐ xīn* (Plumula Nelumbinis).

For tidal fever and night sweating, add *dì gǔ pí* (Cortex Lycii), *bái wēi* (Radix et Rhizoma Cynanchi Atrati) and *wǔ wèi zǐ* (Fructus Schisandrae Chinensis).

For increased vaginal discharge, add *chūn bái pí* (Cortex Toonae Sinensis Radicis) and *qiàn shí* (Semen Euryales).

For vaginal bleeding, add *hàn lián cǎo* (Herba Ecliptae) and *xiān hè cǎo* (Herba Agrimoniae).

Chinese Patent Medicines

a. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill

3-4.5 g, twice daily.

b. *Dà Bǔ Yīn Wán*—Major Yin-Supplementing Pill

3-4.5 g, twice daily.

Liver Constraint Transforming into Fire

Signs and Symptoms

Girls have advanced development of the breasts and genitalia followed by the onset of menstruation, as well as foul-smelling yellow and white vaginal discharges. Boys have enlarged genitals, a low deep voice, and erections with ejaculation. There is acne, chest oppression or breast pain, irritability, belching and sighing. The tongue is red with a yellow coating, and the pulse is wiry, thready and rapid.

Pattern Differentiation

This pattern is caused by liver channel stagnation transforming into fire. Aside from advanced secondary sexual characteristics, there is oppression in chest or distending pain in breasts, belching, sighing, and irritability.

Treatment Principles

Harmonize yin and yang, soothe the liver, and drain fire.

Formula

Modified *Dān Zhī Xiāo Yáo Sǎn*—Cortex and Gardenia Free-Wanderer Powder

柴胡	<i>chái hú</i>	Radix Bupleuri
枳壳	<i>zhǐ qiào</i>	Fructus Aurantii
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan

栀子	<i>zhī zǐ</i>	Fructus Gardeniae
龙胆草	<i>lóng dǎn cǎo</i>	Radix et Rhizoma Gentianae
夏枯草	<i>xià kū cǎo</i>	Spica Prunellae
生地黄	<i>shēng dì</i>	Radix Rehmanniae
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Chái hú (Radix Bupleuri) and *zhī qiào* (Fructus Aurantii) soothe the liver and resolve constraint.

Mǔ dān pí (Cortex Moutan) and *zhī zǐ* (Fructus Gardeniae) clear latent fire from the blood level.

Lóng dǎn cǎo (Radix et Rhizoma Gentianae) and *xià kū cǎo* (Spica Prunellae) clear excess liver channel fire and drain lower *jiao* damp-heat.

Shēng dì (Radix Rehmanniae), *dāng guī* (Radix Angelicae Sinensis) and *bái sháo* (Radix Paeoniae Alba) nourish yin and harmonize blood to restrain liver fire and dispel pathogenic factors without injuring *wei qi*.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For distending breast pain, add *xiāng fù* (Rhizoma Cyperi), *yù jīn* (Radix Curcumae) and *guā lóu pí* (Pericarpium Trichosanthis).

For foul-smelling yellow leukorrhea, add *huáng bǎi* (Cortex Phellodendri Chinensis). *Lóng dǎn cǎo* (Radix et Rhizoma Gentianae) should be added gradually in small dosages to avoid damage to stomach *qi*.

Chinese Patent Medicines

a. *Dān Zhī Xiāo Yáo Wán*—Cortex and Gardenia Free Wanderer Pill

3-6 g twice daily, for liver constraint transforming into fire.

b. *Lóng Dǎn Xiè Gān Wán*—Gentian Liver-Draining Pill

3-6 g twice daily, for liver constraint transforming into fire with exuberant fire.

Phlegm-Damp Obstruction

Signs and Symptoms

Girls have advanced breast and genital development followed by the onset of menstruation as well as yellow and white foul-smelling vaginal discharges. Boys have enlarged genitals and a low deep voice, acne, erections, ejaculation, and dry stools. The tongue is enlarged and/or with a thick greasy coating, and the pulse is wiry and slippery or soggy. These patients usually eat a rich greasy and sweet diet, are overweight, and seldom engage in physical activity.

Pattern Differentiation

This pattern is usually seen in children with obesity and may be seen in partial, exogenous, precocious pseudo puberty. The syndrome is due to spleen deficiency and damp exuberance, with the accumulated dampness transforming into phlegm. As well as

with advanced secondary sexual characteristics, they present with obesity and dry stools, seldom engaging in physical activities. The tongue may be enlarged with a thick greasy coating.

Treatment Principles

Harmonize yin and yang, fortify the spleen, and dissolve phlegm.

Formula

Modified *Huà Tán Sàn Jié Fāng*—Phlegm-Dissolving Mass-Dissipating Decoction

茯苓	<i>fú líng</i>	Poria
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
浙贝母	<i>zhè bèi mǔ</i>	Bulbus Fritillariae Thunbergii
生牡蛎	<i>shēng mǔ lì</i>	Concha Ostreae
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
黄柏	<i>huáng bǎi</i>	Cortex Phellodendri Chinensis
玄参	<i>xuán shēn</i>	Radix Scrophulariae
穿山甲	<i>chuān shān jiǎ</i>	Squama Manitis
莪术	<i>é zhú</i>	Rhizoma Curcumae
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
生麦芽	<i>shēng mài yá</i>	Fructus Hordei Germinatus

Formula Analysis

Fú líng (Poria) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) fortify the spleen.

Zhè bèi mǔ (Bulbus Fritillariae Thunbergii) and *shēng mǔ lì* (Concha Ostreae) dissolve phlegm, clear fire, and dissipate masses.

Zhī mǔ (Rhizoma Anemarrhenae), *huáng bǎi* (Cortex Phellodendri Chinensis) and *xuán shēn* (Radix Scrophulariae) enrich yin and reduce fire.

Chuān shān jiǎ (Squama Manitis), *é zhú* (Rhizoma Curcumae) and *mǔ dān pí* (Cortex Moutan) rectify qi, invigorate blood, and dissolve stasis.

Shēng mài yá (Fructus Hordei Germinatus) dissipates masses and relieves swelling.

Modifications

For distending breast pain and irritability, add *xià kū cǎo* (Spica Prunellae) and *guā lóu pí* (Pericarpium Trichosanthis).

For watery leukorrhea, add *cāng zhú* (Rhizoma Atractylodis) and *yì yǐ rén* (Semen Coicis).

For yellow foul-smelling leukorrhea, add *huáng bǎi* (Cortex Phellodendri Chinensis) and *lóng dǎn cǎo* (Radix et Rhizoma Gentianae).

[WESTERN MEDICINE THERAPIES]

For severe or longstanding cases:

1. Gonadotropin-releasing hormone analogue (GnRHa): long-acting preparations are commonly used, 0.1 mg/kg once every 4 weeks by intramuscular injection.



2. Medroxyprogesterone acetate: for girls with precocious puberty, 10-30 mg/day. When the effect appears, maintain reduced dosages.
3. Cyproterone: 70-150 mg/m²/day. This drug has a strong inhibitory effect on sexual development and has fewer side effects.
4. Surgical treatment: If precocious puberty is caused by tumors, surgical excision should be carried out as early as possible.

[PREVENTION AND NURSING CARE]

1. PREVENTION

1. Pay attention to proper nutrition. Appropriate nutritional needs must be met with care being taken not to eat foods containing high levels of growth hormones, especially poultry necks or out of season vegetables and fruits, and fried foods. Excessive thermal energy in children's bodies can convert into redundant fat, also causing endocrine disorders.

Supplementing medicinals such as *Rén Shēn Fēng Huáng Jiāng*—Ginseng Royal Jelly, *lù róng* (Cornu Cervi Pantotrichum), fresh placenta, *huā fēn* (Radix Trichosanthis) and the like also need to be avoided.

2. Advise children not to take medicine randomly, and to avoid contraceptive drugs.
3. Children should avoid skin care products containing hormones.
4. Observe growth and development to detect early signs of abnormal development. Eliminate psychological concerns to reduce stress levels.

2. NURSING CARE

1. Pay attention to the child's state of mind to foster confidence in continued treatment.
2. Avoid exposing these children to unsupportive environments to reduce the psychological burden and protect them from aggressive or destructive behavior.
3. Maintain a light diet.
4. Maintain a regular lifestyle.

[CASE STUDIES]

► Case #1. Female, age 9 . Initial Visit: 6/13/2006

Patient reported mammoplasia, pubic hair growth and leukorrhea for one year. Type-B ultrasonography showed a slightly enlarged uterus. She had been previously diagnosed with precocious puberty in a children's hospital.

Current symptoms included a sallow complexion, poor appetite, no desire to speak, irritability, poor sleep with profuse dreaming, distending breast pain and increased vaginal discharges. She had an enlarged tongue with greasy white coating and a wiry, small and slippery pulse.

The pattern here is spleen deficiency with internal dampness, liver failure to govern the free flow of qi, and yin-yang disharmony. Therapeutic methods are to fortify the spleen and resolve dampness, soothe the liver and clear heat, and harmonize yin and yang.

Formula:

桂枝	<i>guì zhī</i>	6 g	Ramulus Cinnamomi
白芍	<i>bái sháo</i>	6 g	Radix Paeoniae Alba
大枣	<i>dà zǎo</i>	2 pieces	Fructus Jujubae
炙甘草	<i>zhì gān cǎo</i>	6 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
煅龙骨	<i>duàn lóng gǔ</i>	15 g	Os Draconis (calcined)
煅牡蛎	<i>duàn mǔ lì</i>	15 g	Concha Ostreae (calcined)
党参	<i>dǎng shēn</i>	6 g	Radix Codonopsis
白术	<i>bái zhú</i>	15 g	Rhizoma Atractylodis Macrocephalae
生山药	<i>shēng shān yào</i>	10 g	Rhizoma Dioscoreae (raw)
防风	<i>fáng fēng</i>	6 g	Radix Saposhnikoviae
苍术	<i>cāng zhú</i>	6 g	Rhizoma Atractylodis
川楝子	<i>chuān liàn zǐ</i>	6 g	Fructus Toosendan
延胡索	<i>yán hú suǒ</i>	6 g	Rhizoma Corydalis
藿香	<i>huò xiāng</i>	6 g	Herba Agastachis
白芷	<i>bái zhǐ</i>	6 g	Radix Angelicae Dahuricae
焦神曲	<i>jiāo shén qū</i>	18 g	Massa Medicata Fermentata (scorch-fried)
焦山楂	<i>jiāo shān zhā</i>	18 g	Fructus Crataegi (scorch-fried)
焦麦芽	<i>jiāo mài yá</i>	18 g	Fructus Hordei Germinatus (scorch-fried)
鸡内金	<i>jī nèi jīn</i>	6 g	Endothelium Corneum Gigeriae Galli

7 doses for 7 days.

At the second visit, she was sleeping better, her appetite had gradually increased, the distending breast pain was alleviated, and the leukorrhea had almost disappeared. She was still occasionally irritable. The greasy tongue coating was dispelling gradually, and her pulse was small and wiry.

Jiāo shén qū (scorch-fried Massa Medicata Fermentata), *jiāo shān zhā* (scorch-fried Fructus Crataegi), *jiāo mài yá* (scorch-fried Fructus Hordei Germinatus) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) were omitted from the formula, and 6 g of *huáng bǎi* (Cortex Phellodendri Chinensis) was added. After another 14 doses, all symptoms had resolved ^[5].

(Bai JW. 4 Cases of Liang Ping-mao's Medical Records on Treating Endocrine Diseases [J]. Shanghai Journal of Traditional Chinese Medicine, 2008; 42(1): 15-16.)

Analysis

In this case, the patient had spleen deficiency with internal dampness, liver failure to govern the free flow of qi, and yin-yang disharmony.

Guì Zhī Jiā Lóng Gǔ Mǔ Lì Tāng—Cinnamon Twig Decoction Plus Dragon Bone and Oyster Shell was mainly used to harmonize yin and yang.

Personal Standards for the 'Essentials from the Golden Cabinet' (Jīn Guì Yào Lüè Xīn Diǎn) states: “*Guì Zhī Tāng*—Cinnamon Twig Decoction can be used to release the flesh and dispel pathogens for an exterior pattern, while supplementing deficiency and harmonizing yin and yang for an interior pattern; add *lóng gǔ* (Os Draconis) and *mǔ lì* (Concha Ostreae) to astringe the floating of yang”

If yin and yang are in harmony, floating yang remains inside; sleeping will be restful, appetite gradually improves, and irritability is greatly improved.

Calcined *lóng gǔ* (Os Draconis) and *mǔ lì* (Concha Ostreae) act to check leukorrhea.

Jiāo shén qū (scorch-fried Massa Medicata Fermentata), *jiāo shān zhā* (scorch-fried Fructus Crataegi), *jiāo mài yá* (scorch-fried Fructus Hordei Germinatus) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) activate the spleen.

Huò xiāng (Herba Agastachis) awakens the spleen and harmonizes the middle *jiao*.

Bái zhú (Rhizoma Atractylodis Macrocephalae), *shēng shān yào* (raw Rhizoma Dioscoreae), *fáng fēng* (Radix Saposhnikoviae) and *cāng zhú* (Rhizoma Atractylodis) are used (as in *Wán Dài Tāng*—Discharge-Ceasing Decoction) to fortify the spleen and dissolve dampness so that the leukorrhea stops naturally.

Chuān liàn zǐ (Fructus Toosendan) and *yán hú suǒ* (Rhizoma Corydalis) soothe the liver and clear heat.

Bái zhǐ (Radix Angelicae Dahuricae) guides the effects of the other herbs to the *yangming* channels to eliminate distending breast pain.

6 g *huáng bǎi* (Cortex Phellodendri Chinensis) was added after the second visit to lead the dragon (ministerial fire) to the sea (kidney), also helping *lóng gǔ* (Os Draconis) and *mǔ lì* (Concha Ostreae) to subdue and tranquilize.

► Case #2. Female, age 6. Initial Visit: Sept. 2003

Upon physical examination, her weight was 35 kg and height was 115 cm, and she had distinctly developed, slightly bulging breasts with areola pigmentation and tenderness along with increased vaginal secretions. During the previous two months, she was vexed and irritable, experiencing irregular bleeding twice with an interval of 20-25 days. The volume of bleeding was about 60-80 ml each time. Abdominal type-B ultrasonography showed uterine enlargement. The tongue was red on the sides and tip with a yellow coating. Her pulse was thready and rapid.

The pattern here is liver failure to govern the free flow of qi and liver qi constraint transforming into fire. The treatment principle is to soothe the liver, resolve constraint, clear heat, and drain heart fire.

Formula

牡丹皮	<i>mǔ dān pí</i>	6 g	Cortex Moutan
梔子	<i>zhī zǐ</i>	5 g	Fructus Gardeniae
白芍	<i>bái sháo</i>	10 g	Radix Paeoniae Alba
柴胡	<i>chái hú</i>	5 g	Radix Bupleuri
郁金	<i>yù jīn</i>	10 g	Radix Curcumae
龙胆草	<i>lóng dǎn cǎo</i>	10 g	Radix et Rhizoma Gentianae

夏枯草	<i>xià kū cǎo</i>	10 g	Spica Prunellae
旱莲草	<i>hàn lián cǎo</i>	10 g	Herba Ecliptae
茜草	<i>qiàn cǎo</i>	10 g	Radix et Rhizoma Rubiae

3 doses for 3 days.

After 3 doses, her vaginal bleeding stopped.

After taking the original formula with *qiàn cǎo* (Radix et Rhizoma Rubiae) omitted for another 2 weeks, all symptoms disappeared. A one-year follow-up showed normal growth and development^[6].

Analysis

In females, the liver involves congenital endowment. The liver channel passes the pudendum, reaches the lesser abdomen, and distributes bilaterally in the rib-sides. If kidney yin is deficient, water cannot moisten wood, and flourishing liver-fire scorches fluids which then transform into phlegm. Phlegm accumulates in the upper, thus the breast nucleus enlarges with distending pain; as phlegm flows downward, sticky leukorrhea appears. Therefore, kidney yin-yang disharmony is the root of the disease, and the flourishing liver-fire, phlegm-damp obstruction and the sea of blood fluctuation comprise the branch. The above formula achieved effective results through treating the root and branch simultaneously.

Source: Yuan L. Clinical Observation of Therapeutic Principles and Methods of Pattern Differentiation of Sexual Precocity in Girls [J]. Jiangxi Journal of Traditional Chinese Medicine, 2006; 37(3): 36-37.

[QUESTIONS]

1. A 6-year-old girl presents with vaginal bleeding for one week. The physical examination found enlarged breasts, deepened areola, tenderness, and genital pigmentation accompanied by malar flash, tidal fever, night sweats, dizziness and vexing heat in chest, palms and soles. Her tongue is red with little coating. Her pulse is thready and rapid.

What is the correct pattern?

- A. Liver constraint transforming into fire
- B. Damp-heat pouring downward
- C. Insufficiency of middle qi
- D. Yin deficiency resulting in effulgent fire
- E. Ascendant hyperactivity of liver yang

2. A 6-year-old girl with vaginal bleeding for two days.

Physical examination found both breasts budding with a palpable mass. She presented with malar flush, tidal fever, night sweats, dizziness and vexing heat in the chest, palms and soles. The tongue was red with little coating. The pulse was thready and rapid.

Which is the first choice of formula?

- A. *Suō Quán Wán*—Stream-Reducing Pill
- B. *Sì Jūn Zǐ Tāng*—Four Gentlemen Decoction
- C. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill
- D. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill
- E. *Bǔ Zhōng Yì Qì Tāng*—Center-Supplementing and Qi-Boosting Decoction



3. An 8-year-old boy presented with an enlarged penis and testicles, which had developed over the past six months. His voice had become lower, he had facial acne, penile erections and ejaculations, with chest tightness and discomfort, vexation and irritability, belching and sighing. His tongue was red with yellow coating. His pulse was wiry, thready and slippery.

Which formula is the first choice?

- A. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill
- B. *Jì Shēng Shèn Qì Wán*—Life-Saving Kidney Qi Pill
- C. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill
- D. *Dān Zhī Xiāo Yáo Sǎn*—Cortex Moutan and Fructus Gardeniae Free Wanderer Powder
- E. *Dǎo Chì Sǎn*—Red Guiding Powder

4. An 8-year-old girl presents with occasional yellow sticky leukorrhea for one month. The previous day she began menstruating with a scanty red flow. Her tongue was red with a yellow and greasy coating. Her pulse was wiry.

Which therapeutic method should be used?

- A. Warm and supplement the spleen and kidney
- B. Clear and drain heart fire
- C. Clear heat and drain dampness
- D. Promote urination
- E. Enrich yin and reduce fire

5. A 3 and half year-old girl presents with enlarged tender breasts for 3 months and increased leukorrhea. Her intelligence is normal. The diameter of each breast was 2 cm, and there is pigmentation around the genitals. Her tongue is red with thin yellow coating, and the pulse is slippery. Urinary follicle-stimulating hormone levels are more than 13.2 mouse uterine unite, 24-hour urinary estrogen at 8.01 μg . Vaginal smears show 30% keratinocytes and 26% eosine cells, suggesting that estrogen levels are significantly elevated.

What is the most important sign for making a diagnosis of precocious puberty?

- A. Secondary sexual characteristics appearing in advance.
- B. Physically stronger than normal children of same age.
- C. Appearance of acne and lower, deeper voice.
- D. Growth acceleration and advanced bone development.
- E. X-ray showing posterior-anterior wrist bone has advanced osseous maturation, older than the actual age and in accordance with sexual maturation.

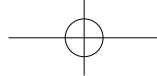
[REFERENCES]

- [1] Huang FS, Qiu CL, Chen YY. Report of Investigation and Analysis on Children's Sexual Precocity by TCM Theory [J]. International Medicine & Health Guidance News, 2007; 13(1): 12.
- [2] Wang ZR, Gu HJ. Using Chinese Medicines of Enrich Yin and Subdue Fire to Treat 30 Girls with True Precocious Puberty [J]. Tianjin Medical Journal, 2004; 32(7): 452-453.
- [3] Shi YM, Yu J. Using Method of Enrich Yin and Drain Fire to Treat 90 Cases with True Precocious Puberty [J]. Shanghai Journal of Traditional Chinese Medicine, 1997; (7): 2.
- [4] Zhao J, Yu JE, Zhu MH, et al. Clinical Observation on Treating 150 Girls with True Precocious Puberty by *Kàng Zǎo Èr Hào* [J]. Acta Universitatis Traditionis Medicalis Sinensis Pharmacologiaeque Shanghai, 2005; 19(1): 15-16.
- [5] Bai JW. 4 Cases of Liang PM Medical Records on Treating Endocrine Diseases [J]. Shanghai Journal of



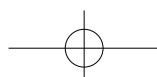
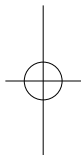
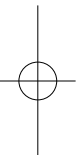
Traditional Chinese Medicine, 2008; 42(1): 15-16.

- [6] Yuan L. Clinical Observation and Therapeutic Principles and Methods Depend on Pattern Differentiation of Sexual Precocity of Girls [J]. Jiangxi Journal of Traditional Chinese Medicine, 2006; 37(3): 36-37.



Part VI

Infectious Diseases



Chapter 32

Measles (*Má Zhěn*)

Measles (*má zhěn*) is an acute infectious disease caused by the measles virus. It is characterized by fever, cough, tearing, nasal congestion and discharge, Koplik's spots on the buccal mucosa, and red maculopapular rashes. The rash looks like small grains of sand that spread in an orderly pattern over the whole body, from the neck to the trunk. In Western medicine, this condition is also called rubeola or morbilli.

Measles is a common childhood infectious disease, and although an effective vaccine has been available over the past forty years, in certain countries, measles remains a major cause of death in infants and toddlers due to the scarcity of available vaccines.

Measles caused 0.242 million deaths in 2006, the majority being children. In developing countries, the mortality rate of measles is between 1% and 5%, but can rise to 25% in people who are severely malnourished or receive insufficient health care. Forty-seven countries with a combined global measles mortality of 95% are listed as priority targets in the *Global Plans for Reducing Measles Mortality 2006-2010* (a joint statement by the WHO and UNICEF).

In May 2005, at the 58th World Health Assembly, the *Global Immunization Vision and Strategy* was passed unanimously by the WHO and UNICEF; the plan aims for each country to reduce the number of deaths in 2010 from their year 2000 statistics by 90% ^[1].

While measles outbreaks can occur year-round, they are more prevalent in the winter and spring seasons, with a higher incidence in children from the ages of 6 months to 5 years. In countries and regions where vaccinations have been available, measles tends to occur most in adults and infants under 6 months old, with increasing numbers of atypical cases.

Favorable and unfavorable patterns should be differentiated in measles; a favorable pattern with a good prognosis is characterized by smooth eruptions and fading maculopapular rashes. The majority of cases are in this category. An unfavorable pattern is characterized by variable eruptions, i.e. rashes that appear abruptly or vanish suddenly, or appear or disappear irregularly, or appear without order. Such cases tend to have complications, which include the measles toxin blocking the lung, heat-toxin attacking the throat, and pathogenic qi invading the heart and liver. Children suffering from measles with complications are in a severe and life-threatening condition.

TCM has a rich empirical success in the treatment of measles. For example, Tang JP et al. applied *Xuān Dú Fā Biǎo Tāng* in 60 children with measles and compared them with 20 cases treated with Western medicine alone. They found that the Chinese herbal medicine group was significantly superior to the Western medicine group ($P < 0.01$) in the time that it took to lower the body temperature and for the rash to completely erupt and then disappear ^[2].

Du J et al. randomly allocated 167 cases of children with measles into two groups, a Chinese herbal medicine group and a standard care group; the standard care group (n = 82) entailed isolation, routine care, anti-infection medications and relevant supporting treatment.

Chinese herbal medicine consisted of stage-specific treatments for the initial fever,

rash eruption and recovery. They reported that the average time for the body temperature to reduce and the length of the hospital stay were both significantly shorter in the Chinese herbal medicine group ($P < 0.01$). Moreover, the Chinese herbal medicine group experienced a faster recovery of liver function and cardiac enzymes than the control group ($P < 0.05$) and also had fewer complications ($P < 0.01$).^[3]

[ETIOLOGY & PATHOMECHANISM]

Measles mainly affects the lung and spleen, and there are both favorable and unfavorable patterns. The former occurs because the healthy qi is strong enough to resist and expel pathogenic qi, and resolve the condition.

In *Standards for Diagnosis and Treatment—Pediatrics* (Zhèng Zhì Zhǔn Shéng—Yòu Kē), favorable patterns of measles were divided into the “initial fever stage”, “eruption stage” and “recovery stage”. Unfavorable patterns occur because the healthy qi cannot resist the pathogenic qi and consequently, excess pathogenic qi invades deeply into the body, exacerbating the condition.

► Favorable Patterns

1. INITIAL FEVER STAGE

Pathogenic Qi Attacking Lung-Wei, Lung Qi Failing to Disperse

The lung is situated in the upper *jiao*, associated with the skin and hair, and opens to the nose. The measles pathogen is yang in nature and so intrudes into the yang aspects of the body through the mouth and nose. The lung-defense qi is first attacked, causing the lung qi to fail to diffuse. The obstructed defensive-yang causes a fever with aversion to cold and failure of lung qi to diffuse; obstruction of the orifices leads to cough and nasal discharge.

The liver opens to the eyes, so when lung-heat transmits to the liver, symptoms such as red eyes with profuse tears and photophobia will occur.

Toxins in the spleen cause Koplik's spots to appear on the buccal mucosa; this stage occurs before the eruption stage.

2. ERUPTION STAGE

Toxins Accumulating in the Lung and Spleen, Healthy Qi Expelling Pathogenic Qi

The lung governs the skin and hair and belongs to the hand *taiyin* channel. The spleen governs the limbs and muscles and belongs to the foot *taiyin* channel. The *taiyin* channel has an exterior-interior relationship with the *yangming* channel. In addition, the hand *taiyin* lung channel connects with the hand *yangming* large intestine channel and the foot *yangming* stomach channel, then reaching the foot *taiyin* spleen channel.

If the measles toxin is not expelled by lung-wei, it will then enter the interior and transform into heat. It transmits from *taiyin* to *yangming*, from the lung to the stomach, then to the spleen, finally stagnating in the lung and spleen where the healthy qi fights against the pathogenic qi; this leading to excessive heat in the qi level.

The manifestations include a long-lasting high fever, dysphoria, thirst with a desire to drink, and frequent coughing. When healthy qi fights vigorously against the pathogenic qi, the excess heat pathogen invades inwardly to the nutrient level, while the healthy qi tries

to expel the pathogenic qi and the toxin erupts out of the skin leading to red, rough, small sand-grain like rashes. They first appear on the neck and nape, then on the head, face, chest and back, finally reaching the four limbs, palms and soles. This is the eruption stage.

3. RECOVERY STAGE

Pathogenic Qi Retreating with Deficient Healthy Qi and Consumed Qi and Yin

Once the toxin has cleared following the rash eruption, the pathogenic qi is weakened and retreats gradually, manifesting as the disappearance of the maculopapules, desquamation of the skin, lessened fever with reduced cough, calmer pulse and cool body. This is the recovery stage.

However, healthy qi has been consumed and yin qi is insufficient due to the pathogenic heat steaming for some days. Children with insufficient yin in the lung and stomach present with a tidal fever, night sweating, hot feeling in the palms and soles, dry cough or cough with little phlegm, thirst, dry throat and a red tongue with little coating. Children with insufficient yang qi in the lung and spleen present with a pale complexion with low spirit, shortness of breath, no desire to speak, lack of strength, spontaneous sweating and a poor appetite.

► Unfavorable Patterns

Pathogenic Toxin Blocking the Lung, Complicated with Pneumonia

The lung is a delicate *zang* organ and governs the diffusing and descent of qi. It is also the upper source of water. When the measles toxin is severe, treatment is delayed or wrongly prescribed, or the condition is complicated with other external pathogens during the eruption stage leading to the failure of the rashes to erupt, the healthy qi will be unable to resist the pathogenic qi to expel the pathogenic toxin. Consequently, the toxin remains internally, obstructing the lung, transforming into heat and condensing the fluids into phlegm. The combined phlegm and heat obstructs the airways and causes the lung qi to fail to diffuse and descend, bringing about coughing, shortness of breath, accumulation of phlegm, flaring nostrils and fever. This is called pathogenic toxin blocking the lung, complicated with pneumonia. In severe cases, sweating, cold limbs, dyspnea, dysphoria, restlessness, faint, thready, rapid pulses and cyanotic lips and nails may occur due to deficiency of heart yang or the collapse of yang qi.

Pathogenic Toxin Attacking the Throat, Complicated with Laryngopharyngitis

The pharynx belongs to the stomach system, controls swallowing and functions as a channel for respiration. The larynx belongs to the lung system, controls vocalisation and regulates respiration. If the measles toxin is not relieved through the exterior, it will accumulate in the lung and stomach, transform into fire and create phlegm. Combined phlegm and fire travels upwards along the channel and attacks the throat, causing sore throat, difficulty swallowing, whooping cough and rattling throat noises. This is the pattern of pathogenic toxins attacking the throat. If congestion of phlegm and fire obstructs the air passages and blocks the lung qi, it may cause disturbed qi movement, leading to a life threatening situation.

Pathogens Invading the Heart and Liver, Complicated with Encephalitis

The heart is the house of bright spirit; the liver is viscus of wind and wood. Pathogenic qi may invade inwardly into the nutrient and blood levels and to the heart and liver, if the

pathogenic qi is strong, healthy qi is weak, or treatment or care is incorrect. Extreme heat toxins will then produce wind, causing the symptoms of upwardly staring eyes, lockjaw, stiff neck and nape and convulsions; or block the heart spirit leading to dysphoria, high fever, mental confusion, delirious speech and even coma.

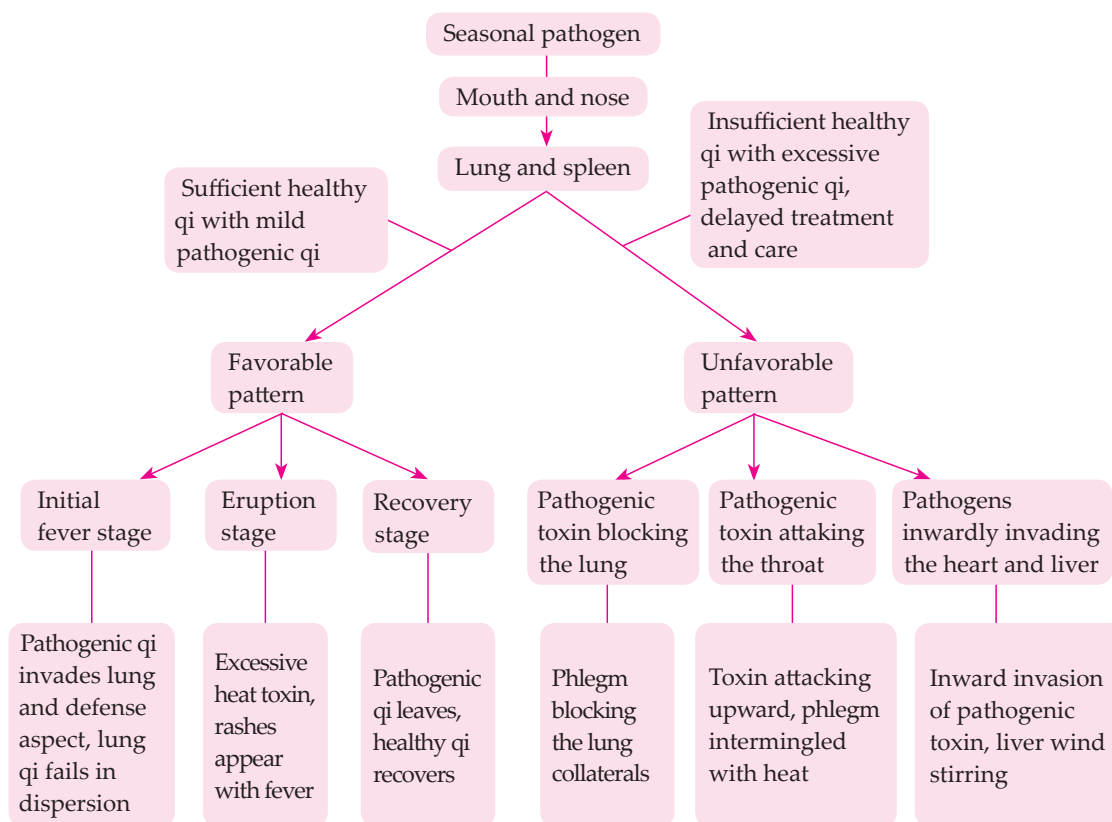


Fig. 32-1 Etiology and Pathomechanisms of the Measles Toxin.

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

1. Measles highly prevalent in spring and winter

Children aged six months to five years are susceptible and often have a history of being exposed to measles. The incubation period is 10-14 days and may extend to 3-4 weeks in those that have active or passive immunization.

2. Clinical manifestations typically classified into three stages

(1) Pre-Eruption Stage (Initial Fever Stage).

This stage lasts for two to four days with clinical manifestations of fever, conjunctival hyperemia, photophobia, tearing, nasal discharge, sneezing, cough and other catarrhal symptoms. Multiple white macular lesions 0.5-1 mm in diameter with red areolae (Koplik's spots) are seen bilaterally on the buccal mucosa. Patients also present with listlessness, poor appetite, diarrhea and vomiting.



(2) Eruption Stage

This stage lasts from three to five days. The measles rash appears 3 days after the fever starts, beginning behind the ears or hairline, then gradually spreads over the face, neck and trunk, and the entire body within 2-3 days, finally to the palms, soles and nose tip. It is first seen as a red maculopapular rash, ranging from 2-5 mm in diameter. As the rash increases, its color deepens and forms become irregular, while the skin between the rashes looks normal.

In severe cases, unfavorable patterns may occur, leading to syndromes of pathogenic toxin blocking the lung, pathogenic toxin attacking the throat, or pathogens invading the heart and liver.

(3) Recovery Stage

Three to four days after the rash eruption, the fever begins to recede and the patient's general health improves. The rashes fade in the same sequence in which they appeared, leaving skin desquamation and discoloration. The rashes will disappear completely within 2-3 weeks.

3. Routine blood examination

The white blood cell count tends to decrease or remain normal with an increase in lymphocytes.

4. During the initial fever stage, multinucleated giant cells in buccal mucosa smears or nasal mucosa smears are helpful for diagnosis.

The positive rate peaks from 2 days prior to 1 day after eruption.

5. Detection of measles antibodies

If serum measles antibodies increase more than 160 times between the initial and recovery stages, or if the antibody-efficacy ratio increases by four times over the two stages, then measles is confirmed.

► Differential Diagnosis

Measles should be differentiated with roseola infantum, rubella and scarlet fever. A comparison of the four diseases is listed in Table 32-1.

Table 32-1 Differential Diagnosis

Disease Name	Measles	Roseola Infantum	Rubella	Scarlet fever
Incubation Period	6-21 days	7-17 days	5-25 days	1-7 days
Symptoms: Initial Fever Stage	Fever, cough, tearing, increased nasal discharge	Abrupt high fever with good general health	Fever, cough, increased nasal discharge, swollen cervical lymph nodes	Fever, red, swollen painful throat with pus
Fever & Rash	Rashes appear 2-3 days after fever starts, with higher temperature during eruption	Rashes appear 2-3 days after fever starts with fever receding during eruption	Rashes appear within 1/2 or 1 day of fever start	Rashes appear within few hours or 1 day after fever starts with higher temperature during eruption

Continued

Disease Name	Measles	Roseola Infantum	Rubella	Scarlet fever
Specific Signs	Koplik's spots	None	None	Strawberry tongue, pastia's lines, pale circle around mouth
Rash Features	Roseate maculopapular starts behind ear, along the hairline forehead, face, neck, trunk, four limbs. It takes 3 days for rashes to erupt completely, left with desquamation & skin discoloration	Roseate macular or maculopapular rashes are smaller than measles Eruption occurs without order. Rashes recede in 1 or 2 days after eruption without leaving pigmentation or desquamation	Roseate small maculopapular rashes start from face, trunk, four limbs and spread over rest of body within 24 hours. Rashes recede without leaving pigmentation or desquamation	Small red rashes with scarlet skin. Rashes start from neck, axillae, inguinal areas, spreads to rest of body in 2 or 3 days. Rashes recede with large areas of desquamation but without pigmentation
Blood Exam	Decreased WBC, increased lymphocytes	Decreased WBC, increased lymphocytes	Decreased WBC, increased lymphocytes	Increased WBC, increased neutrophils

Both roseola infantum and rubella are infectious viral diseases which can be effectively treated with traditional Chinese medicinals. Scarlet fever is caused by a hemolytic streptococcus infection and penicillin is the first line of treatment; Chinese medicinals can also be used.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Favorable and unfavorable patterns should be distinguished from each other (see Table 32-2). In the former, three stages should be recognized; in the latter, affected *zang* and *fu* organs should be identified. Prognosis is good with favorable patterns, but poor with unfavorable patterns.

► Treatment Principles

The primary treatment principle is to promote eruption with cooling and dispersion. For favorable patterns, promote eruption, clear heat, release the exterior, and nourish yin, applied in this sequence.

At the initial stage, use methods to diffuse the lung and promote eruption.

At the eruption stage, use methods to clear heat, remove toxins and promote eruption.

At the recovery stage, use methods to nourish yin and clear heat with sweet- and cold-natured herbs.

In summary, measles treatment principles are mainly to promote eruption and expel pathogens in combination with methods to clear heat and remove toxins.

For critical patterns, use methods to promote eruption, remove toxins and support healthy qi. For example, for inward invasion of toxin manifesting with sudden dense eruptions of dark papules, use methods to clear heat, remove toxins, cool blood, and resolve stasis.

Table 32-2 Differentiating Favorable from Unfavorable Measles Patterns

Favorable Patterns			Unfavorable Patterns		
Early Stage	Eruption Stage	Recovery Stage	Symptoms	Pneumonia	Complicated with: Laryagopharyngitis
Fever increases gradually from 38°C, often with slight sweat, dysphoria, normal sleep, cough, tearing, photophobia, and Koplik's spots in buccal mucosa near molars.	After 3 days, tidal fever appears with temperature 39-40°C, dysphoria, cough with sputum, rash starting behind the ears and along the hairline, then spreading to face, neck, chest, back, abdomen and limbs, finally reaching palms, soles and nose-tip. The rash is bright red and evenly distributed. Eruption completes within 3 days without complications.	Rash recedes in sequence of order of eruption. Fever recedes after rash vanishes. Pulse becomes calm, body cools down, cough reduces, spirit and appetite are improved. Branny desquamation & skin discoloration occur after rash recedes.	Lasting high fever occurs at early or eruption stage, without sweating with dysphoria and sudden eruption of dense dark rash; or body temperature does not rise, or fever suddenly subsides, rash erupts then disappears quickly, white or unnoticeable rash appear sparsely, with pale complexion and extremely cold limbs.	In addition, patient has cough, asthma, dysphoria, shortness of breath, rattling breathing noise, flaring nostrils, cyanotic lips, etc.	Red, swollen, painful throat, cough, shortness of breath, hoarse voice, barking cough.
					Gray complexion, unconsciousness or delirious speech, trismus neck rigidity, convulsions, extremely cold limbs, feeble pulse.

For cases without rash eruptions or with pale and sparse rashes due to weak healthy qi failing to promote eruption, use methods to replenish and uplift the middle qi.

For cases with vanishing rashes due to cold pathogens attacking the exterior, use methods to release the exterior and disperse cold.

For cases with measles toxin blocking the lung, use methods to diffuse the lung and open blockage, clear heat and remove toxin, and resolve phlegm in combination with those to promote eruption with pungent-cool herbs.

For cases with measles toxin attacking the throat, use methods to clear heat, remove toxin and relieve swelling in the throat in combination with those to remove toxin and promote eruption.

For cases with pathogens invading the heart and liver, use methods to pacify the liver and extinguish wind, clear heart and open orifices in combination with those to remove toxin and promote eruption. With heart yang collapse, first restore yang to rescue collapse and then reinforce healthy qi.

For children with unfavorable patterns, apply combined Chinese and Western treatment to enhance the therapeutic effect.

► Classification of Patterns and Treatments

1. FAVORABLE SYNDROMES

Pathogenic qi attacking lung-wei (Initial Fever Stage)

Signs and Symptoms

Manifestations include fever, cough, slight aversion to wind and cold, sneezing, nasal discharge, sore and swollen throat, red eyes, tearing, photophobia, dysphoria, crying, poor appetite, thirst, short voidings of urine and irregular bowel movements. On the 2nd or 3rd day of fever, the buccal mucosa turns red and Koplik's spots with red areolae appear near the molars. The tongue is red with a thin yellow or thin white coating, and the pulse is floating and rapid.

Pattern Differentiation

This stage lasts for three days. The key diagnostic evidence is Koplik's spots consisting of a bluish-white dot about 1mm in diameter, surrounded by a rose-red areola which appear in the patient's buccal mucosa near the molars. Patients who have had vaccinations often experience mild, atypical symptoms with a shorter course of illness.

Treatment Principles

Expel pathogens through the exterior with acrid-cool medicinals

Formula

Xuān Dú Fā Biǎo Tāng—Toxin-Diffusing Exterior-Releasing Decoction

升麻	<i>shēng má</i>	Rhizoma Cimicifugae
葛根	<i>gé gēn</i>	Radix Puerariae Lobatae
荆芥	<i>jīng jiè</i>	Herba Schizonepetae
防风	<i>fáng fēng</i>	Radix Saposhnikoviae
薄荷	<i>bò he</i>	Herba Menthae
连翘	<i>lián qiào</i>	Fructus Forsythiae

前胡	<i>qián hú</i>	Radix Peucedani
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
桔梗	<i>jié gěng</i>	Radix Platycodonis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Shēng má (Rhizoma Cimicifugae) promotes eruption and removes toxin by releasing the exterior (muscle).

Gé gēn (Radix Puerariae Lobatae) relaxes muscle, promotes eruption, and engenders fluids.

Jīng jiè (Herba Schizonepetae), *fáng fēng* (Radix Saposhnikoviae) and *bò hé* (Herba Menthae) disperse wind, release the exterior, and promote eruption.

Lián qiào (Fructus Forsythiae) clears heat and removes toxin.

Qián hú (Radix Peucedani), *niú bàng zǐ* (Fructus Arctii), *jié gěng* (Radix Platycodonis) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) diffuses the lung, benefits the throat and stops coughing.

Pathogens invading the lung and stomach (Eruption stage)

Signs and Symptoms

Manifestations include a lasting high fever, tidal fever, slight sweating, dysphoria, red eyes with discharge, and occasional coughing. Rashes rise out of the skin and are rough to touch, changing from small and sparse to dense, turning from red to dark red, fading when pressed. There can be constipation and scanty urine. The tongue is red with a yellow greasy coating, and there is a rapid forceful pulse.

Pattern Differentiation

This stage lasts for around three days from rash onset until their complete eruption, characterized by eruptions starting from the retroauricle, then affecting the head, neck, trunk, four limbs and finally the palms, soles and nose tip; this indicates a completed eruption stage.

Clinically, the rash eruption has a close relationship with tidal fevers which are often accompanied by chills and slight sweating. Rashes that erupt following tidal fever and sweating indicate a favorable pattern. Reducing the fever could hinder rash eruption, so this method should not be readily used at this stage. The symptoms and signs of unfavorable patterns should be closely observed to avoid an inward invasion of the measles toxin.

Treatment Principles

Remove toxin with cooling therapy, expel pathogens by promoting eruption

Formula

Qīng Jiě Tòu Biǎo Tāng—Heat-Clearing Exterior-Venting Decoction

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
桑叶	<i>sāng yè</i>	Folium Mori
菊花	<i>jú huā</i>	Flos Chrysanthemi
西河柳	<i>xī hé liǔ</i>	Cacumen Tamaricis
葛根	<i>gé gēn</i>	Radix Puerariae Lobatae
蝉蜕	<i>chán tuì</i>	Periostracum Cicadae

牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
升麻	<i>shēng má</i>	Rhizoma Cimicifugae
紫草	<i>zǐ cǎo</i>	Radix Arnebiae

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae) and *sāng yè* (Folium Mori) clear heat and remove toxins.

Xī hé liǔ (Cacumen Tamaricis), *gé gēn* (Radix Puerariae Lobatae), *chán tuì* (Periostracum Cicadae) and *niú bàng zǐ* (Fructus Arctii) disperse the exterior and promote eruption.

Shēng má (Rhizoma Cimicifugae) removes toxin and promotes eruption. *Zǐ cǎo* (Radix Arnebiae) clears heat and cools blood.

Modifications

For lasting high fever and dysphoria, add *zhī zǐ* (Fructus Gardeniae), *huáng lián* (Rhizoma Coptidis) and *shí gāo* (Gypsum Fibrosum).

For dense red or deep purple rashes, add *mǔ dān pí* (Cortex Moutan), *hóng huā* (Flos Carthami) and *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae).

For clouded spirit, somnolence and drowsiness, add *shí chāng pú* (Rhizoma Acori Tatarinowii) and *yù jīn* (Radix Curcumae).

For lasting high fever and convulsions, add powdered *líng yáng jiǎo* (Cornu Saigae Tataricae) and *gōu téng* (Ramulus Uncariae Cum Uncis).

For lasting low grade fever, dry mouth and crimson tongue, add *shēng dì* (Radix Rehmanniae), *zhú yè* (Folium Phyllostachydis Henonis) and *xuán shēn* (Radix Scrophulariae).

For cough with wheezing and rattling noise in the throat, combine *jié gěng* (Radix Platycodonis), *sāng bái pí* (Cortex Mori) and *xìng rén* (Semen Armeniacae Amarum).

For gum and nasal hemorrhage, add charred *ǒu jié* (Nodus Nelumbinis Rhizomatis), *xiān hè cǎo* (Herba Agrimoniae) and *bái máo gēn* (Rhizoma Imperatae).

For patients with no fever and rashes failing to erupt, or sparse pale rashes, add *huáng qí* (Radix Astragali) and *tài zǐ shēn* (Radix Pseudostellariae).

Chinese Patent Medicines

Xiǎo Ér Líng Yáng Sǎn—Antelope Horn Powder for Children

0.3 -0.5 g, 3 times daily.

Steaming and Washing Therapy

Decoct 30 g of *xī hé liǔ* (Cacumen Tamaricis), 15 g of *jīng jiè suì* (Spica Schizonepetae) and 15 g of cherry leaves with water for steaming and washing.

Tuī na

Points	Repetitions	Methods
<i>fēng chí</i> (风池)	100-300	Grasping
<i>pí jīng</i> (脾经)	100-300	Clearing
<i>fèi jīng</i> (肺经)	100-300	Clearing
<i>shuǐ zhōng lāo yuè</i> (水中捞月)	20	Pushing
<i>tiān hé shuǐ</i> (天河水)	100-200	Clearing
<i>èr shàn mén</i> (二扇门)	50-100	Pressing and kneading
<i>tiān zhù gǔ</i> (天柱骨)	50-100	Pushing

Apply in the above order, 1-2 times daily.

Consumption of qi and yin (Recovery stage)

Signs and Symptoms

The rash erupts completely with a gradually receding fever accompanied by mental fatigue, deep sleep, decreased coughing, and an improved appetite. As the rash fades, the area is left with desquamation and skin pigmentation. The tongue is red and dry with a thin coating. The pulse is thready and weak or thready and rapid.

Pattern Differentiation

It takes about three days for the rash to erupt and clear completely. This stage is seen at the later period of a favorable pattern or in atypical cases. At this stage the pathogens have been expelled, the rash fades in an ordered manner, the fever recedes, appetite and spirit improves, the pulse becomes calm and the body cools down due to healthy qi recovery and removal of the pathogens.

Treatment Principles

Replenish qi and nourish yin, clear and expel residual pathogens.

Formula

Shā Shēn Mài Dōng Tāng—Adenophora and Ophiopogon Decoction

沙参	<i>shā shēn</i>	Radix Adenophorae seu Glehniae
天花粉	<i>tiān huā fěn</i>	Radix Trichosanthis
玉竹	<i>yù zhú</i>	Rhizoma Polygonati Odorati
麦冬	<i>mài dōng</i>	Radix Ophiopogonis
桑叶	<i>sāng yè</i>	Folium Mori
白扁豆	<i>bái biǎn dòu</i>	Semen Lablab Album
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Shā shēn (Radix Adenophorae seu Glehniae), *tiān huā fěn* (Radix Trichosanthis), *yù zhú* (Rhizoma Polygonati Odorati) and *mài dōng* (Radix Ophiopogonis) nourish fluids of the lung and stomach.

Sāng yè (Folium Mori) clears and expels residual heat.

Bái biǎn dòu (Semen Lablab Album) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) nourish the stomach and replenish qi.

Modifications

For tidal fever, night sweats and hot palms and soles, add *dì gǔ pí* (Cortex Lycii) and *yín chái hú* (Radix Stellariae).

For mental fatigue, spontaneous sweating and poor appetite, add fried *gǔ yá* (Fructus Setariae Germinatus), fried *mài yá* (Fructus Hordei Germinatus) and *jī nèi jīn* (Endothelium Corneum Gigeriae Galli).

For constipation, add *guā lóu rén* (Semen Trichosanthis) and *huǒ má rén* (Fructus Cannabis).

Chinese Patent Medicines

Zhì Jǐ Jīn Huā Wán—Cape Jasmine Fruit and Honeysuckle Flower Pill. 2-3 g, 2-3 times daily.

Tui na

Points	Repetitions	Methods
<i>pí jīng</i> (脾经)	100-300	Supplementing
<i>fèi jīng</i> (肺经)	100-300	Supplementing
RN 12 (<i>zhōng wǎn</i>)	50-100	Kneading
BL 20 (<i>pí shù</i>)	50-100	Kneading
BL 21 (<i>wèi shù</i>)	50-100	Kneading
ST 36 (<i>zú sān lǐ</i>)	50-100	Kneading

Apply in the above order, 1-2 times daily.

2. UNFAVORABLE PATTERNS

Unfavorable patterns of measles are severe cases, and these patients should be hospitalized. Chinese medicine should be used in combination with Western medicine.

Pathogenic toxins blocking the lung (complicated with pneumonia)**Signs and Symptoms**

Manifestations include eruption of a dense deep purple rash, lasting high fever, dysphoria, cough with shortness of breath, flaring nostrils, rattling sounds in the throat, cyanotic mouth and lips, dry mouth with a desire to drink, constipation, and dark scanty urine. The tongue is red with a yellow greasy coating, and there is a rapid forceful pulse. Pulmonary auscultation may reveal fine moist rales; X-ray examination shows patchy shadows.

Pattern Differentiation

Measles accompanied with pneumonia is an unfavorable pattern. The signs and symptoms of blocked lung qi, qi stagnation and blood stasis include deep purple rashes, cyanotic mouth and lips, and a crimson tongue. In severe cases, heart failure may occur due to sudden collapse of heart yang.

Treatment Principles

Diffuse and unblock the lung, clear heat and remove toxin

Formula

Má Xīng Shí Gān Tāng—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction

麻黄	<i>zhì má huáng</i>	Herba Ephedrae Praeparata cum Melle
石膏	<i>shí gāo</i>	Gypsum Fibrosum
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
前胡	<i>qián hú</i>	Radix Peucedani
黄芩	<i>huáng qín</i>	Radix Scutellariae
虎杖	<i>hǔ zhàng</i>	Rhizoma Polygoni Cuspidati
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
芦根	<i>lú gēn</i>	Rhizoma Phragmitis

Formula Analysis

Zhì má huáng (Herba Ephedrae Praeparata cum Melle) diffuses the lung and relieves panting.

Shí gāo (Gypsum Fibrosum) clears lung and stomach heat to promote fluid production.

Xìng rén (Semen Armeniacae Amarum) and *qián hú* (Radix Peucedani) relieve cough and panting.

Huáng qín (Radix Scutellariae) and *hǔ zhàng* (Rhizoma Polygoni Cuspidati) clear the lung and remove toxins.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) and *lú gēn* (Rhizoma Phragmitis) moisten the lung and relieve cough.

Modifications

For frequent coughing with profuse phlegm, add *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii), *tiān zhú huáng* (Concretio Silicea Bambusae) and *xiān zhú lì* (Succus Bambusae Recens).

For cough with shortness of breath, add *sāng bái pí* (Cortex Mori), *zǐ sū zǐ* (Fructus Perillae) and *tíng lì zǐ* (Semen Lepidii, Semen Descurainiae).

For a dense deep purple rash with cyanotic mouth and lips, add *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *zǐ cǎo* (Radix Arnebiae) and *táo rén* (Semen Persicae).

For lasting high fever and thick yellow phlegm, add *zhī zǐ* (Fructus Gardeniae) and *yú xīng cǎo* (Herba Houttuyniae).

For dry stools and a red tongue with a dry yellow coating, add *huáng lián* (Rhizoma Coptidis) and *dà huáng* (Radix et Rhizoma Rhei).

Chinese Patent Medicines

Xiǎo Ēr Fèi Rè Ké Chuǎn Kǒu Fú Yè—Clear Lung-Heat Relieve Cough-Dyspnea Liquid for Children. 5-10 ml, 3 times daily.

Acupuncture

LU 6 (<i>kǒng zuì</i>)	LU 5 (<i>chǐ zé</i>)	LU 7 (<i>liè quē</i>)
LI 4 (<i>hé gǔ</i>)	BL 13 (<i>fēi shù</i>)	ST 36 (<i>zú sān lǐ</i>)

Needle with drainage, retain the needles for 5 minutes, or do not retain.

Treat once daily.

Pathogenic toxin attacking the throat (complicated with laryngopharyngitis)

Signs and Symptoms

Manifestations include a sore swollen throat, or with ulceration and pain, difficulty swallowing, a coarse voice, rattling noises in the throat, a heavy barking cough and difficulty inhaling. In severe cases there is an expanded chest and sunken hypochondrium, cyanotic complexion and lips, and dysphoria. The tongue is red with a greasy yellow coating, and there is a rapid slippery pulse.

Pattern Differentiation

Excess pathogenic toxin causes a sore swollen and ulcerated throat. Excessive phlegm obstructs the throat causing rattling noises and wheezing. This is a severe and life-threatening unfavorable pattern of measles; throat obstruction and blocked lung qi should be prevented.

Treatment Principles

Clear heat and remove toxin, benefit the throat and relieve swelling

Formula

Qīng Yān Xià Tán Tāng—Throat-Relieving Phlegm-Resolving Decoction

射干	<i>shè gān</i>	Rhizoma Belamcandae
玄参	<i>xuán shēn</i>	Radix Scrophulariae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
桔梗	<i>jié gěng</i>	Radix Platycodonis
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
板蓝根	<i>bǎn lán gēn</i>	Radix Isatidis
蒲公英	<i>pú gōng yīng</i>	Herba Taraxaci
葶苈子	<i>tíng lì zǐ</i>	Semen Lepidii; Semen Descurainiae
瓜蒌	<i>guā lóu</i>	Fructus Trichosanthis
浙贝母	<i>zhè bèi mǔ</i>	Bulbus Fritillariae Thunbergii
前胡	<i>qián hú</i>	Radix Peucedani
荆芥	<i>jīng jiè</i>	Herba Schizonepetae

Formula Analysis

Shè gān (Rhizoma Belamcandae), *xuán shēn* (Radix Scrophulariae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *jié gěng* (Radix Platycodonis) and *niú bàng zǐ* (Fructus Arctii) diffuse the lung and benefit the throat.

Jīn yín huā (Flos Lonicerae Japonicae), *bǎn lán gēn* (Radix Isatidis) and *pú gōng yīng* (Herba Taraxaci) clear heat and remove toxins.

Tíng lì zǐ (Semen Lepidii; Semen Descurainiae) removes phlegm and promotes urination.

Guā lóu (Fructus Trichosanthis) and *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii) resolve phlegm and dissipate masses.

Qián hú (Radix Peucedani) clears the lung and descends qi and *jīng jiè* (Herba Schizonepetae) disperses pathogenic qi and promotes eruptions.

Modifications

For constipation, add *dà huáng* (Radix et Rhizoma Rhei) and *xuán míng fēn* (Natrii Sulfas Exsiccatus).

For patients with throat obstruction with a cyanotic complexion and lips and difficulty inhaling, Chinese and Western medicines should be combined. Tracheotomy is applied when necessary.

Chinese Patent Medicines

Liù Shén Wán—Six Spirit Pill

Pathogens inwardly invading the heart and liver (complicated with encephalitis)

Signs and Symptoms

Manifestations include a lasting high fever, dysphoria, delirium, a dense deep purple

rash forming patches, and even coma or convulsions in severe cases. There is a prickly crimson tongue with a yellow coating and a rapid forceful pulse.

Pattern Differentiation

This is a severe life-threatening unfavorable pattern marked by sudden coma, delirious speech, and convulsions. Symptoms of internal stirring of liver wind include a lasting high fever, convulsions, a crimson tongue and a rapid wiry pulse.

Symptoms of heat invading the pericardium include coma, unconsciousness, dysphoria and delirium.

Symptoms of intense pathogenic toxin entering the nutrient and blood (*ying-xue*) level include dense deep purple rash patches.

Treatment Principles

Pacify the liver and extinguish wind, clear heart and open the orifices

Formula

Líng Jiǎo Gōu Téng Tāng—Antelope Horn and Uncaria Decoction

羚羊角	<i>líng yáng jiǎo</i>	Cornu Saigae Tataricae
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
菊花	<i>jú huā</i>	Flos Chrysanthemi
茯神	<i>fú shén</i>	Sclerotium Poriae Paradicis
竹茹	<i>zhú rú</i>	Caulis Bambusae in Taenia
浙贝母	<i>zhè bèi mǔ</i>	Bulbus Fritillariae Thunbergii
龙胆草	<i>lóng dǎn cǎo</i>	Radix et Rhizoma Gentianae
黄芩	<i>huáng qín</i>	Radix Scutellariae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
鲜生地	<i>xiān shēng dì</i>	Radix Rehmanniae Recens
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Powdered *líng yáng jiǎo* (Cornu Saigae Tataricae) (taken separately), *gōu téng* (Ramulus Uncariae Cum Uncis) and *jú huā* (Flos Chrysanthemi) cool the liver and extinguish wind.

Fú shén (Sclerotium Poriae Paradicis) calms and stabilizes the mind.

Zhú rú (Caulis Bambusae in Taenia) and *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii) clear the heart and resolve phlegm.

Lóng dǎn cǎo (Radix et Rhizoma Gentianae), *huáng qín* (Radix Scutellariae) and *zhī zǐ* (Fructus Gardeniae) clear heat and remove toxins.

Xiān shēng dì (Radix Rehmanniae Recens), *bái sháo* (Radix Paeoniae Alba) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) soften the liver and nourish sinews.

Modifications

For excessive phlegm obstructing the airways, add *shí chāng pú* (Rhizoma Acori Tatarinowii), dried *dǎn nán xīng* (Arisaema cum Bile), *yù jīn* (Radix Curcumae) processed

with calcanthite and *xiān zhú lì* (Succus Bambusae Recens).

For abdominal distention and constipation, add *dà huáng* (Radix et Rhizoma Rhei) and *xuán míng fěn* (Natrii Sulfas Exsiccatus).

Modified *Shēn Fù Lóng Mǔ Jiù Nì Tāng*—Ginseng, Aconite, Dragon Bone and Oyster Shell Counterflow Decoction is applied to rescue heart yang collapse in those cases of sudden rash disappearance with a cyanotic complexion, sweating, and freezing cold limbs.

Chinese Patent Medicines

Ān Gōng Niú Huáng Wán—Peaceful Palace Bovine Bezoar Pill

1/4-1/2 pills, once daily.

Qīng Kāi Líng Injection

2 ml intramuscularly, 2-3 times daily; or 10-20 ml intravenously with 5% glucose injection, once daily.

[WESTERN MEDICINE THERAPIES]

1. Ribavirin injection is useful for measles complicated with pneumonia. If caused by other viruses, Ribavirin and α -interferon may be applied. Antibiotics should be applied for pneumonia caused by a secondary bacterial infection. Cardiac glycosides are applied for heart failure.

2. For measles complicated with laryngitis, use anti-tussive agents, oxygen, aerosol inhalation and phlegm suction. Antibiotics should be applied for bacterial laryngitis. Glucocorticoids are used for laryngitis with severe obstruction of the airways. If the condition does not improve with treatment, a tracheotomy should be considered.

3. For measles complicated with encephalitis, the first choice of treatment is anti-viral treatments including Ribavirin by intravenous drip, and intramuscular injections of α -interferon. Adrenal cortex hormones may be used for 3-5 days to reduce encephaledema and demyelination in addition to reducing fever, stopping convulsions, and decreasing intracranial pressure.

[PREVENTION AND NURSING CARE]

1. PREVENTION

a. Vaccination with the measles-mumps-rubella vaccine. If there is a history of patient contact during an epidemic, an immediate injection of immunoglobulin may prevent the onset of measles.

b. Keep children away from public areas to avoid infection during measles epidemics.

c. Children with a history of patient contact should be isolated and observed for 21 days.

d. Identify children with measles as early as possible and isolate them until five days after the rashes have erupted. Children who also have pneumonia should be isolated until 10 days after rash eruption. Those who have a history of patient contact should be isolated and observed for 14 days and those who have been vaccinated require observation for 4 weeks.

2. NURSING CARE

- a. Keep the room well ventilated, maintain a suitable temperature and humidity, avoid direct contact with wind and cold or strong sunlight, use soft and comfortable bedding and maintain a quiet environment.
- b. Ensure sufficient water intake, give light and easily digestible food, forbid greasy and spicy foods during the eruption stage and provide nutrient-rich food depending on the patient's appetite, during the recovery stage.
- c. Keep the eyes, nasal cavity, mouth, and skin clean.

[CASE STUDIES]

► Case #1. Female, age 1.5 years. Hospitalized: 5/23/2001

Patient had a fever and cough for 5 days with rash eruption for one day.

She presented with fever, cough, sneezing, nasal discharge, red eyes with profuse discharge, loose stools and yellow urine. Physical signs: fever of 39°C, alert and cooperative, with sparse, rose-colored raised papules on the head, face, neck, chest and back. The rash faded when pressed, the skin between the papules was normal. Her eyes had marked conjunctival hyperemia with copious secretions. Koplik's spots were seen in the buccal mucosa. Lung auscultation showed respiratory harshness and a few dry moist rales. Other signs were a red tongue with a yellow coating and purple venules on the wind pass. X-ray showed a small patchy shadow in the right lower lobe of the lung where the heart and diaphragm are located, with the rest of the lung field clear. Bronchopneumonia was diagnosed.

Modified *Xuān Dú Fā Biǎo Tāng*—Toxin-Diffusing Exterior-Releasing Decoction was prescribed.

Formula

Xuān Dú Fā Biǎo Tāng—Toxin-Diffusing Exterior-Releasing Decoction

升麻	<i>shēng má</i>	3 g	Rhizoma Cimicifugae
葛根	<i>gé gēn</i>	3 g	Radix Puerariae Lobatae
薄荷	<i>bò he</i>	3 g	Herba Menthae
桔梗	<i>jié gěng</i>	3 g	Radix Platycodonis
荆芥	<i>jīng jiè</i>	3 g	Herba Schizonepetae
防风	<i>fáng fēng</i>	3 g	Radix Saposhnikoviae
枳壳	<i>zhǐ qiào</i>	3 g	Fructus Aurantii
木通	<i>mù tōng</i>	3 g	Caulis Akebiae
前胡	<i>qián hú</i>	5 g	Radix Peucedani
连翘	<i>lián qiào</i>	5 g	Fructus Forsythiae
牛蒡子	<i>niú bàng zǐ</i>	5 g	Fructus Arctii
杏仁	<i>xìng rén</i>	2 g	Semen Armeniacae Amarum
淡竹叶	<i>dàn zhú yè</i>	2 g	Herba Lophatheri
甘草	<i>gān cǎo</i>	2 g	Radix et Rhizoma Glycyrrhizae

After one dose, her temperature remained at 39°C on the 2nd day. The rash erupted quickly on her buttocks and limbs, where they were dense. On the 3rd day, a rash erupted on the hands, soles and nose tip, her temperature decreased gradually and the cough was alleviated. On the 4th day, the child had a normal temperature, the rash gradually vanished, and desquamation appeared with a brown pigmentation.

Shā Shēn Mài Dōng Tāng—Adenophora and Ophiopogon Decoction was given to relieve the remaining pathogenic qi and the residual dry cough with phlegm.

Analysis

This case describes an initial fever stage of measles caused by the measles toxin attacking the lung-defense, leading to lung failure to diffuse.

Xuān Dú Fā Biǎo Tāng—Toxin-Diffusing Exterior-Releasing Decoction was applied to disperse wind and clear heat, diffuse the lung, and promote eruption. After the treatment, the rash erupted smoothly and the pathogenic qi was expelled.

At the later stage, the residual pathogens resulted in consumption of lung and stomach fluids; therefore *Shā Shēn Mài Dōng Tāng*—Radix Adenophorae Wheat Decoction was used to clear and remove the residual pathogens and to promote fluid production. The child was finally cured completely.

Source: Tang JP, Zeng H. 60 Cases of Pediatric Measles Treated with *Xuān Dú Fā Biǎo Tāng* [J]. Journal of Practical Traditional Chinese Internal Medicine, 2004; 18(6): 532.

► Case #2. Male, age 8

The patient developed a fever with coughing, sneezing and nasal discharge 9 days previous. After 4 days, a rash appeared on the front of the head, face and neck and then spread to the trunk and four limbs. Two days previously, the rash had vanished but with a lasting fever, exacerbated cough, panting and flaring nostrils. Antibiotics administered at the local hospital did not help.

On the morning of the visit, the child presented with panting and a rattling noise in the throat, elevated shoulders, and cyanotic mouth and lips. He was admitted to the hospital by the emergency department.

Physical signs: the eyes were covered with secretions and he had shortness of breath, flaring nostrils, cyanotic mouth and lips, and freezing cold limbs with cold sweat, and a feeble thready pulse.

Auscultation: low and rapid heart sounds 180 bpm, fine and moist rales spreading over the lungs. The case was diagnosed as measles complicated by pneumonia and heart failure with a pattern of kidney yang collapse. Modified *Bái Tōng Tāng*—Scallion Yang-Freeing Decoction was applied to prevent original yang collapse.

Formula

西洋参	<i>xī yáng shēn</i>	5 g	Radix Panacis Quinquefolii
附子	<i>fù zǐ</i>	12 g	Radix Aconiti Lateralis Praeparata
干姜	<i>gān jiāng</i>	12 g	Rhizoma Zingiberis
甘草	<i>gān cǎo</i>	5 g	Radix et Rhizoma Glycyrrhizae
葱白	<i>cōng bái</i>	5 g	Bulbus Allii Fistulosi

The decoction was taken frequently in small amounts. At noon, the child had a red

complexion, warm limbs, and his temperature raised to 39.2°C with dry lips and mouth, shortness of breath, dysphoria and rattling noises in the throat. He had a red tongue with a dry yellow coating and a deep rapid pulse at 125 bpm. These signs and symptoms indicated that yang qi had returned and a pattern of phlegm-heat blocking the lung had appeared.

Modified *Má Xing Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction was given to replace the former formula in order to clear the lung, resolve phlegm, and remove toxins.

Formula

麻黄	<i>má huáng</i>	5 g	Herba Ephedrae
石膏	<i>shí gāo</i>	30 g	Gypsum Fibrosum
杏仁	<i>xìng rén</i>	10 g	Semen Armeniacae Amarum
金银花	<i>jīn yín huā</i>	15 g	Flos Lonicerae Japonicae
黄芩	<i>huáng qín</i>	10 g	Radix Scutellariae
葶苈子	<i>tí lì zǐ</i>	10 g	Semen Lepidii; Semen Descurainiae
知母	<i>zhī mǔ</i>	10 g	Rhizoma Anemarrhenae
南沙参	<i>nán shā shēn</i>	12 g	Radix Adenophorae
竹茹	<i>zhú rú</i>	6 g	Caulis Bambusae in Taenia
甘草	<i>gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae

0.6 g of *Hóu Zǎo Sǎn*—Macaque Stone Powder was also taken twice.

After taking the formula twice, the fever gradually decreased to 38.1°C, the cough and panting eased, lips and tongue became moist, rattling noises disappeared, the mind and spirit were calmed, and the complexion was still red. The formula was modified once again and given. Later, medicinals to moisten the lung were added. He was cured after 8 days in the hospital.²

Analysis

This is a severe and life-threatening case of measles complicated with pneumonia and heart failure, caused by an inward invasion of the measles toxin that had blocked the lung, deeply entered the pericardium and damaged yin and yang, also leading to a collapse of healthy qi.

Bái Tōng Tāng—Scallion Yang-Freeing Decoction, consisting of *cōng bái* (Bulbus Allii Fistulosi), *fù zǐ* (Radix Aconiti Lateralis Praeparata) and *gān jiāng* (Rhizoma Zingiberis) is the main formula indicated for *shaoyin* patterns according to the *Treatise on Cold Damage*. It can be used in combination with *xī yáng shēn* (Radix Panacis Quinquefolii) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) in emergency cases. It is taken frequently to restore yang, rescue collapse, replenish qi, and control body fluids.

When the yang returned, modified *Má Xing Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction was given to clear the lung and remove the phlegm while removing the toxin and promoting fluid production. The patient finally recovered.

[QUESTIONS]

1. A 3-year and 10-month-old child who was feeble and susceptible to the common cold had a fever

for 2 days with cough and phlegm, nasal congestion with discharge, flushed complexion, photophobia, tearing, dysphoria, crying and Koplik's spots appearing in the buccal mucosa near the molars. Measles was diagnosed accordingly.

What is the appropriate treatment method?

- A. Umbilical dressing therapy.
- B. Steaming and washing therapy.
- C. Bleeding therapy.
- D. Scraping therapy.
- E. Cupping therapy.

2. A one-year-old child presented with fever and cough, slight aversion to wind and cold, sneezing, nasal discharge, a sore and swollen throat, red eyes, tearing, photophobia, dysphoria, crying, Koplik's spots on the buccal mucosa near the molars, scanty brown urine, irregular stools, and a thin yellow tongue coating with a floating rapid pulse.

What is the pathogenesis?

- A. Pathogens attacking the lung-defense.
- B. Pathogens entering the lung and stomach.
- C. Inward invasion of pathogens in the heart and liver.
- D. Pathogens invading the heart and spleen.
- E. Pathogens invading the spleen and stomach.

3. A 2-year-old presented with fever and cough, sneezing and nasal discharge, red eyes with tearing, photophobia, dysphoria, crying, scanty and brown urine, irregular stools, Koplik's spots on the buccal mucosa near the molars, a red tongue with a thin yellow coating and a floating and rapid pulse.

What is the appropriate formula?

- A. *Má Xing Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction
- B. *Xiǎo Qīng Lóng Tāng*—Minor Green Dragon Decoction
- C. *Zhú Yè Shí Gāo Tāng*—Lophatherum and Gypsum Decoction
- D. *Xuān Dú Fā Biǎo Tāng*—Toxin-Diffusing Exterior-Releasing Decoction
- E. *Gé Gēn Tāng*—Pueraria Decoction

4. A 5-year-old child who has suffered from measles for 5 days presented with a lasting high tidal fever, dysphoria, red eyes with profuse secretions, gradually erupting raised and a rough dense rash which faded when pressed, dry stools, scanty urine, a red tongue with greasy yellow coating and a forceful rapid pulse.

What is the presenting pattern?

- A. Pathogens invading the lung defense.
- B. Pathogenic toxin blocking the lung.
- C. Pathogens entering the lung and stomach.
- D. Consumption of fluids.
- E. Pathogenic toxin attacking the throat.

5. A child aged 2 years and 6 months presented with a complete eruption of a rash, a lasting low fever, dysphoria, cough with little phlegm, improved appetite, gradually fading rash, desquamation, pigmentation, a red dry tongue with thin clear coating, and a thready rapid pulse.

Which is the most appropriate formula?

- A. *Yù Nǚ Jiān*—Jade Lady Decoction
- B. *Sāng Jú Yǐn*—Mulberry Leaf and Chrysanthemum Beverage
- C. *Sāng Xīng Tāng*—Mulberry Leaf and Apricot Kernel Decoction
- D. *Èr Chén Tāng*—Two Matured Substances Decoction
- E. *Shā Shēn Mài Dōng Tāng*—Radix Adenophorae Radix Ophiopogonis Decoction

[REFERENCES]

- [1] Authors. Fact Sheet on Measles (Revised November, 2007) [J]. Chinese Practical Journal of Rural Doctors, 2008; 15(5): 5.
- [2] Tang JP, Zheng H. (*Xuān Dú Fā Biǎo Tāng*—Toxin-Diffusing Exterior-Releasing Decoction Treating 60 Measles Cases in Children]. Journal of Practical Traditional Chinese Internal Medicine, 2008; 43(12): 709.
- [3] Du J, Hu GB, Lv XQ et al. Clinical Observations of 85 Measles Cases in Children Treated with Combined Traditional Chinese and Western Medicine. Zhejiang Journal of Traditional Chinese Medicine, 2008; 43 (12): 709.
- [4] Wang SC. Applied Formulas (*Treatise on Cold Damage*) to Treat Severe Cases of Warm disease. Journal of Nanjing University of Traditional Chinese Medicine, 1982; (4): 56.

Note 1: Target countries listed in the *Global Plans for Reducing Measles Mortality during 2006-2010* are Angola, Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, The Republic of Cote d'Ivoire, Democratic Republic of Congo, Eritrea, Equatorial Guinea, Ethiopia, Gabon, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, United Republic of Tanzania, TOGO, Uganda, Zambia, Afghanistan, The Republic of Djibouti, Pakistan, Somalia, Sudan, Yemen, Bangladesh, India, Indonesia, Burma, Nepal, east Timor, Kampuchea, Lao People's Democratic Republic, Papua New Guinea and Viet Nam.

Note 2: The herbal composition of *Xuān Dú Fā Biǎo Tāng*—Toxin-Diffusing Exterior-Releasing Decoction used in Reference 2:

Shēng má (Rhizoma Cimicifugae), *qián hú* (Radix Peucedani, hogfennel root), *xìng rén* (Semen Armeniacae Amarum), *gé gēn* (Radix Puerariae Lobatae), *bò he* (Herba Menthae), *jié gēng* (Radix Platycodonis), *jīng jiè* (Herba Schizonepetae), *fáng fēng* (Radix Saposhnikoviae), *mù tóng* (Caulis Akebiae), *niú bàng zǐ* (Fructus Arctii), *dàn zhú yè* (Herba Lophatheri), *zhǐ qiào* (Fructus Aurantii), *lián qiào* (Fructus Forsythiae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Note 3: The medicinals in Reference 3 are stage-specific, consisting of the following.

Initial Fever Stages:

Includes *sāng yè* (Folium Mori), *chì sháo* (Radix Paeoniae Rubra), *qián hú* (Radix Peucedani), *jīng jiè* (Herba Schizonepetae), *lián qiào* (Fructus Forsythiae), *lú gēn* (Rhizoma Phragmitis), *fáng fēng* (Radix Saposhnikoviae).

Eruption Stage:

Includes *chán tuì* (Periostracum Cicadae), *mù dān pí* (Cortex Moutan), *bò he* (Herba Menthae), *zǐ wǎn* (Radix et Rhizoma Asteris), *shēng dì* (Radix Rehmanniae), *chì sháo* (Radix Paeoniae Rubra), *lián qiào* (Fructus Forsythiae), *jīn yín huā* (Flos Lonicerae Japonicae), *bái máo gēn* (Rhizoma Imperatae);

Recovery Stage:

Includes *zhī mǔ* (Rhizoma Anemarrhenae), *mài dōng* (Radix Ophiopogonis), *huáng qín* (Radix Scutellariae), *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae), *lú gēn* (Rhizoma Phragmitis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae).



Chapter 33

Exanthema Subitum (Roseola Infantum)

Exanthema Subitum, also referred to as roseola infantum, is a relatively mild infectious disease characterized by an acute rash caused by a seasonal external pathogenic attack in infancy. There is an acute high fever lasting for 3-5 days, followed by the sudden appearance of a small rosy colored rash at fever abatement. After the rash disappears there is no visible trace, so it is sometimes called “fake measles”, “milk measles” (sometimes confused with baby measles) or “fever rash” in traditional Chinese medicine.

While the disease can occur all year round, it is especially predominant in winter and spring. It is less common before the age of 6 months, with most cases occurring in children between the ages of 6-18 months. This disease affects up to 90% of all infants.

The main causes of exanthema subitum are the two human herpes viruses, HHV-6 and HHV-7. The rashes usually erupt without complications and the prognosis is good.

Although complications are rare, there may be otitis media, lower respiratory infections, myocarditis, or cardiac insufficiency. Serious complications that have been reported include encephalitis or encephalopathy which can be fatal, severe liver damage, and idiopathic thrombocytopenic purpura.

A single attack normally confers permanent immunity and secondary cases are unusual.

[ETIOLOGY & PATHOMECHANISM]

Exanthema subitum is caused by seasonal wind-heat pathogenic factors. The pathogens attack the lung-*wei* through the mouth and nose causing lung-*wei* failing to diffuse, with the pathogen lodging in the muscle and exterior levels and struggling with qi and blood. The main locations of attack involve the lung and spleen channels.

Children's bodies are “pure yang” in nature; when attacked by the seasonal pathogens that cause exanthema subitum, the body's healthy qi contends against the pathogenic qi, resulting in high fever and a bulging fontanelle.

The lung belongs to the hand *taiyin* channel, while *ying* is the body fluid present within the blood which governs the blood, subsidiary collaterals, and channels. If the pathogens are vigorous in the lung-*wei* levels, they can easily enter the interior and distress the *ying* level, damaging the blood subsidiary collaterals and channels, causing it to overflow and spill out into the muscle and skin levels. This is why the rose-colored rash erupts just as the child appears to be recovering, or as the fever subsides.

The rash eruption following fever abatement is a good sign because it is the pathogenic toxin is dispersing from the lung-*wei* level instead of traveling further inside the body to the *ying*-blood levels.

The disease onset is quite vigorous and short term, and the pathogenic heat can be cleared without leading to serious damage to qi and yin. There is usually a good prognosis; in some patients qi and yin may be damaged after the rash has appeared, but in most cases there is a full recovery.

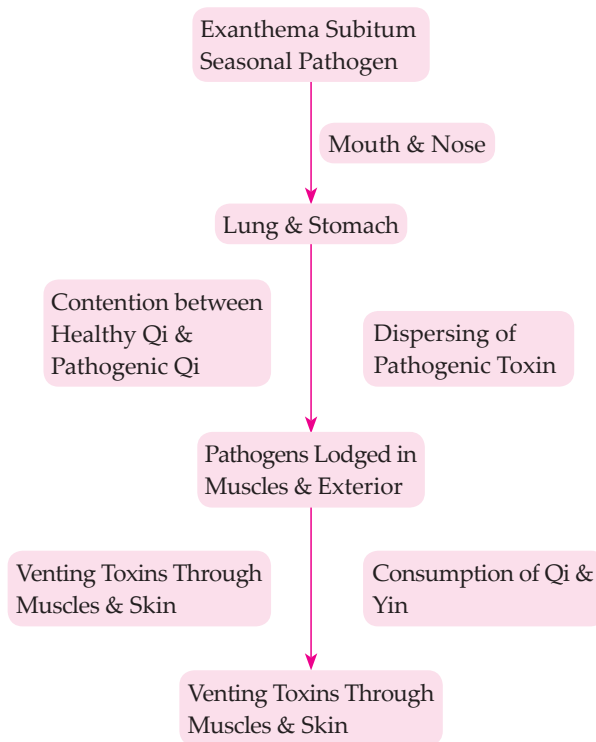


Fig. 33-1 Etiology and Pathomechanism of Exanthema Subitum

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

- The disease mostly occurs in children between the ages of 6 months and 2 years.
- It begins with the sudden onset of high fever which subsides after 3-5 days. Systemic symptoms are mild; in many cases the child appears and acts normally.
- A rose colored rash may appear as the body temperature starts to decrease or soon after the fever subsides.
- The rash appears mainly on the trunk, waist and buttocks with less spreading to face, elbows, and knees. The rash may last 1-2 days and then disappear without desquamation or pigmentation.
- Blood tests show a lower white blood cell count. Leukopenia and relative lymphocytosis are most characteristic around the time of eruption.

► Differential Diagnosis

It is necessary to differentiate this illness from measles, rubella, and scarlet fever. See Table 32-1 in Chapter 32 Measles .

In the early stages it is also necessary to differentiate this from common upper respiratory tract infections, herpetic isthmitis, and enterovirus infections. See Table 33-1.

Table 33-1 Differential Diagnoses of Exanthema Subitum, Common Cold, Herpetic Angina and Enterovirus Infections

Disease Name	Exanthema Subitum	Common Cold	Herpetic Isthmitis	Enterovirus Infections
Fever	Sudden high fever	Fever, or no fever	Sudden high fever	Fever, or no fever
Systemic Signs & Symptoms	Systemic symptoms mild, rose color rash appears as temperature is decreasing or soon after fever subsides. Rash mainly on trunk, waist, buttocks, sparsely on face, elbows knees, etc. Rash for 1-2 days then disappears without desquamation or pigmentation.	Usually with aversion to cold, cough, sneezing, nasal discharge, nasal congestion, etc.	Associated with nasal discharge, headache. Small gray herpetic lesions surrounded by redness in pharyngeal isthmus. Herpetic ulcer appears after 1-2 days with excessive salivation, vomiting, possible pain on swallowing or feeding, etc.	Usually with fever, nasal discharge, herpetic lesions in pharyngodynia and pharyngeal areas, etc.
Spirit and Fontanelle	Appears and acts normal, fontanelle full or bulging	Poor spirit, fontanelle normal	Poor spirit, fontanelle normal	Poor spirit, fontanelle normal
Lymph Nodes	Mild readily palpable suboccipital, neck, postauricular nodes	Usually without lymphadenopathy	Usually without lymphadenectasis	Usually without lymphadenectasis
Blood Test	WBC count low, leucopenia with lymphocytosis	WBC count & classification irregular	WBC count normal or slightly raised, lymphocytosis	WBC count low, lymphocytosis



Both herpetic isthmitis and the enteroviruses infections are viral diseases which usually respond well to treatment with Chinese medicine. For herpetic isthmitis, refer to the common cold chapter, and for enterovirus infection, refer to the common cold, diarrhea, and stomach pain chapters.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Pattern identification of this disease is based on the *wei-qi-ying*-blood pattern identification of warm diseases. It mainly attacks the *wei* level and may be involved with the *qi* level, but usually does not enter into the deeper levels of *ying* and blood.

At early stages it presents as a pathogenic pattern staying in the exterior muscle and skin marked by sudden onset of high fever which lasts from 3-4 days. Except for fever, the child has almost no other symptoms.

The rash eruption may appear during the period of decreasing fever, but is more typically seen after the fever subsides, then followed by rapid improvement as the rash starts to fade and disappear. Some children will have a poor appetite and a dry mouth.

► Treatment Principles

The main treatment principles for exanthema subitum are to release the exterior and clear heat. For cases with pathogens constrained in the skin exterior, the principle is to scatter wind, clear heat, and diffuse and vent pathogenic toxins through the exterior. After the fever subsides and the rash erupts, clear heat and promote fluid production to help recovery.

► Classification of Patterns and Treatments

Pathogens Lodged in the Exterior Skin

Signs and Symptoms

Sudden high fever lasting from 3-5 days. During the febrile period there may be irritability and a reduced appetite, although they may also appear and act normally. There may be convulsions, and a possible bulging fontanelle. There is some redness of the pharynx, the tongue is slightly red with a thin yellow coating, and the finger venules are superficial with a purple color.

Pattern Differentiation

This is a common pattern for exanthema subitum, clinically characterized by the sudden onset of a high fever. Temperatures range between 38.9-40°C or higher, lasting from 3-5 days, with or without other negligible symptoms.

Treatment Principles

Release the exterior and clear heat.

Formula

Modified *Yín Qiào Sǎn*—Lonicera and Forsythia Powder

金银花	<i>jīn yín huā</i>	Flos <i>Lonicerae Japonicae</i>
连翘	<i>lián qiào</i>	Fructus <i>Forsythiae</i>
薄荷	<i>bò he</i>	Herba <i>Menthae</i>
桑叶	<i>sāng yè</i>	Folium <i>Mori</i>
菊花	<i>jú huā</i>	Flos <i>Chrysanthemi</i>
牛蒡子	<i>niú bàng zǐ</i>	Fructus <i>Arctii</i>
桔梗	<i>jié gěng</i>	Radix <i>Platycodonis</i>
竹叶	<i>zhú yè</i>	Folium <i>Phyllostachydis Henonis</i>
板蓝根	<i>bǎn lán gēn</i>	Radix <i>Isatidis</i>
甘草	<i>gān cǎo</i>	Radix et Rhizoma <i>Glycyrrhizae</i>

Formula Analysis

Jīn yín huā (Flos *Lonicerae Japonicae*) and *lián qiào* (Fructus *Forsythiae*) vent the exterior and resolve toxins.

Bò he (Herba *Menthae*), *sāng yè* (Folium *Mori*) and *jú huā* (Flos *Chrysanthemi*) scatter wind and clear heat.

Niú bàng zǐ (Fructus *Arctii*), *jié gěng* (Radix *Platycodonis*), *zhú yè* (Folium *Phyllostachydis Henonis*), *bǎn lán gēn* (Radix *Isatidis*) and *gān cǎo* (Radix et Rhizoma *Glycyrrhizae*) clear heat, resolve toxins, diffuse the lung, and soothe the throat.

Modifications

For seasonal pathogens mixed with cold constrained in the exterior presenting with fever and aversion to cold, nasal congestion and discharge, add *sū yè* (Folium *Perillae*) and *fáng fēng* (Radix *Saposhnikoviae*).

For persistent high fever with irritability, add *zhī zǐ* (Fructus *Gardeniae*) and *chán tuì* (*Periostracum Cicadae*).

For cases at risk of developing convulsions, irritability and restlessness, add *jiāng cán* (*Bombyx Batryticatus*) and *gōu téng* (*Ramulus Uncariae Cum Uncis*).

For heat constrained in the spleen and stomach with vomiting and occasional nausea, add *zhú rú* (*Caulis Bambusae in Taenia*) and *shēng jiāng* (Rhizoma *Zingiberis Recens*).

For poor appetite with thin and loose stools, add *gé gēn* (Radix *Puerariae Lobatae*), *biǎn dòu* (*Semen Lablab Album*) and *jiāo shān zhā* (Fructus *Crataegi Praepareta*).

For red swollen painful throat and easily palpable cervical and retroauricular lymph nodes add *dà qīng yè* (Folium *Isatidis*), *pú gōng yīng* (Herba *Taraxaci*), *zhè bèi mǔ* (*Bulbus Fritillariae Thunbergii*) and *shè gān* (Rhizoma *Belamcandae*) to soothe the throat and reduce swelling.

For convulsions, add *Xiǎo Ér Jīn Dān Piàn*—Children's Gold Elixir Pill.

Chinese Patent Medicines

a. *Xiǎo Ér Rè Sù Qīng Kǒu Fú Yè*—Children's Rapid Heat-Clearing Liquid
Infants up to 1 year old, 2.5-5 ml.

Age 1-3 years, 5-10ml, 3-4 times daily.

b. *Xiǎo Ér Jīn Dān Piàn*—Children's Gold Elixir Pill

Infants up to 1 year old, 1 pill daily; 1-3 years, 2 pills twice daily.

External Therapy

Acupuncture during the high fever period.

DU 14 (*dà zhuī*)

LI 11 (*qū chí*)

LI 4 (*hé gǔ*)

ST 36 (*zú sān lǐ*)

Needle all points with drainage and strong stimulation; rotate for 3-5 minutes, do not retain the needle.

Venting Toxins Through the Skin

Signs and Symptoms

As the fever subsides, a rash appears with small rose-colored macular or maculopapular eruptions first seen on the trunk, soon spreading over the whole body. The rash fades within several hours, usually gone in 1-2 days. There is no itching, and may be dry mouth or poor appetite. The tongue is slightly red with a slightly dry thin coating, and the fingers have light purple venules.

Pattern Differentiation

This pattern is characterized by a rash eruption associated with a sudden drop in temperature. For qi and yin consumption cases, additional symptoms may include slightly dry skin, thirst with drinking large amounts, and poor appetite. The tongue is red and slightly dry.

Treatment Principles

Clear heat and promote fluid production.

Formula

Modified *Yín Qiào Sǎn*—Lonicera and Forsythia Powder

with *Yǎng Yīn Qīng Fèi Tāng*—Yin-Nourishing and Lung-Clearing Decoction

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
薄荷	<i>bò he</i>	Herba Menthae
大青叶	<i>dà qīng yè</i>	Folium Isatidis
桔梗	<i>jié gěng</i>	Radix Platycodonis
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
生甘草	<i>shēng gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
玄参	<i>xuán shēn</i>	Radix Scrophulariae

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *bò he* (Herba Menthae) and *dà qīng yè* (Folium Isatidis) scatter wind and clear heat.

jié gěng (Radix Platycodonis), *niú bàng zǐ* (Fructus Arctii) and *shēng gān cǎo* (Radix et Rhizoma Glycyrrhizae) clear heat and soothe the throat.

shēng dì huáng (Radix Rehmanniae), *mǔ dān pí* (Cortex Moutan) and *xuán shēn* (Radix Scrophulariae) nourish yin and promote fluid production.

**Modifications:**

For poor appetite, add *jī nèi jīn* (Endothelium Corneum Gigeriae Galli) and *mài yá* (Fructus Hordei Germinatus).

For hard dry stools, add *huǒ má rén* (Fructus Cannabis) and *guā lóu rén* (Semen Trichosanthis).

Chinese Patent Medicines

Yín Huáng Kǒu Fú Yè—Honeysuckle Flower and Scutellaria Root Liquid

5-10 ml, 2 or 3 times daily.

[WESTERN MEDICINE THERAPIES]

a. General treatment is mainly symptomatic for exanthema subitum, while a high fever can be treated with physical cooling methods. Antipyretics drugs may also be required. If there are secondary bacterial infections, antibiotics such as penicillin and cephalosporin can be used.

b. Antiviral treatments such as interferon and ganciclovir inhibit herpes virus replication and can be used if necessary.

[PREVENTION AND NURSING CARE]**1. PREVENTION**

(1) Close observation: if a child presents with irritability, crying, poor appetite, cough and nausea, then attention should be paid to whether there is fever or rash.

(2) For children's groups such as childcare centers and kindergartens, a child presenting with suspicious symptoms such as irritability and unexplained high fever with no other symptoms should be isolated and observed for 7-10 days in case of exanthema subitum. The child should be isolated until the 5th day after the rash erupts.

2. NURSING

(1) During recuperation the children should get rest, keep warm, and take ample quantities of fluids.

(2) The diet should be light, nutritious, and easily digestible.

(3) For a lingering high fever, to prevent febrile convulsions it is advised to use the physical cooling methods, e.g., apply a cold towel on the patient's forehead, or give a sponge bath with 30%-50% alcohol to cool the body. Antipyretics may be used if necessary.

[CASE STUDY]**► Case #1. Male, age 8 months.**

Signs and Symptoms: fever for 1 day with slight sweating and nasal congestion and discharge. He was crying, irritable and thirsty with a red face. The tongue coating was thin and white, and he had purple finger venules. The pulses were floating and rapid.

Blood tests showed: WBC (total leukocytes) $6.3 \times 10^9/L$, (normal range 6.0-17.5) N (neutrophils) 30% (NR 32%), L (lymphocytes) 67% (NR 61%), M (monocytes) 3% (NR 5%).

He was prescribed *Yín Qiào Sǎn*—Lonicera and Forsythia Powder, 1 bag per day. After two days the fever subsided and a rash erupted.

On the follow up visit he was prescribed the same formula with added *mǔ dān pí* (Cortex Moutan), *chì sháo* (Radix Paeoniae Rubra) and *zǐ cǎo* (Radix Arnebiae) for two more days by which time the rash had faded and disappeared; the child made a full recovery.

Analysis

This case is an 8 months old child who is within the most common age range for exanthema subitum to occur. In the early stages of the disease, there was onset of fever, slight sweating, nasal congestion and discharge, crying, irritable, thirsty, red facial complexion, a thin white tongue coating, purple finger venules and a floating rapid pulse. These signs are due to seasonal wind-heat pathogens invading the lung-*wei* level and impairing the lung-*wei* qi diffusing and circulating functions. Therefore, *Yín Qiào Sǎn*—Lonicera and Forsythia Powder was used to scatter wind and discharge heat along with acrid-cool medicinals to clear and release the pathogens.

The blood test showed leucopenia with lymphocytosis that may suggest a diagnosis of exanthema subitum with seasonal pathogens invading the lung-*wei*, distressing the internal *ying* level and scurrying in the blood collaterals. After taking medication for two days the fever dropped and the rash erupted. The child was then treated with *Yín Qiào Sǎn*—Lonicera and Forsythia Powder with *mǔ dān pí* (Cortex Moutan), *chì sháo* (Radix Paeoniae Rubra) and *zǐ cǎo* (Radix Arnebiae) added to cool the *ying* level and promote rash eruption. With two more doses, the rash was gone and the child recovered.

Source: Zhang QW, Editor. 幼科条辨 [Systematic Analysis of Pediatrics] [M]. Shandong: Shandong Science and Technology Press, 1982:92.

► Case #2. Male, age 1 year. Initial Visit: 3/20/2006

There was an irregular fever 6 days prior with temperatures suddenly rising to 40°C. They immediately visited a hospital and he was diagnosed with an upper respiratory tract infection and treated with penicillin, rocephin, zedoary turmeric oil and dexamethasone iv gtt, but the temperature still remained between 38°C-39.5°C, with an occasional mild cough and nasal discharge.

Physical and chemical examinations showed that apart from a higher WBC count at that time, there were no other clinical findings. The child was irritable, crying with a red face, his anterior fontanelle was bulging, and there was a readily palpable 5 mm soft suboccipital lymph node. His tongue was red with thin yellow coating, and the finger venules were purple and stagnant.

Based on the symptoms and signs, this case belongs to a pattern associated with the overuse of cold or cool medications with fire constrained in the interior. The treatment principle is to vent heat and disperse constrained fire. He was prescribed an empirical formula, *Yín Qiào Huǒ Yù Tāng*—Lonicera and Forsythia Fire Constraint Decoction, decocted with water and administered 1 dose daily.

Formula

金银花	<i>jīn yín huā</i>	6 g	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	6 g	Fructus Forsythiae

淡豆豉	<i>dàn dòu chǐ</i>	6 g	Semen Sojae Praeparatum
赤芍	<i>chì sháo</i>	6 g	Radix Paeoniae Rubra
白芍	<i>bái sháo</i>	6 g	Radix Paeoniae Alba
柴胡	<i>chái hú</i>	3 g	Radix Bupleuri
升麻	<i>shēng má</i>	3 g	Rhizoma Cimicifugae
葛根	<i>gé gēn</i>	3 g	Radix Puerariae Lobatae
牛蒡子	<i>niú bàng zǐ</i>	3 g	Fructus Arctii
薄荷	<i>bò he</i>	3 g	Herba Menthae (decocted later)
甘草	<i>gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae

After 1 dose, a red rash appeared throughout the body, the fever suddenly subsided, and the anterior fontanelle returned to being flat and soft, thus confirming the diagnosis of exanthema subitum. The same formula was continued with added *shēng dì huáng* (Radix Rehmanniae) 6g for 2 more days to secure the curative effect.

Analysis

When wind-heat seasonal pathogens accumulate in the muscle level collaterals, treatment should act to guide the pathogens outward to release them through the exterior. Regarding this treatment principle, antibiotics may cool and constrain heat internally without actually discharging the pathogens. The yang heat stagnates for a period of time and cannot be relieved. If antibiotics with their bitter-cold nature are given repeatedly, they will congeal the internally constrained fire, thus transforming it into dryness and injuring body fluids.

An empirical formula, *Yín Qiào Huǒ Yù Tāng*—Lonicera and Forsythia Fire Constraint Decoction was modified and combined with *Yín Qiào Sǎn*—Lonicera and Forsythia Powder and *Dōng Yuán Huǒ Yù Tāng*—Dongyuan Fire Constraint Decoction.

Chái hú (Radix Bupleuri), *gé gēn* (Radix Puerariae Lobatae) and *shēng má* (Rhizoma Cimicifugae) act together to stimulate the qi dynamic and guide yang qi upward. The bitter, acrid and neutral flavors combine with the acrid and cool properties of the formula to release toxins while diffusing and dispersing constrained heat in the upper *jiao* through the skin. This enables the rash to erupt and the fever to subside.

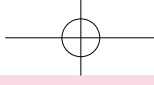
Source: Zhu J, Lu KH, Zhou HN, et al. Clinical Observation of Yinqiaohuoyu Decoction Treating 139 Cases of Exanthema Subitum [J]. Lishizhen Medicine and Materia Medica Research, 2007; 18(1): 177-178.

[QUESTIONS]

1. A male infant, age 8 months old, presents with a sudden high fever for two days. He is slightly irritable, has reduced appetite, bulging fontanelle, and slightly red pharynx. His tongue is red with a thin yellow coating, and there are floating and purple finger venules.

Which formula is the first choice?

- Jiě Jī Tòu Shā Tāng*—Muscle-Resolving Papules-Venting Decoction
- Xuān Dú Fā Biǎo Tāng*—Toxin-Diffusing Exterior-Releasing Decoction
- Jīng Fáng Bǎi Dú Sǎn*—Schizonepeta and Saposhnikovia Toxin-Resolving Powder



- D. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder
E. *Sāng Jú Yīn*—Mulberry Leaf and Chrysanthemum Beverage

2. A 6-month-old infant presents with 3 days of high fever. Following fever abatement, small rosy red maculopapules erupted on the skin, also accompanied by a dry mouth and a poor appetite. The tongue is red with a thin slightly dry coating. The finger venules are light purple.

Which is the treatment principle?

- | | |
|--|----------------------------------|
| A. Clear heat to relieve the exterior | B. Clear heat and resolve toxins |
| C. Clear heat and promote fluid production | D. Boost qi and nourish yin |
| E. Reinforce healthy qi and dispel pathogenic qi | |

3. A 13-month-old infant presented with a high fever for 2 days without cough or sneezing, a normal spirit and appetite. The tongue side and tip were red with a thin yellow coating. The finger venules were light purple. The treatment given was a modification of *Yín Qiào Sǎn*—Lonicera and Forsythia Powder. After two days the fever subsided, followed by a rose-colored rash appearing on the skin after which the child soon recovered.

What is the diagnosis?

- | | |
|---------------|----------------------|
| A. Measles | B. Exanthema subitum |
| C. Rubella | D. Scarletina |
| E. Chickenpox | |



Chapter 34

Rubella (German Measles) (*Fēng Zhěn*)

Rubella (*fēng zhěn*) is a contagious and acute eruptive disease caused by the rubella virus, characterized clinically by mild fever, cough, a generalized sand grain-sized rosy maculopapular rash and enlargement of the post-auricular and sub-occipital lymph nodes. It is called rubella in Western medicine, which includes postnatal rubella (German measles) and congenital rubella.

According to data from the US Centers for Disease Control and Prevention, with respect to an outbreak of the rubella pandemic in the mid-60s, 12,500,000 cases of rubella and 20,000 cases of congenital rubella were reported in America, causing the deaths of more than 11,000 fetuses and 2100 thousand infants. 11,6000 infants were born with congenital deafness, 3580 infants with congenital blindness, and 1800 infants with congenital mental retardation.

In the United States in 1969, the morbidity of rubella was about 60,000. Since the rubella vaccine was developed in 1969, it successfully reduced morbidity to 176 cases in the year 2000. Now, 93% of children under the age of 2 are inoculated with the rubella vaccine in the USA.

In China, rubella was only classified as a Class C communicable disease after 1989, therefore it has not attracted strong enough popular attention to use the rubella vaccination; thus the incidence of rubella in China is higher than in developed countries. There were 24,015 rubella cases reported in China in 2004, with 78.70% of them were under the age of 15 ^[1].

In order to move forward with rubella prevention and to improve the quality of life for children all over the world, WHO suggested the MMR combined vaccine as the first choice for eliminating measles, mumps, and rubella. The MMR combined vaccine has been brought into immunization programs in 108 countries and areas ^[2].

Rubella can occur throughout the year, but is more prevalent in winter and spring. It often occurs among 1 to 5 year old children, and may cause pandemics. Most rubella cases are mild and without complications with a rapid recovery; one attack usually confers permanent immunity. However, maternal rubella during early pregnancy frequently results in fetal infection, which can often hinder normal embryonic development and cause miscarriage, stillbirth, or cardiac defects such as congenital heart disease, eye defects such as cataracts, hearing loss, and developmental and neurologic defects. Special attention must be taken to prevent rubella infection during pregnancy.

Rubella belongs to Chinese medicine category of “wind papules” (*fēng zhěn*) or “wind sand” (*fēng shā*), and Chinese medicine has substantial experience in treatment of rubella.

Feng Yi-zhen et al treated 180 cases of children with rubella, randomly dividing them into two groups according to their clinical visiting order. 92 cases in the test group were treated with *Shuāng Huáng Lián*—Double Chinese Goldthread Rhizome 60 mg/kg daily, while 88 cases in the control group were treated with Ribovirin 10 mg/kg daily. The two groups resembled each other in the course of disease, ages, clinical manifestations and laboratory examinations etc. Results: the total effective rate was 91.03% in the test group

and 79.55% in the control group. The efficacy of the test group was superior to the control group with statistically significant difference ($P < 0.01$)^[3].

Shi Jian-jun randomly divided 60 cases of children with diagnosed rubella into two groups. In addition to conventional symptomatic treatment, 35 cases in the test group were given *Huáng Qí Zhù Shè Yè* (Milk-vetch Root Injection) 10-20 ml dissolved in 5% glucose injection 100-250 ml by intravenous drip once daily. 25 cases in the control group received conventional symptomatic treatment with Ribovirin, Vitamin C and *Bǎn Lán Gēn* Tablets (Isatis Root Tablets). Results: the effective rate was 91.4% in the test group and 76.0% in the control group. The efficacy of the test group was superior to the control group with statistically significant difference ($P < 0.01$)^[4]

[ETIOLOGY & PATHOMECHANISM]

The etiology of rubella is the rubella seasonal pathogen, and the main location is in the lung-*wei*. The lung belongs to the hand *taiyin* channel, governs the skin and body hair, opens at the nose, and governs the exterior. The rubella seasonal pathogen attacks the lung first through the mouth and nose; as healthy qi and pathogenic qi struggle, lung-*wei* fails to disperse. Pathogenic heat in the *taiyin* channel enters the *ying* level which governs the blood vessels; this leads to extravasations and an erythematous rash.

If a mild seasonal pathogen attacks lung-*wei* and lung qi fails to disperse, this will manifest as aversion to cold, fever, cough, and nasal discharge. As pathogenic heat leaks to the exterior, it manifests as a red and evenly distributed rash.

If the pathogenic heat invades the interior and stagnates in the *shaoyang* channel, it causes post-auricular and sub-occipital lymph node enlargement.

If a severe pathogenic heat attacks the qi and *ying* levels, scorching the lung and stomach, it manifests as high fever, fidgeting and thirst, constipation, dark urine and a densely distributed bright red or dark red rash.

Occasionally, the intense toxic pathogen invades inward into the heart and liver, causing serious transmutation and complicated patterns as in encephalitis.

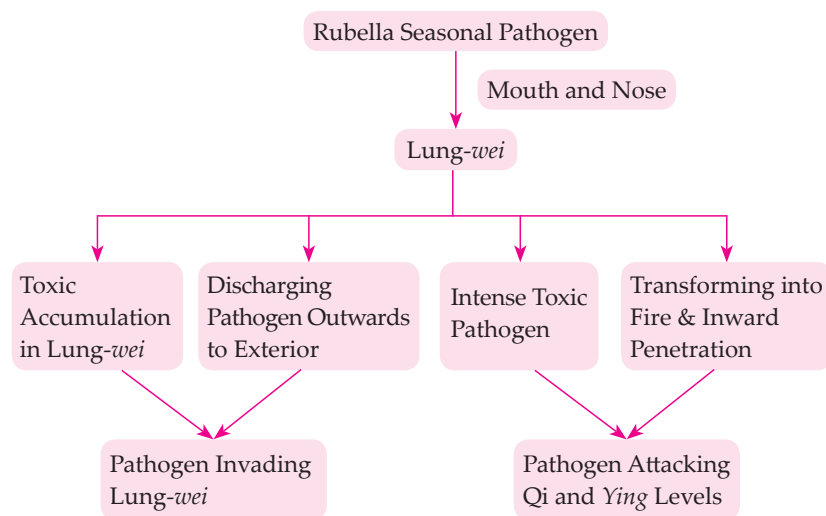


Fig. 34-1 Etiology and Pathomechanism of Rubella



[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

- a. History of exposure to or contact with rubella during the epidemic period.
- b. The prodromal phase is transient, and its symptoms are similar to those of an upper respiratory tract infection. After having a fever for about one day, a pink maculopapular rash appears on the surface of the head and face, then spreading quickly (usually within 24 hours) to the neck, trunk, arms and ultimately the legs (but generally not on the palms and soles). Two or three days after the eruptions, the fever and rash dissipate gradually. Skin desquamation may occur without any residual pigmentation.
- c. The general symptoms are mild, and there is usually post-auricular and sub-occipital lymph node enlargement as well as a mass in the left hypochondriac area (the spleen is slightly enlarged).
- d. Blood count: white blood cells are slightly reduced and the lymphocytes are relatively increased.
- e. Etiological diagnosis: the rubella virus antigen may be traced from the pharyngeal secretions by direct immunofluorescence assay. The diagnosis can be confirmed if the patient's double serum antibody titers have increased 4-fold or more. Rubella-specific IgM antibody can also be detected and show as 100% positive in the 5-14 days after eruption. Newborn infants can be diagnosed as having congenital rubella if the serum rubella-specific IgM antibody is present.

► Differential Diagnosis

This disease should be differentiated from exanthema subitum, measles, and scarlet fever. See Table 32-1 in Chapter 32 *Measles*.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Pattern identification of rubella is based on the *wei-qi-ying*-blood pattern identification of warm diseases, and the main identification is the severity of the disease. Mild rubella manifests as low fever, nasal obstruction and discharge, and an mild itchy and evenly distributed red rash which fades within two or three days. The patient's spirit and appetite are normal. Severe rubella manifests with a persistent high fever, restlessness, thirst with desire to drink, and a bright red or dark purple densely spread rash, which appears mainly due to the pathogenic attack affecting the qi and *ying* levels.

► Treatment Principles

The basic treatment principle for rubella is to scatter wind and discharge heat.

For mild patterns in which the pathogen is attacking lung-*wei*, scatter wind, dissipate heat, and release the exterior to promote eruption.

For severe patterns in which the pathogen is invading the qi and *ying* levels, clear qi-level heat, cool the *ying* level, and resolve toxins.

► Classification of Patterns and Treatments

Pathogens invading lung-wei

Signs and Symptoms

These manifest as fever, aversion to wind, sneezing, nasal discharge, mild cough, fatigue, poor appetite, and rash appearing on head, face and trunk, then spreading quickly and covering the limbs. The rash is small, sparse, slightly itchy and evenly distributed, and usually fades after two or three days. The post-auricular and sub-occipital lymph nodes are swollen and tender. The tongue is red with a thin white or yellow coating and there is a floating and rapid pulse.

Pattern Differentiation

Pathogens invading lung-wei has an urgent onset characterized by low-grade fever, sparse and small rash, swollen and tender post-auricular and sub-occipital lymph nodes, and mild systemic symptoms. Most cases belong to this pattern.

Treatment Principles

Scatter wind, release the exterior and clear heat.

Formula

Modified *Yín Qiào Sǎn*—Lonicera and Forsythia Powder

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
淡竹叶	<i>dàn zhú yè</i>	Folium Phyllostachydis Henonis
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
桔梗	<i>jié gěng</i>	Radix Platycodonis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
荆芥	<i>jīng jiè</i>	Herba Schizonepetae
薄荷	<i>bò he</i>	Herba Menthae
豆豉	<i>dòu chǐ</i>	Semen Sojae Praeparatum

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae) and *dàn zhú yè* (Folium Phyllostachydis Henonis) clear heat and release the exterior.

Niú bàng zǐ (Fructus Arctii) scatters wind and clears heat.

jié gěng (Radix Platycodonis) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) diffuse the lung and relieve cough.

Jīng jiè (Herba Schizonepetae), *bò he* (Herba Menthae) and *dòu chǐ* (Semen Sojae Praeparatum) scatter wind, release the exterior, and expel pathogenic heat through the exterior.

Modifications

For post-auricular and sub-occipital lymph node swelling and tenderness add *pú gōng yīng* (Herba Taraxaci), *xià kǔ cǎo* (Spica Prunellae) and *xuán shēn* (Radix Scrophulariae).

For swelling, red and sore throat add *jiāng cán* (Bombyx Batryticatus), *mù hú dié* (Semen Oroxyli) and *bǎn lán gēn* (Radix Isatidis).

For itchy skin, add *chán tuì* (Periostracum Cicadae) and *jiāng cán* (Bombyx Batryticatus). For lumps in the left hypochondriac region (splenomegaly), add *mǔ dān pí* (Cortex Moutan) and *yù jīn* (Radix Curcumae).

Chinese Patent Medicines

a. *Bǎn Lán Gēn Kē Lì*—Isatis Root Granules

1 bag, 2-3 times daily.

b. *Xiǎo Ér Zǐ Cǎo Wán*—Children's Arnebia Root Pill

1 pill, twice daily. <1 year old: halve the dose.

Tuī na

Points	Repetitions	Methods
<i>fèi jīng</i> (肺经)	100-300	Clearing
<i>wèi jīng</i> (胃经)	100-00	Clearing
<i>gān jīng</i> (肝经)	100-300	Clearing
<i>tiān hé shuǐ</i> (天河水)	100-200	Clearing
<i>bǎn mén</i> (板门)	100-200	Kneading
BL 12 (<i>fēng mén</i>)	50-100	Kneading
BL 13 (<i>fèi shù</i>)	100-200	Kneading

Clear *fèi jīng* 100-300 times, clear *wèi jīng* 100-300 times, clear *gān jīng* 100-300 times, clear *tiān hé shuǐ* 100-200 times, knead *bǎn mén* 100-200 times, knead *fēng mén* 50-100 times, and knead *fèi shù* 100-200 times.

Pathogens attacking qì and yīng levels

Signs and Symptoms

This presents as high fever, thirst, vexation and crying, a densely distributed bright red or dark purple rash which may become confluent or in large scarlet areas; also scanty yellow urine and constipation. The tongue is red with a rough yellow coating, and the pulse is surging and rapid.

Pattern Differentiation

In this pattern, the pathogenic toxin is severe and has entered the interior qì and yīng levels, scorching the lung and stomach. The pattern is characterized by high fever, dysphoria, and a densely distributed bright red or purple rash. Although this pattern is not commonly seen in clinic, it is noteworthy because the condition is very serious.

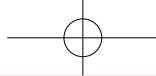
Treatment Principles

Clear heat from the qì level, cool the yīng level and resolve toxins.

Formula

Modified *Tòu Zhěn Liáng Jiě Tāng*—Eruption-Promoting Heat-Removing Decoction

桑叶	<i>sāng yè</i>	Folium Mori
薄荷	<i>bò he</i>	Herba Menthae
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
蝉蜕	<i>chán tuì</i>	Periostracum Cicadae
连翘	<i>lián qiào</i>	Fructus Forsythiae



黄芩	<i>huáng qín</i>	Radix Scutellariae
紫花地丁	<i>zǐ huā dì dīng</i>	Herba Violae
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
紫草	<i>zǐ cǎo</i>	Radix Arnebiae

Formula Analysis

Sāng yè (Folium Mori), *bò he* (Herba Menthae), *niú bàng zǐ* (Fructus Arctii) and *chán tuì* (Periostracum Cicadae) scatter wind and clear heat, promote eruption and expel pathogens through the exterior.

Lián qiào (Fructus Forsythiae), *huáng qín* (Radix Scutellariae) and *zǐ huā dì dīng* (Herba Violae) clear heat and resolve toxins, clear the qi level, and discharge heat.

Chì sháo (Radix Paeoniae Rubra) and *zǐ cǎo* (Radix Arnebiae) cool the *ying* level, invigorate blood, and vent heat from the *ying* level through the qi level.

Modifications

For thirst with increased fluid intake, add *tiān huā fēn* (Radix Trichosanthis) and *xiān lú gēn* (Rhizoma Phragmitis Recens).

For dry stools, add *dà huáng* (Radix et Rhizoma Rhei) and *xuán míng fēn* (Natrii Sulfas Exsiccatus).

For a densely distributed dark purple rash, add *shēng dì huáng* (Radix Rehmanniae), *mǔ dān pí* (Cortex Moutan) and *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae).

If the pathogen invades the heart and liver resulting in unconsciousness and convulsions, use a modification of *Qīng Wēn Bài Dú Yǐn*—Epidemic-Clearing Toxin-Resolving Beverage. At the same time, Western medicine should be used for symptomatic treatment.

Chinese Patent Medicines

- Xiǎo Ér Líng Yáng Sǎn*—Children's Antelope Powder
1 yr old, 0.3 g. 2 yrs old, 0.375 g. 3 yrs old, 0.5 g 3 times daily.
- Qīng Kāi Líng Kē Lì*—Qingkailing Effervesce Granules
1 bag, 2-3 times daily.

Tui na

Points	Repetitions	Methods
<i>fèi jīng</i> (肺经)	100-300	Clearing
<i>wèi jīng</i> (胃经)	100-300	Clearing
<i>gān jīng</i> (肝经)	100-300	Clearing
<i>dà cháng jīng</i> (大肠经)	100-200	Clearing
<i>liù fǔ</i> (六腑)	100-200	Pushing
<i>jǐ</i> (脊)	100-200	Pushing
<i>xiǎo tiān xīn</i> (小天心)	5-20	Pounding
<i>xiǎo tiān xīn</i> (小天心)	100-200	Kneading



Clear *fèi jīng* 100-300 times, clear *wèi jīng* 100-300 times, clear *gān jīng* 100-300 times, clear *dà cháng jīng* 100-200 times, push *liù fǔ* 100-200 times, push *jǐ* 100-200 times, pound *xiǎo tiān xīn* 5-20 times, and knead *xiǎo tiān xīn* 100-200 times.

[WESTERN MEDICINE THERAPIES]

Western therapies are mainly used for symptomatic and supporting treatments; Ribavirin and interferon can be used in the early stages. Antibiotics can be used if there are complications with bacterial infection.

Children with congenital rubella infections may carry the virus over a long period of time, hindering their growth and development. Hearing and visual acuity should be assessed early to determine any audio or visual impairment. Children with hearing or visual impairment will need special education and treatment to help improve their quality of life.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) Susceptible children should avoid exposure to the public during the rubella epidemic season.

(2) *Bǎn Lán Gēn Kē Lì*—Isatis Root Granules can be taken for rubella prevention if a child has close contact with a rubella patient.

(3) Pregnant women should avoid exposure to rubella especially within the first three months of pregnancy, but also during the entire gestational period.

(4) Preventive inoculations of the rubella vaccine is recommended for all boys and girls between 15 months of age and puberty. This decreases the likelihood of rubella exposure for susceptible women in early pregnancy. Post-pubertal females should be vaccinated only after determination of rubella susceptibility by HI antibody test and assurance that they are not pregnant and that the risk of pregnancy is essentially nil for at least 3 months after vaccination.

2. NURSING CARE

(1) During the eruptive stage, the child should not go outside and should be quarantined to prevent spreading a contagious infection.

(2) Sick children should have enough rest, keep warm and drink plenty of water. During the high fever, physical cooling methods may be used to lower the body temperature.

(3) To avoid skin damage and infections, do not scratch the rash areas. Wear soft and loose clothes.

[CASE STUDIES]

► Case #1. Female, age 8. Initial visit: 5/10/94

Patient complained of fever, watery eyes, aversion to wind and slight cold, a sore throat and a mild scattered pink rash on the face and trunk, and enlarged post-auricular and posterior cervical lymph nodes. The tongue was red with a thin yellow coating, and

the pulse was floating and rapid. The patient was diagnosed with rubella with a pattern of pathogenic invasion of lung-*wei*. The treatment principle was to expel pathogens from the exterior and resolve toxins.

The formula was *Qīng Rè Tòu Shā Tāng*—Clear Heat and Vent Rash Decoction.

1 decocted dose, taken twice daily.

Formula

金银花	<i>jīn yín huā</i>	10 g	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	10 g	Fructus Forsythiae
紫花地丁	<i>zǐ huā dì dīng</i>	10 g	Herba Violae
牛蒡子	<i>niú bàng zǐ</i>	10 g	Fructus Arctii
绿豆衣	<i>lù dòu yī</i>	10 g	Testa Glycinis
薄荷	<i>bò he</i>	5 g	Herba Menthae (decocted later)
牡丹皮	<i>mǔ dān pí</i>	6 g	Cortex Moutan
板蓝根	<i>bǎn lán gēn</i>	15 g	Radix Isatidis

After 1 dose, the rash spread all over the body. There a small itchy concentrated rash on the trunk and limbs with thirst and a desire to drink, a red tongue with a yellow coating, and a rapid powerful pulse.

10 g of *shuǐ niú jiǎo piàn* (Cornu Bubali), 6 g of *dàn zhú yè* (Herba Lophatheri) and 10 g of *xìng rén* (Semen Armeniacae Amarum) were added to the formula at the second visit.

After 2 doses the fever subsided, the rash faded, and the child recovered.

Analysis

In this case, the disease was caused by the rubella seasonal pathogen attacking lung-*wei*, lung qi failing to diffuse, and healthy qi contending with pathogenic qi and expelling the pathogen from the exterior. The treatment principle was to scatter *wei* to dissipate pathogens, promote eruption, and resolve toxins.

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *niú bàng zǐ* (Fructus Arctii), *bò he* (Herba Menthae) and *lù dòu yī* (Testa Glycinis) are pungent and cool, acting to clear heat, resolve toxins, scatter pathogens, and promote eruption.

Zǐ huā dì dīng (Herba Violae) and *bǎn lán gēn* (Radix Isatidis) clear heat and resolve toxins.

Mǔ dān pí (Radix Isatidis) clears the *yīng* level and cools the blood.

After 1 day, the struggle between healthy qi and pathogenic qi intensified; as the rash erupted, heat became exuberant and the interior heat became obvious. So at the second visit, *shuǐ niú jiǎo* (Cornu Bubali) was added to clear the *yīng* level and cool the blood, drain fire, and resolve toxins. *Dàn zhú yè* (Herba Lophatheri) was added to clear heart heat, promote urination, and guide heat downwards. *Xìng rén* (Semen Armeniacae Amarum) was added to diffuse the lung and expel pathogens. The child recovered in 2 days.

Source: Chen H, Xu MY. Treating 119 Cases of Epidemic Rubella with Qingretousha Decoction [J]. Journal of Sichuan Traditional Medicine; 1996, 14(1):47.

► **Case #2. Female, age 6. Initial visit: 2/25/94**

Patient had had a fever for one day with a red itchy rash appearing on the face and behind the ears as well as on the chest, abdomen and limbs. The rash was purple and merged into patches. There was red conjunctivae, coughing, a sore throat, abdominal distention, poor appetite, and dry stools. The tongue was red with a dry thick white coating, and the pulse was slippery and rapid.

Her temperature was 38.8°C. Test results showed WBC $12.2 \times 10^9/L$, RBC $4.5 \times 10^{12}/L$, HGB 143 g/L, normal urine.

The patient was diagnosed with rubella, and an intense toxic-heat pattern. The treatment principle was to clear heat, cool blood and resolve toxins.

Formula

金银花	<i>jīn yín huā</i>	8 g	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	8 g	Fructus Forsythiae
生地黄	<i>shēng dì huáng</i>	8 g	Radix Rehmanniae
赤芍	<i>chì sháo</i>	5 g	Radix Paeoniae Rubra
牡丹皮	<i>mǔ dān pí</i>	5 g	Cortex Moutan
牛蒡子	<i>niú bàng zǐ</i>	8 g	Fructus Arctii
紫花地丁	<i>zǐ huā dì dīng</i>	8 g	Herba Violae
蒲公英	<i>pú gōng yīng</i>	8 g	Herba Taraxaci
蝉蜕	<i>chán tuì</i>	3 g	Periostracum Cicadae
甘草	<i>gān cǎo</i>	2 g	Radix et Rhizoma Glycyrrhizae

2 doses, decoct in water.

After 2 days the rash and itching disappeared, she had a normal temperature and normal eyes, her appetite increased, there was no abdominal distention and her urine and stools became normal. She still had a slight cough, her tongue was light red with a thin coating, the pulse was slippery, and there were normal finger venules.. Treatment was applied to clear lung-heat with two doses of light-natured herbs, after which the patient was cured.

Analysis

In this case the child presented with a high body temperature, red eyes, sore throat, abdominal distention, poor appetite, dry stools and a red tongue. This was a severe seasonal pathogen attacking the middle *jiao*, lung and stomach, involving both the *taiyin* and *yangming*.

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *chán tuì* (Periostracum Cicadae) and *niú bàng zǐ* (Fructus Arctii) were used to vent heat and dissipate pathogens.

Zǐ huā dì dīng (Herba Violae), *pú gōng yīng* (Herba Taraxaci) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) were applied to clear heat and resolve toxins.

Shēng dì huáng (Radix Rehmanniae), *chì sháo* (Radix Paeoniae Rubra) and *mǔ dān pí* (Radix



Isatidis) were applied to cool the blood and promote eruptions, clear heat from the *ying* level, and nourish yin. The treatment method was to use light-natured medicinals to clear lung heat.

Source: Fang TN. Differentiation and Treatment of 138 Cases of Children's Rubella. *Guangzhou Medical Journal*, 2005; 36(5): 64-65.

[QUESTIONS]

1. A 4-year-old child is seen with a fever for one day and a pink and itchy maculopapular rash covering all over the body, occasional cough and a diagnosis of rubella. *Tui na* can be used.

Which of the following is the best method?

- A. Clear *fèi jīng*, clear *wèi jīng*, supplement *xīn jīng*.
- B. Clear *fèi jīng*, supplement *pí jīng*, clear *wèi jīng*.
- C. Clear *fèi jīng*, clear *wèi jīng*, knead BL12 (*fēng mén*).
- D. Clear *fèi jīng*, supplement *gān jīng*, knead BL12 (*fēng mén*).
- E. Clear *gān jīng*, clear *dà cháng jīng*, knead BL12 (*fēng mén*).

2. A 2-year-old child is seen with a fever, cough, sneezing, nasal discharge, sparse, small and a pink itchy rash evenly distributed on the body and swollen and tender post-auricular and sub-occipital lymph nodes. The tongue is red with a thin and yellow coating and the pulse is floating and rapid.

Which is the correct treatment method?

- A. Ventilate the lung, relieve dyspnea and cough.
- B. Release the exterior with acrid-warm medicinals and dissipate cold.
- C. Clear heat, scatter wind and dissolve phlegm.
- D. Scatter wind, release the exterior and clear heat.
- E. Release the exterior, clear interior heat with purgation.

3. A 3-year-old child is seen with a fever, aversion to wind, sneezing, nasal discharge, mild cough, nasal discharge, and an evenly distributed, slightly itchy, sparse pink rash, and swollen and tender post-auricular and sub-occipital lymph nodes. The tongue is red with a thin yellow coating, and the pulse is floating and rapid.

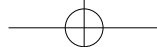
Which is the best formula to use?

- A. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder
- B. *Sāng Jú Yīn*—Mulberry Leaf and Chrysanthemum Beverage
- C. *Sāng Xīng Tāng*—Mulberry Leaf and Apricot Kernel Decoction
- D. *Xiāng Sū Sǎn*—Cyperus and Perilla Powder
- E. *Má Xīng Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction

4. A 3-year-old child is seen with high fever, fidgetiness, crying, a densely distributed bright red or dark purple rash, scarlet flushed skin, scanty dark urine and constipation. The tongue is red with a yellow coating and there is a rapid powerful pulse.

Which is the pathomechanism?

- A. Pathogens invading lung-*wei*.
- B. Pathogens entering the qi and *ying* levels.
- C. Pathogenic heat invading the blood level.
- D. Blood heat complicated with blood stasis.
- E. Pathogen invading the heart and liver.



[REFERENCES]

- [1] Guo SC, Liang XF, Zuo SY. Investigation and Analysis for the National Economic Burden of Measles, Mumps and Rubella in 2004 [J]. Chinese Journal of Vaccines and Immunization, 2008; 14(1): 33-36
- [2] http://www.who.int/immunization_monitoring/en/globalsummary/scheduleslect.cfm.
- [3] Feng YZ, Zhang XM. Shuanghuanglian Treating 92 Cases of Children with Rubella [J]. Journal of Shandong College of Traditional Chinese Medicine, 2001; 8(9): 55-56.
- [4] Shi JJ. Observation of Curative Effects of *Huangqi* Injections to Treat 60 Child Rubella Cases [J]. The Chinese Journal of Modern Medicine and Technology, 2004; 4(3): 73-74.

Chapter 35

Chickenpox (*Shuǐ Dòu*)

Chickenpox is a common childhood disease characterized by an acute highly infectious rash caused by a seasonal pathogen and clinically marked by the development of a fever followed by an itchy dark red pimply rash which develops into blisters and then scabs, sometimes affecting the mucous membranes. The lesions can be seen in various stages of maturation with macules, papules, vesicles and scabbing all present at the same time. This condition is commonly referred to as chickenpox or varicella in Western medicine.

Chickenpox is an early childhood disease caused by the varicella-zoster virus (V-ZV), a herpes virus transmitted by airborne droplets. The symptoms are mild in the majority of normal children, but progressive varicella can occur in immunocompromised newborns and children; in these cases the condition can be fatal. In developing countries, the varicella vaccine is not included in national immunization programs, so there is lower immunization coverage and a higher incidence than in developed countries.

In 2006, China National reported a total of 157,392 cases of chickenpox with 6 deaths. 3-10 year old children accounted for 76% of the total annual number of cases.^[1] In Greece, by analyzing the 70,226 pupils of a primary school survey, results showed that children who had already had chickenpox in the first grade reached 63.6%, and in the sixth grade, the rate reached 78.6% (the disease occurred at an average age of 4.75 years).^[2] For this reason, the World Health Organization issued a “submission on chickenpox vaccine” in order to help reduce global morbidity and mortality rates in children with chickenpox.

Chickenpox can occur throughout the year, but is most common in late winter and early spring. Children of any age can contract the disease, with 90% under age 10, and the most prevalent being among 6-9 year olds. Generally, chickenpox has a good prognosis.

Long Xian-lin applied a modification of *Yín Qiào Sǎn*—Lonicera and Forsythia Powder with *Sān Rén Tāng*—Three Kernels Decoction, which contains *lián qiào* (Fructus Forsythiae) 10 g, *xìng rén* (Semen Armeniacae Amarum) 10 g, *niú bàng zǐ* (Fructus Arctii) 10 g, *dàn zhú yè* (Herba Lophatheri) 10 g, *shēng má* (Rhizoma Cimicifugae) 10 g, *hòu pò* (Cortex Magnoliae Officinalis) 10 g, *bò he* (Herba Menthae) 6 g, *jīn yín huā* (Flos Lonicerae Japonicae) 15 g, *yì yǐ rén* (Semen Coicis) 15 g, *pú gōng yīng* (Herba Taraxaci) 15 g, *yě jú huā* (Flos Chrysanthemi Indici) 15 g, *bái dòu kòu* (Fructus Amomi Kravanh) 5 g, *huá shí* (Talcum) 18 g and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) 3 g.

In 78 cases of children with chickenpox, the decoction was administered once daily according to pattern differentiations of wind-heat complicated by dampness, lung-*wei* failing to diffuse, blazing of both *qi* and *yīng*, and dampness with toxic accumulation. All patients were cured within 3-6 days, with an average of 3-5 days without complications.^[3]

[ETIOLOGY & PATHOMECHANISM]

Chickenpox is caused by an externally contracted wind-damp-heat seasonal pathogen with the main locations of attack involving the lung and spleen. The lung and spleen are often deficient in children and thus with increased susceptibility to exogenous pathogenic

factors. The lung governs the skin and body hair and is located in the upper *jiao*, therefore vulnerable to pathogenic wind-damp-heat attacking the lung-*wei* through the mouth and nose. The spleen governs muscles and is the most averse to dampness. If spleen qi is deficient with accumulated interior water-dampness, and this is combined with an invasion of external dampness obstructing the lung and spleen where pathogens accumulate and steam the skin to manifest as chickenpox.

Pathogens Attacking Lung-wei

The etiology involves pathogenic wind-damp-heat attacking the lung-*wei* through the mouth and nose, which causes a struggle between healthy and pathogenic qi where lung-*wei* fails to diffuse, leading to a fever, nasal discharge and coughing. If the pathogens progress internally to cause binding constraint in the spleen, the spleen then fails to transport and water-dampness is retained internally; there is also contention between the internal dampness and the external dampness. This causes accumulation and steaming of the striae and interstices outwardly onto the skin surface to enable chickenpox.

Toxins Blazing in Qi and Ying Levels

When there is endowment insufficiency and a weak constitution, or exuberance of pathogenic qi but debilitation of healthy qi, due to the reactions to a severe pathogenic attack, there is a fierce struggle between the healthy qi and pathogenic qi. This leads to pathogenic damp-heat blazing in the qi and *ying* levels appearing outwardly on the skin exterior leading to a densely distributed dark purple vesicular rash with a significant erythematic base surrounding the vesicles and turbid fluid-filled blisters. Blazing of both

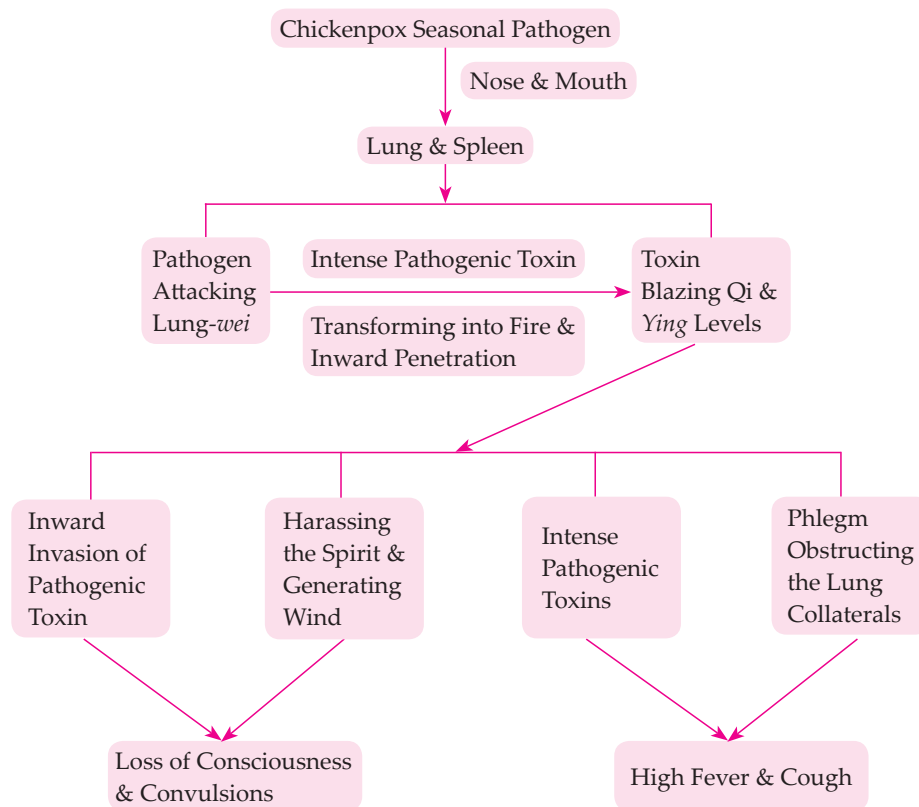


Fig. 35-1 Etiology and Pathomechanism of Chickenpox



qi and *yīng* levels leads to a high fever and irritability, thirst with a desire to drink, a sore mouth and tongue, dry stools and dark urine.

There can also be toxic-pathogens attacking internally and spreading to the lung, heart, liver and other organs due to the exuberance of pathogenic qi but with debilitation of healthy qi, leading to a variety of transmuted patterns. These include toxic-pathogens blocking the lung (complicated by pneumonia), pathogens invading the heart and liver (complicated by encephalitis), or chickenpox vesicular lesions which rupture and become exposed to infection (complicated by bacterial super-infection from scratching and rupturing the lesions).

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

a. Chickenpox usually has an incubation period of 11-20 days; the patient has had exposure to an infected individual 2-3 weeks prior to the onset.

b. Manifestations of the early-stage are fever, watery nasal discharge, cough and poor appetite. In most cases the fever is mild.

c. Usually appears first as a maculopapular rash within 1-2 days after the onset of the illness, soon developing vesicles that are variable in size, oval-shaped, containing liquid and surrounded by erythematic bases. Often itchy, the vesicles become encrusted then fall off after about 12 days without scarring. The rash appears in batches with the initial and most profuse spreading usually first on the trunk, then onto the scalp or face, and later spreading to the limbs in lesser amounts. Papules, vesicles and dry scabs are all present in the area at the same time.

d. Blood test: WBC usually unaffected or slightly low.

e. Laboratory etiological studies: Detection of viral antigens by immunofluorescence with monoclonal antibodies has a higher sensitivity to help in viral diagnosis. The methods used for detecting antibodies include: fluorescent antibody membrane antigen test, immune adherence hemagglutination test, or an enzyme-linked immunosorbent assay antibodies test (ELISA). Markers appear 1-4 days after the rash appears and titers are elevated four times higher after 2-3 weeks. A rapid diagnosis may be made by using Wright's stain on scrapings of fresh material from the base of the vesicles to reveal multinucleated giant cells, many containing intra-nuclear inclusions.

► Differential Diagnosis

This disease needs to be differentiated from impetigo. See Table 35-1.

Table 35-1 Differential Diagnosis of Chickenpox and Impetigo

	Chickenpox	Impetigo
Cause	Viral infection caused by the varicella-zoster virus	Bacterial infection mostly caused by <i>Staphylococcus aureus</i> , or <i>Streptococcus</i> species, or both.
Contagiousness	Very highly contagious	Less contagious
Predisposing Season	Winter and Spring	Summer and Autumn

Continued

	Chickenpox	Impetigo
Location of Lesions	Trunk (centripetally)	Legs, arms, face & other exposed parts of skin (centrifugally)
Characteristics	Papules, vesicles, scabs often appearing together, rash itself has no pus, or never suppurative	Sores with pus, sagging after breaking with yellow-brown crusting after drying
Course	About 6-7 days in normal children	Varying duration, often recurrent attacks
Prognosis	Permanent immunity, occasionally complicated by myocarditis. After many decades the virus can become reactivated, resulting in zoster.	Debilitated children can be complicated by acute nephritis

Impetigo is usually caused by staphylococcus aureus or streptococcus species, so treatment with topical or systemic antibiotics show beneficial curative effects. Oral administration and external applications of Chinese medicine can also be effective.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Pattern differentiation focuses on identifying the *wei*, *qi* and *ying* levels. According to systemic and local symptoms, the *wei* level is marked by ruddy, small and sparse vesicular rashes with clear and bright fluid-filled blisters, or accompanied by a mild fever, nasal discharge and cough. The *qi* and *ying* levels are marked by large and dense reddish-purple vesicular rashes with turbid fluid-filled blisters and accompanied by a high fever, irritability, and restlessness due to a severe attack of the varicella-zoster virus. Seriously ill children easily show transmuted patterns such as pathogens invading inwardly into the heart and liver, or toxins blocking the lung.

► Treatment Principles

The basic treatment principles for chickenpox are to clear heat, resolve toxins and remove dampness. Methods to scatter wind, discharge heat, clear heat from the *qi* level, cool the *ying* level, remove dampness and resolve toxins can be applied for different patterns. Treatment principles for transmuted patterns of pathogens inwardly invading the heart and liver and toxins blocking the lung are to clear heat, resolve toxins, suppress fright, open the orifices, open the lung, and dissolve phlegm.

► Classification of Patterns and Treatments

Pathogens Attacking Lung-wei

Signs and Symptoms

Manifestations include a slight or absent fever, nasal congestion with discharge, sneezing, coughing, rash appearing 1-2 days after onset, a sparse, itchy, ruddy, vesicular rash with clear fluid and a flushed surrounding base. The new lesions will erupt one after another with more eruptions on the trunk. The tongue tip is red with a thin white coating; the pulse is floating and rapid.

Pattern Differentiation

This pattern is mainly characterized by a mild fever, nasal discharge, and a sparsely distributed ruddy skin rash with clear and bright fluid-filled blisters and mild or absent systemic symptoms.

Treatment Principle

Scatter wind, clear heat, drain dampness and resolve toxins

Formula

Modified *Yín Qiào Sǎn*—**Lonicera and Forsythia Powder**

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
淡竹叶	<i>dàn zhú yè</i>	Folium Phyllostachydis Henonis
薄荷	<i>bò hé</i>	Herba Menthae
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
桔梗	<i>jié gěng</i>	Radix Platycodi
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
六一散	<i>Liù Yī Sǎn</i>	Six-to-One Powder

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae) and *dàn zhú yè* (Folium Phyllostachydis Henonis) clear heat and resolve toxins.

Bò hé (Herba Menthae) releases the exterior with an acrid-cool nature.

Niú bàng zǐ (Fructus Arctii) and *jié gěng* (Radix Platycodi) diffuses the lung and relieves sore throat.

Chē qián zǐ (Semen Plantaginis) and *Liù Yī Sǎn*—Six-to-One Powder act to clear heat and drain dampness.

Modifications

For cough with phlegm, add *xìng rén* (Semen Armeniacae) and *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii).

For sore throat, add *bǎn lán gēn* (Radix Isatidis) and *jiāng cán* (Bombyx Batryticatus).

For itchy skin, add *chán tuì* (Periostracum Cicadae) and *dì fū zǐ* (Fructus Kochiae).

Chinese Patent Medicines

Bǎn Lán Gēn Kē Lì—Isatis Root Granules

Take 5 g, 2-3 times daily.

Pathogens Blazing in Qi and Ying Levels

Signs and Symptoms

Manifestations include strong fever without abatement, irritability or restlessness, thirst with a desire to drink, facial flushing, red eyes, a dark purple densely distributed skin rash, blisters with turbid fluid, and possible hemorrhagic rash and purpura. There are also dry stools and short voiding of dark yellow urine. The tongue is red or crimson with a rough dry yellow coating; the pulse is rapid and powerful.

Pattern Differentiation

This pattern is characterized by a high fever with irritability, facial flushing, red eyes, a

dark purple densely distributed skin rash and blisters with turbid fluid. Excessive heat in the *qi* level manifests with feverishness, irritability, thirst, dry stools, short voiding of dark yellow urine, and a rough yellow or greasy thick yellow coating on the tongue. With severe heat in the *ying* level, there is irritability and restlessness with a dark purple hemorrhagic skin rash and a crimson tongue body.

Treatment Principle

Clear heat from the *qi* level, cool the *ying* level, resolve toxins and eliminate dampness

Formula

Modified *Qīng Wèi Jiě Dú Tāng*—Stomach-Clearing Toxin-Resolving Decoction

升麻	<i>shēng má</i>	Rhizoma Cimicifugae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
黄芩	<i>huáng qín</i>	Radix Scutellariae
石膏	<i>shí gāo</i>	Gypsum fibrosum
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
紫草	<i>zǐ cǎo</i>	Radix Arnebiae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
六一散	<i>Liù Yī Sǎn</i>	Six-to-One Powder

Formula Analysis

Shēng má (Rhizoma Cimicifugae) clears heat and promotes the eruption of papules.

Huáng lián (Rhizoma Coptidis) and *huáng qín* (Radix Scutellariae) clear heat and resolve toxins.

Shí gāo (Gypsum fibrosum) clears heat from the *qi* level.

Mǔ dān pí (Cortex Moutan) and *shēng dì huáng* (Radix Rehmanniae) cool the *ying* level and clear heat.

Zǐ cǎo (Radix Arnebiae), *zhī zǐ* (Fructus Gardeniae) and *Liù Yī Sǎn*—Six-to-One Powder clear heat, cool the *ying* level, and remove dampness.

Modifications

For tongue sores and dry stools, add *shēng dà huáng* (Radix et Rhizoma Rhei) and *quán guā lóu* (Fructus Trichosanthis).

For damaged body fluids with dry lips and mouth, add *mài mén dōng* (Radix Ophiopogonis) and *lú gēn* (Rhizoma Phragmitis).

Chinese Patent Medicines

Qīng Kāi Líng Kē Lì—Qingkailing Granules.

Take 1 bag, 2-3 times daily.

If during the progression the vesicular rash has subsided but the patient continues to have a high fever with mental foggiess, unconsciousness or convulsions due to pathogens invading the heart and liver (complicated by encephalitis), the patient should be hospitalized and treated with a combination of traditional Chinese medicine and Western medicine.

The TCM treatment principle is to clear heat and resolve toxins, suppress fright and

open the orifices. A commonly used formula is a modification of *Qīng Wēn BÀI Dú Yīn*—Epidemic-Clearing and Toxin-Resolving Beverage with *Zǐ Xuě Dān*—Purple Snow Elixir.

Western medicine therapy is symptomatic and supportive. Patients with a high fever are given antipyretic agents other than salicylic acid preparations; patients with acute high intracranial pressure are treated in the usual manner with mannitol, and convulsing patients are given diazepam etc. If there is a high fever, coughing with difficult to expectorate phlegm, shortness of breath, flaring nostrils or cyanotic lips due to pathogenic toxins blocking the lung (complicated by pneumonia), refer to Chapter 10 *Pneumonia* for appropriate treatment.

[WESTERN MEDICINE THERAPIES]

Children with mild cases of chickenpox require no specific therapy, but are generally given appropriate nursing care. The fingernails can be trimmed to prevent scratching and bacterial super-infection of the skin lesions, and 1%-2% gentian violet (GV) can be applied topically to the vesicular lesions to prevent infection. Itching can be relieved by topical calamine lotion if severe or if there are intact vesicles, and antibiotic therapy can be used for infected skin lesions.

For severely progressive varicella, use antiviral agents acycloguanosine 500 mg/m²/day divided into 3 doses; give once every 8 hours via slow intravenous drip. At the same time, pay attention to possible toxicity and side-effects such as fever, rash or temporarily elevated serum transaminase levels.

[PREVENTION AND NURSING CARE]

1. PREVENTION

- (1) Avoid public places during chickenpox epidemics.
- (2) It has been suggested that susceptible pregnant women exposed to the virus should be given varicella-zoster immune globulin (ZIG) as passive immunization. The fetus can become infected if varicella develops in a pregnant woman; when a woman develops V-ZV early in pregnancy, she and her physician must together weigh the risk of having a malformed infant and terminate the pregnancy if this is an option.
- (3) Control infection sources; children with chickenpox are usually excluded from school. The period of contagion is approximately 5 days after the onset of the appearance of the first skin lesions in normal children and at least 7-10 days in immunocompromised children or until the vesicular lesions form scabs. Susceptible children in schools and childcare centers who have been in contact with chickenpox should be quarantined for three weeks, and immediately given a live attenuated varicella vaccine for prevention.
- (4) Clothing and equipment that have been contaminated by chickenpox-infected children should be disinfected by polarizing, boiling, ultraviolet light irradiation and other measures.
- (5) There is a higher risk in children receiving high doses of steroids-corticosteroids or immunosuppressive therapy, and also immunocompromised children or patients with malignant disorders. It is advisable to protect these individuals by giving an intramuscular injection of varicella-zoster immune globulin (ZIG) as soon as possible after the exposure to

chickenpox, preferably within 3 days.

2. NURSING CARE

(1) To reduce the risk of secondary infections, keep the skin clean, frequently change underclothing, and trim the fingernails or use gloves to prevent scratching of the lesions.

(2) If the child is receiving treatment with steroids/adrenal cortical hormones and becomes infected with chickenpox, adrenal cortical hormone doses should be stopped immediately or reduced to levels that will not have any significant adverse effect on the course of the disease.

(3) To avoid Reye's syndrome in infected children with a fever, do not use salicylic acid preparations.

[CASE STUDIES]

► Case #1

Male, age 8 years. Initial Visit: 5/18/1986

His manifestations included fever for 4 days with a generalized maculopapular rash for nearly 2 days, a severely itchy rash with centralized blisters distributed more densely on the trunk, slightly reduced food intake, yellow urine and normal stools. His tongue was red with a yellow greasy coating; the pulse was soggy and rapid. He had a fever of 38.7° (anal temperature).

Based on the signs and symptoms, the patient was diagnosed with chickenpox with a damp-heat accumulation pattern. Therefore, the treatment principle was to clear heat, drain dampness and resolve toxins.

Formula

金银花	<i>jīn yín huā</i>	10 g	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	10 g	Fructus Forsythiae
紫花地丁	<i>zǐ huā dì dīng</i>	15 g	Herba Violae
黄花地丁	<i>huáng huā dì dīng</i>	15 g	Crotalaria albida Heyne
鸡苏散	<i>Jī Sū Sǎn (gān cǎo, huā shí, bō hé)</i>	10 g	Mint Powder
熟大黄	<i>shú dà huáng</i>	10 g	Radix et Rhizoma Rhei praeparata
车前草	<i>chē qián cǎo</i>	10 g	Herba Plantaginis

The above medicinals were used orally and together as an external wash. After 4 doses the fever receded, all skin lesions had formed scabs, no new lesions erupted, and all other symptoms had disappeared.

Analysis

In this case, the child had a generalized maculopapular rash with blisters in the center and extreme itching. These were marked manifestations of chickenpox. After 2 days the location of the disease was superficial with the pathogen attacking lung-wei; the treatment principle was to scatter wind, discharge heat, resolve toxins and remove dampness, treating both the interior and exterior.

In the above formula, *jīn yín huā* (Flos Lonicerae Japonicae) and *lián qiào* (Fructus

Forsythiae) scatter wind and discharge heat.

Zǐ huā dì dīng (Herba Violae), *huáng huā dì dīng* (Crotalaria albida Heyne) and *shú dà huáng* (Radix et Rhizoma Rhei praeparata) clear heat, drain fire and resolve toxins.

Jī Sū Sǎn (*gan cao*, *hua shi*, and *bo he*) and *chē qián cǎo* (Herba Plantaginis) clear summer-heat and drain dampness. All medicinals together act scatter wind and relieve itching, subside fever and swelling, dissipate dampness and eliminate vesicles.

Source: Qian SB, Wang Yuling. Discussion on the Experience of Pediatric Medication [J]. Jiangsu Journal of Traditional Chinese Medicine, 1987; (8):35.

► Case #2

Female, age 9 months. Initial Visit: 2/12/2007

Skin rash for one day.

History: the child had been feeling uncomfortable during sleeping with an itchy skin over the previous 2 days. She had a skin rash since the previous night, increasing on the morning of the visit with co-existing papules and vesicles, nasal discharge and no cough. There was a history of exposure to chickenpox.

Physical Signs: the pharynx was red, trunk scattered with papules and vesicular skin lesions, and her heart and lungs were in normal condition. Her tongue had a thin yellow greasy coating.

Diagnosis: chickenpox

Pattern Differentiation: externally-contracted wind dampness with internal dampness dispersing on the skin.

Treatment Principle: scatter wind, clear heat and remove dampness.

Formula

金银花	<i>jīn yín huā</i>	10 g	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	10 g	Fructus Forsythiae
薄荷	<i>bò hé</i>	6 g	Herba Menthae (decocted later)
牛蒡子	<i>niú bàng zǐ</i>	10 g	Fructus Arctii
蝉蜕	<i>chán tuì</i>	6 g	Periostracum Cicadae
淡豆豉	<i>dàn dòu chǐ</i>	10 g	Semen Sojae praeparatum
生苡仁	<i>shēng yǐ rén</i>	10 g	Semen Coicis
六一散	<i>Liù Yī Sǎn</i>	12 g	Six-to-One Powder (wrapped)
贯众	<i>guàn zhòng</i>	10 g	Cyrtomium fortunei J. Sm.

4 doses.

Second Visit: most of the rash had encrusted, so the formula was continued for 3 more doses after which the rash subsided.

Analysis

Summerheat-dampness is more serious in midsummer and the child had a history of exposure to chickenpox; wind-damp-heat attacked the immature body, starting with the lung-wei. As lung-wei failed to diffuse, there was a red pharynx, nasal discharge, papules and vesicles co-existing on the skin and a thin yellow greasy tongue coating.

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *bò hé* (Herba

Menthae), *niú bàng zǐ* (Fructus Arctii), *chán tuì* (Periostracum Cicadae) and *dàn dòu chǐ* (Semen Sojae praeparatum) were used to scatter wind, discharge heat, and release the exterior with acrid-coolness.

Shēng yǐ rén (Semen Coicis), *Liù Yī Sǎn*—Six-to-One Powder and *guàn zhòng* (Cyrtomium fortunei J. Sm.) act to clear summerheat, resolve toxins and remove dampness.

Source: Wan LS, Ed. 汪受传儿科医论医案选 [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics]. Beijing: Academy Press, 2008:271-272.

► Case #3

Male, age 4 years.

Suffering chickenpox for five days with no curative effect having been achieved in other hospitals, the patient was admitted to the pediatric department on 11/4/2002. On admission his temperature was 41°C, and large itchy vesicular lesions covered the whole body with local severe stabbing pain, especially on the trunk. He was irritable and sleepless with constipation and dark yellow urine. His tongue was red with a thick yellow greasy coating; the pulse was floating and thready.

Laboratory tests showed WBC and neutrophil counts elevated.

The prescription was *Shuāng Huáng Lián Fě Zhēn Jì*—Double Chinese Goldthread Rhizome Powder Injections with 1.8 g added to 10% glucose 250 ml for intravenous drip once daily. At the same time he was given *Shuāng Huáng Lián Fě Zhēn Jì*—Double Chinese Goldthread Rhizome Powder Injections 3 g, which was added to distilled water to make a 3% concentration liquid for application to the affected areas every 2-3 hours. For severe itching and pain, times of application were increased.

The child's temperature returned to normal on the third day; after one week the scab covers dropped off and the patient was discharged.

Analysis

Shuāng Huáng Lián Fě Zhēn Jì—Double Chinese Goldthread Rhizome Powder Injection is made with extracts of *jīn yín huā* (Flos Lonicerae Japonicae), *huáng qín* (Radix Scutellariae) and *lián qiào* (Fructus Forsythiae) which act to clear heat, resolve toxins, subside swelling and relieve pain; it also is a broad-spectrum antibacterial, anti-viral and analgesic. In this case there had been an acute chickenpox attack, so an intravenous drip was used together with external treatment to good effect.

Source: Zhao HY. *Shuāng Huáng Lián Powder Injections for Treating Chickenpox with both Internal and External Treatments*. Hubei Journal of Traditional Chinese Medicine, 2003; 25 (9): 44.

[QUESTIONS]

1. A 6-year-old child is seen with a mild fever, slight nasal discharge, sneezing and coughing, and a skin rash appearing for 1-2 days after the onset of the disease. The itchy, sparsely distributed rash was rosy with blisters filled with clear fluids and a flushed base surrounding the vesicles. The new lesions erupted one after another with more on the trunk. The tongue had a thin and white coating; the pulse was floating and rapid.

What is the pathomechanism here?

A. Pathogens invading lung-wei



- B. Pathogens invading the lung and stomach
- C. Pathogens blazing in the qi and *ying* levels
- D. Pathogens blazing in the heart and liver
- E. Pathogens invading the lung and kidney

2. A 4-year-old child is seen with a low fever at onset. The next day a skin rash erupts, and papules gradually transform into vesicles with mild itching. The rash appears more on the trunk. The tongue has a thin white coating; the pulse is floating and rapid.

What is the most appropriate treatment principle?

- A. Scatter wind and clear heat, drain dampness and resolve toxins.
- B. Clear heat to release the exterior, diffuse the lung and dissolve phlegm.
- C. Clear heat to release the exterior, harmonize the stomach and remove dampness.
- D. Clear heat and resolve toxins, drain urine and remove dampness.
- E. Clear heat and resolve toxins, dry dampness and relieve itching.

3. An 8-year-old child is seen with a low fever, nasal discharge and coughing one day after the appearance of a sparsely distributed maculopapular rash, and vesicles with clear fluid. It appears mostly on the trunk, also scattered on the face. The tongue is red with a thin white coating; the pulse is floating and rapid.

Which of the following is the first choice of formula?

- A. *Chái Gé Jiě Jī Tāng*—Bupleurum and Pueraria Muscle-Resolving Decoction
- B. *Huáng Lián Jiě Dú Tāng*—Coptis Toxin-Resolving Decoction
- C. *Tòu Zhěn Liáng Jiě Tāng*—Promoting Eruption Removing Heat with Coolness Decoction
- D. *Dà Lián Qiào Tāng*—Major Fructus Forsythiae Decoction
- E. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder

4. A 5-year-old child is seen with a high fever for 3 days which worsened at night. The child is irritable, thirsty but without a desire to drink, and has a red complexion, vermilion lips, a densely distributed dark purple maculopapular rash and vesicles on the chest and back blistering with a turbid fluid. His urine is dark, and stools are dry. The tongue is crimson red with a dry yellow coating; the pulse is rapid and powerful.

What is the presenting pattern here?

- | | |
|--|--|
| A. Heat entering <i>ying</i> -blood | B. Toxins blazing in the qi and <i>ying</i> levels |
| C. Pathogens entering the lung and stomach | D. Intense heat toxin |
| E. Pathogens damaging lung- <i>wei</i> | |

[REFERENCES]

- [1] Yin BP. Epidemiological Analysis of Chickenpox in China in 2006 [J]. Preventive Medicine Tribune, 2007; 13 (6): 488-489.
- [2] A. Katsafadou, G. Ferentinos, A. Constantopoulos and V. Papaevangelou. The Epidemiology of Varicella in School-Aged Greek Children before Implementation of Universal Vaccination. European Journal of Clinical Microbiology & Infectious Diseases, 2007, 11
- [3] Long XL. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder with *Sān Rén Tāng*—Three Kernels Decoction Treatments for 78 Chickenpox Cases [J]. Journal of Sichuan Traditional Medicine, 2007; 25 (10): 90.



Chapter 36

Hand, Foot and Mouth Disease

Hand, foot and mouth disease (HFMD) is an acute exanthematous infectious disease caused by seasonal pathogens and characterized by vesicular lesions presenting on the palms, soles, buttocks and mouth with or without a fever.

There are more than 20 specific types of enterovirus causing hand, foot and mouth disease, mainly belonging to the enterovirus genus of the picornavirus family. These include the group A coxsackieviruses (types 16, 4, 5, 9, 10), group B coxsackieviruses (types 2, 3, 4, 5, 6, 8, 10 and 13), echo virus and enterovirus type 71 (EV71). Coxsackievirus A 16 (Cox A16) and EV71 are more common. EV71 is apt to induce severe complications, such as myoclonia, encephalitis, acute flaccid paralysis, heart and respiratory failure and pneumonedema. Since Shmidt et al. first reported EV71 isolation from an encephalitis patient in California, United States in 1974, EV71 has evoked over 10 times the epidemic outbreaks worldwide. In Australia, an EV71 epidemic spread between 1972 and 1973, 1986 and 1999. The most severely affected patients had symptoms of the central nervous system, including aseptic meningitis, Guillain-Barre syndrome ataxia, and hyperpyretic convulsions. Some patients had serious respiratory symptoms. In 1975, there were over 750 cases of EV71 infection in Bulgaria which were mainly spread through infants. All the cases presented with central nervous system symptoms without HFMD-like symptoms. Among these cases there were 545 cases of aseptic meningitis, 52 cases of poliomyelitis-like paralysis, and 68 cases of brain stem encephalitis (44 cases died). The deaths were mainly caused by respiratory failure due to medulla involvement. In Japan, there were EV71 epidemics in 1973 and 1978. The main clinical symptoms involved hand, foot and mouth disease. Though most of the cases were mild, some cases presented with symptoms of the central nervous system (24% in 1973, 8% in 1978). During 1997 to 2000, the EV71 infection recurred in Japan. The manifestations on the skin and mucosa showed that EV71 had considerable variations. The genotypes of the strain were different from those that had occurred before and had a strong neurotoxic tendency.

In 1998 there was a massive HFMD epidemic with 129,106 cases in Taiwan. There were 405 cases with severe complications, including encephalitis, aseptic meningitis, pneumonedema, and pneumorrhagia. Among them, 78 cases died, 83% of those died from pneumonedema or pneumorrhagia and 91% of those were less than 5 years old.

In Singapore and Taiwan, since 2008 the epidemic situation of HFMD has become more serious than the previous year. HFMD has spread to many areas in China. It was reported that more than 9 provinces (cities) have found HFMD. In Anhui province (the original and the most serious affected area), the number of published cases rose to 5151, with 22 fatalities in children ^[1]. According to a report by the Ministry of Public Health of China from early 2009 to April 7th, there were a total of 115,618 HFMD cases in the whole country, including 773 severe cases and 50 deaths. Most cases were infants, 94.8% of which were below 5 years old and 77.6% of which were younger than 3 years old.

This disease occurs in any season but is more common in summer and autumn. It occurs among children of any age, usually under 5 years old and especially in those below 3



years old. This disease is extremely infectious and is prone to spreading epidemics. General speaking, the prognosis is good although some severe cases may be complicated with life-threatening conditions such as myocarditis, encephalitis and meningitis.

HFMD treatment with Chinese medicine has shown very good results.

Chen Wan-ji et al. treated 32 cases of HFMD with *Qīng Huà Tòu Zhěn Tāng*—Clearing and Resolving Pathogens and Eruption-Promoting Decoction, containing *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *chán tuì* (Periostracum Cicadae), *huò xiāng* (Herba Pogostemonis), *pèi lán* (Herba Eupatorii), *yì yǐ rén* (Semen Coicis), *jiāng bàn xià* (Rhizoma Pinelliae Praeparatum), *bò hé* (Herba Menthae), *guā lóu pí* (Pericarpium Trichosanthis) and *xuán shēn* (Radix Scrophulariae). The control group (30 cases) was treated with Ribavirin.

Results showed the treatment group superior to the control group with improved signs and symptoms, disease course, duration of fever persisting after treatment, rash fading time, and improvements in the oral cavity ulcers ($P < 0.01$).^[2]

Zhang Ying divided 60 cases of HFMD randomly into two groups, in which the treatment group of 36 cases were treated with a modification of *Xiè Huáng Sǎn*—Yellow-Draining Powder. The ingredients included *huò xiāng* (Herba Pogostemonis), *fáng fēng* (Radix Saposhnikoviae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *shēng shí gāo* (Radix Gypsum Fibrosum), *shēng dì* (Radix Rehmanniae), *dēng xīn cǎo* (Medulla Junci), *niú xī* (Radix Achyranthis Bidentatae), *dàn zhú yè* (Herba Lophatheri), and *zhī zǐ* (Fructus Gardeniae). 24 cases in the control group were treated with Ribavirin granules and Vitamin C.

The results showed a total effective rate of 91.7% in the treatment group and 79.2% in the control. A comparison of these two groups showed statistical significant significance ($P < 0.05$).^[3]

[ETIOLOGY & PATHOMECHANISM]

HFMD is caused by a seasonal pathogen belonging to a damp-heat epidemic toxin pattern. The location of disease is mainly the lung and spleen channels. Summerheat dampness is excessive in summer and autumn, where seasonal pathogens and epidemic toxins enter the body through the mouth and nose to invade the lung and spleen.

The lung pertains to *wei* qi, is connected to the skin and hair, governs diffusion, dispersion, purification, and descent and is the upper source of water. The spleen pertains to earth, governs transportation and transformation, controls the four limbs and muscles, and is the reservoir of water and grain, opening to the mouth.

At the early stages of disease, the lung fails to disperse and defensive yang is obstructed. The spleen qi fails to function properly and stomach qi fails to descend. All of these may manifest as fever, cough, runny nose, mouth sores, poor appetite, nausea, vomiting, and diarrhea. If stagnated toxic pathogens cause failure of qi transformation, water-dampness will be retained internally to contend with the toxic pathogens, which then erupt on the skin as vesicles. When cases are mild, small vesicular blisters appear on the surfaces of the hands, feet, mouth and throat with mild general symptoms. For serious cases with abundant toxic-heat in the interior, there are dense vesicles spread over the limbs and buttocks, with surrounding erythema and severe general symptoms. Toxic-heat

pathogens may invade inwards resulting in coma and convulsions. They may also invade the heart while consuming qi and yin with symptoms of palpitation, shortness of breath, chest oppression and lassitude; yin impairment affecting yang can cause heart yang collapse, which is a life-threatening condition.

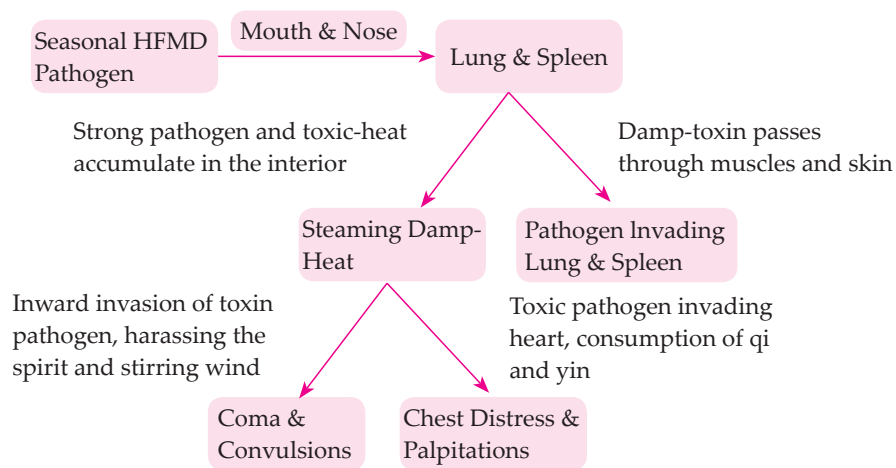


Fig.36-1 Etiology and Pathomechanisms of HFMD

[DIAGNOSIS & DIFFERENTIATION]

CLINICAL DIAGNOSIS

► Essentials of Diagnosis

- (1) History of contact with HFMD patients 1 or 2 weeks prior to onset.
- (2) The onset is usually sudden. 1 or 2 days before or at the onset, there are symptoms of fever, with possible headache, cough, running nose, poor appetite, nausea, vomiting, and diarrhea. Generally speaking, the higher the body temperature, the longer the course of disease and the more severe the condition.

(3) Key symptoms are vesicles around the mouth, hands, and feet. Vesicles around the mouth are mainly located on the lips, tongue, cheeks, throat, and hard palate. Vesicular eruptions may erode and form ulcerations with severe pain. Infants always present with symptoms of restlessness, crying, salivating, and refusing food. After the vesicular eruption has appeared around the mouth for 1 or 2 days, skin vesicles will appear. Skin lesions are distributed eccentrically, mainly on the hands and feet sometimes spreading to the periphery of the anus, buttocks, and four limbs.

The vesicles are round or elliptic containing turbid serous fluid with a slightly hard surface that is not easily broken, also surrounded by a narrow zone of erythema. The number of vesicles is uncertain. The long axis of the lesion corresponds with the general trend of the hand and toe dermatoglyphs. The vesicles generally fade after 7-10 days without scarring or pigmentation. Severe cases may become complicated with meningitis, encephalitis, myocarditis, flaccid paralysis, or pneumonedema.

(4) Laboratory Examination

Peripheral blood examination shows normal or reduced white blood cell counts with lymphocytes and monocytes relatively increased. Etiological examinations should be performed during HFMD epidemics.

► Disease Differentiation

HFMD should be differentiated from chickenpox and herpangina. The details of differentiation are shown in Table 36-1.

Table 36-1 Differential Diagnosis of HFMD, Chickenpox and Herpangina

Disease Names	HFMD	Chickenpox	Herpangina
Latent Period	2-7 days	7-17 days	5-25 days
Prevalent Season	Summer and Autumn	Winter and Spring	Summer and Autumn
Susceptible Age	Under 5 years old	6-9 years old	Under 5 years old
Location of Rash	Mouth hands & feet arms & legs buttocks, few on trunk and face	Systemic, most on trunk & face, few on limbs	Soft palate, uvulae, arcus glossopalatinus, tonsils, retro-pharyngeal wall, few on buccal mucosa, tongue, gingiva, exterior mouth
Rash Features	Mouth vesicular lesion mostly appears on hard palate, cheeks, gingival, inner lips, tongue. After ulceration painful aphtha form. After 1-2 days of mouth vesicles, maculopapule with eccentric distribution, commonly on hands, feet, quickly changes into round or elliptic vesicles, tabular & raised, rice-like or pisiformis, hard texture without ulceration but with serum inside and areola around, numbers range from several to hundreds. The prolate axis of vesicles is in accordance with the general trend of dermatoglyph of hand & toe	Vesicles larger than HFMD, concentric distribution, commonly on the trunk, head, face, few on the limbs, thin walls, easily ulcerated elliptic scabs. Perpendicular long vesicles axis on ordinate trunk axis & maculopapule, vesicles & scabs may appear at same period & location of skin lesions	Gray-white small vesicles appear on soft palate, uvulae, arcus glossopalatinus, tonsils, retro-pharyngeal wall, with surrounding hyperemia zone, vesicles ulcerate within 1-2 days with pain
General Symptoms	Fever (about 38.0°C), headache, cough, running nose, poor appetite, nausea, vomiting & diarrhea appears for 1-2 days at onset or before	Early disease stage, patients have fever (not very high), runny nose cough poor appetite	Acute onset, sudden high fever running nose painful mouth, even food refusal
Etiology	Various enteroviruses (cox A16 & EV 71 commonly seen.)	Varicella-zoster virus	Cox A2-A10

Herpangina belongs to viral influenza. Refer to Chapter 8—Common Cold (*gǎn mào*).



[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

Pattern identification in HFMD is mainly based on *zang-fu* organ differentiation. Mild and severe patterns can be differentiated according to the disease course, eruption, situation, and accompanying symptoms.

Mild cases have a short course of disease and present with ruddy discrete vesicular lesions distributed on the palms, soles and mouth without obvious erythematous halos and containing limpid fluids. There are slight general symptoms, possibly with a low fever, runny nose, cough, sore mouth, salivating, nausea, vomiting and diarrhea.

Severe cases have a longer disease course and present with dark-purple vesicular lesions with dense or clustered distribution on the four limbs, buttocks and other locations as well as on the palms, soles and mouth, containing turbid fluids and surrounded with obvious erythematous halos. There can be serious general symptoms including high fever, restlessness, mouth ulcers, and food refusal. The pathogenic toxin may even invade inwards to attack the heart and liver channels.

► Treatment Principles

The treatment principle for HFMD is to clear heat, dispel dampness and resolve toxins. For mild cases, treatment should diffuse the lung, release the exterior, clear heat, and remove dampness; in severe cases it is important to differentiate the predominance of dampness or heat. For predominant dampness, the treatment is to drain and remove dampness while clearing heat and resolving toxins. However, it is also important to prevent over-draining of dampness to avoid damage to yin and body fluids which may result in dryness that produces wind. For heat predominant cases, the treatment is to clear heat and resolve toxins with cold and cool medicinals. However, it is also important to avoid causing damage to the spleen and stomach with cold medicinals; the cold properties can also guide the pathogens more deeply into the body. If toxic-heat invades inwards or toxic pathogens invade the heart, treatment should act to suppress convulsion by opening the orifices, replenishing qi, nourishing yin and restoring yang to rescue collapse while also activating blood and resolving stasis.

Chinese medicine is effective for general cases, but for transmuted patterns and serious complications, it is important to make an early diagnosis and give emergency treatment with both Chinese medicinals and Western drugs.

► Classification of Patterns and Treatments

Pathogens Invading the Lung and Spleen

Signs and Symptoms

Manifestations include a low grade fever or normal body temperature, runny nose, cough, poor appetite, nausea, vomiting, and diarrhea. Oral vesicular lesions appear at onset or after 1-2 days. The vesicle lesions may then erode and form ulcers, resulting in mouth ulcers, salivating and food refusal. With the progression of the disease, rice- or pea-sized maculopapules appear on the palms and soles, quickly evolving into discretely distributed ruddy vesicles contain limpid fluids with no obvious erythematous halos. The tongue is red

with a greasy thin yellow coating; the pulse is floating and rapid.

Pattern Differentiation

This is a mild pattern of HFMD, characterized by vesicular lesions distributed on hands, feet and mouth with inconspicuous general symptoms. Lung qi failing to diffuse presents with a fever, aversion to cold, runny nose and cough. Cases with spleen dysfunction present with poor appetite, salivating, vomiting, and diarrhea. With high or persistent fever, the disease can easily transmute into more severe patterns.

Treatment Principles

Diffuse the lung, release the exterior, clear heat and resolve dampness

Formula

Modified *Gān Lù Xiāo Dú Dān*—Sweet Dew Toxin-Removing Elixir

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
黄芩	<i>huáng qín</i>	Radix Scutellariae
薄荷	<i>bò he</i>	Herba Menthae
白蔻仁	<i>bái kòu rén</i>	Fructus Amomi Rotundus
藿香	<i>huò xiāng</i>	Herba Agastachis
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii
滑石	<i>huá shí</i>	Talcum
茵陈	<i>yīn chén</i>	Herba Artemisiae Scopariae
板蓝根	<i>bǎn lán gēn</i>	Radix Isatidis
射干	<i>shè gān</i>	Rhizoma Belamcandae
浙贝母	<i>zhè bèi mǔ</i>	Bulbus Fritillariae Thunbergii

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *huáng qín* (Radix Scutellariae) and *bò he* (Herba Menthae) clear heat and resolve toxins, diffuse the lung and vent the exterior.

Bái kòu rén (Fructus Amomi Rotundus), *huò xiāng* (Herba Agastachis) and *shí chāng pú* (Rhizoma Acori Tatarinowii) are aromatic and act to remove dampness.

Huá shí (Talcum) and *yīn chén* (Herba Artemisiae Scopariae) clear heat and drain dampness.

Bǎn lán gēn (Radix Isatidis), *shè gān* (Rhizoma Belamcandae) and *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii) resolve toxins, relieve sore throat, dissolve phlegm, and relieve cough.

Modifications

For nausea and vomiting, add *sū gěng* (Caulis Perillae) and *zhú rú* (Caulis Bambusae in Taenia).

For diarrhea, add *zé xiè* (Rhizoma Alismatis) and *yì yǐ rén* (Semen Coicis).

For high fever, add *gé gēn* (Radix Puerariae Lobatae) and *chái hú* (Radix Bupleuri).

For itching, add *chán tuì* (Periostracum Cicadae) and *bái xiān pí* (Cortex Dictamni)

Chinese Patent Medicines

Qīng Rè Jiě Dú Kǒu Fú Yè—Heat-Clearing Toxin-Removing Oral Liquid.

5-10 ml, 2-3 times daily.

Shuāng Huáng Lián Kǒu Fú Yè—Double Goldthread Oral Liquid

5-10 ml, 2-3 times daily.

External Therapy

Mirabilitum Praeparatum, *Bingpeng San*, *Zhu Huang San*

Select either of the above; apply on the affected area of the mouth, twice daily.

Damp-Heat Toxin Exuberance

Signs and Symptoms

Manifestations include persistent fever, vexation, thirst, dark urine, constipation, vesicular lesions on the hands, feet, mouth, four limbs and buttocks with pain and itching, and possible food refusal. The vesicular lesions are dark-purple, dense or clustered, surrounded by erythematous halos, and contain turbid fluids. The tongue is crimson with a thick greasy yellow or dry yellow coating; the pulse is slippery and rapid.

Pattern Differentiation

This severe pattern of HFMD is caused by an exogenous pathogen which commonly attacks young children and others. It presents with vesicular lesions on the hands, feet, mouth, limbs and buttocks with obvious general symptoms. For predominant dampness, there is a fluctuating low grade fever, a bitter taste and sticky sensation in mouth, and prominent itchy vesicle lesions. For heat predominance, there is a persistent high grade fever, thirst with desire to drink, and extra mouth ulcers with pain and salivation. If not treated properly, patterns of toxic-heat or toxic pathogenic inward invasion can affect the heart.

Treatment Principles

Clear heat, cool *yīng*-blood, resolve toxin and dispel dampness

Formula

Modified *Qīng Wēn Bài Dú Yǐn*—Epidemic-Clearing Toxin-Resolving Beverage

黄连	<i>huáng lián</i>	Rhizoma Coptidis
黄芩	<i>huáng qín</i>	Radix Scutellariae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
连翘	<i>lián qiào</i>	Fructus Forsythiae
生石膏	<i>shēng shí gāo</i>	Gypsum Fibrosum
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
生地黄	<i>shēng dì</i>	Radix Rehmanniae
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
板蓝根	<i>bǎn lán gēn</i>	Radix Isatidis
蝉蜕	<i>chán tuì</i>	Periostracum Cicadae
紫草	<i>zǐ cǎo</i>	Radix Arnebiae

Formula Analysis

Huáng lián (Rhizoma Coptidis), *huáng qín* (Radix Scutellariae), *zhī zǐ* (Fructus Gardeniae) and *lián qiào* (Fructus Forsythiae) clear heat, resolve toxin and dispel dampness.

Shēng shí gāo (Gypsum Fibrosum) and *zhī mǔ* (Rhizoma Anemarrhenae) clear the qi level and discharge heat.

Shēng dì (Radix Rehmanniae), *chì sháo* (Radix Paeoniae Rubra) and *mǔ dān pí* (Cortex Moutan) cool blood and clear heat.

Bǎn lán gēn (Radix Isatidis), *chán tuì* (Periostracum Cicadae) and *zǐ cǎo* (Radix Arnebiae) resolve toxin and promote eruptions.

Modifications

For damp predominance, remove *zhī mǔ* (Rhizoma Anemarrhenae) and *shēng dì* (Radix Rehmanniae), add *huá shí* (Talcum) and *zhú yè* (Folium Phyllostachydis Henonis).

For constipation, add *dà huáng* (Radix et Rhizoma Rhei) and *máng xiāo* (Natrii Sulfas).

For thirst with desire to drink, add *mài dōng* (Radix Ophiopogonis) and *lú gēn* (Rhizoma Phragmitis).

For vexation, add *dàn dòu chǐ* (Semen Sojae Praeparatum) and *lián zǐ xīn* (Plumula Nelumbinis).

Chinese Patent Medicines

Qīng Wèi Huáng Lián Wán—Coptis Stomach-Clearing Pill

1 pill, twice daily.

External Therapy

Ingredients:

Jīn yín huā (Flos Lonicerae Japonicae) 15 g, *bǎn lán gēn* (Radix Isatidis) 15 g, *pú gōng yīng* (Herba Taraxaci) 15 g, *chē qián cǎo* (Herba Plantaginis) 15 g, *fú píng* (Herba Spirodela) 15 g and *huáng bǎi* (Cortex Phellodendri Chinensis) 10 g.

Use as a decoction to wash the lesions on the hands and feet, 1 or 2 times daily.

Exuberant Pathogens and Debilitated Vital Qi

If toxic pathogens are exuberant with debilitated vital qi, then the disease tends to transmute into deteriorated patterns as follows.

a. Pathogens Sinking into the Heart and Liver

Signs and Symptoms

Manifestations include a persistent high grade fever, dark-purple vesicular lesions with turbid fluid, vomiting, vexation and delirium, drowsiness and frequent fright, muscular twitching, unconsciousness, and convulsions. The tongue is crimson with a thick greasy coating; the pulse is rapid and forceful.

Pattern Differentiation

This pattern is due to an inward invasion of excess toxic pathogens into the heart and liver; the main symptoms are muscular twitching and unconsciousness.

Treatment Principles

Calm the liver, extinguish wind, clear the heart and open the orifices

Formula

Modified *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction



羚羊角粉	<i>líng yáng jiǎo fěn</i>	Cornu Saigae Tataricae Powder
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
代赭石	<i>dài zhě shí</i>	Haematitum
黄芩	<i>huáng qín</i>	Radix Scutellariae
菊花	<i>jú huā</i>	Flos Chrysanthemi
连翘	<i>lián qiào</i>	Fructus Forsythiae
水牛角	<i>shuǐ niú jiǎo</i>	Cornu Bubali
生地	<i>shēng dì</i>	Radix Rehmanniae
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Líng yáng jiǎo fěn (Cornu Saigae Tataricae Powder) and *gōu téng* (Ramulus Uncariae Cum Uncis) calm the liver and extinguish wind.

Dài zhě shí (Haematitum), *huáng qín* (Radix Scutellariae), *jú huā* (Flos Chrysanthemi) and *lián qiào* (Fructus Forsythiae) clear the heart and open the orifices.

Shuǐ niú jiǎo (Cornu Bubali), *shēng dì* (Radix Rehmanniae), *bái sháo* (Radix Paeoniae Alba) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) cool the *yīng* level and promote fluid production.

Also take *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill.

Chinese Patent Medicines

Ān Gōng Niú Huáng Wán—Peaceful Palace Bovine Bezoar Pill

3 g/pill. Age less than 3 years, 1/4 pill. 4-6 years, 1/2 pill, once daily.

Xingnaojing Injection—Awaken the Brain Injection

4-10 ml diluted with 5% glucose injection 150 ml, intravenous drip, 1-2 times daily.

b. Toxic Pathogens Blocking the Lung

Signs and Symptoms

Manifestations include a persistent fever, frequent cough, shortness of breath, sputum gurgling in the throat, chest oppression, palpitations, difficulty lying on the back, vexation, and possible cyanotic lips and fingers. The tongue is dark red with a white greasy coating; the pulse is deep thready and powerless.

Pattern Differentiation

This pattern is due to toxic pathogens invading the lung with lung qi blockage; frequent coughing and shortness of breath are the main symptoms.

Treatment

Open the lung, clear heat, clear phlegm and relieve dyspnea

Formula

Modified *Má Xīng Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction



炙麻黄	<i>zhì má huáng</i>	Radix Herba Ephedrae
杏仁	<i>xìng rén</i>	Semen Armeniacae Amarum
桑白皮	<i>sāng bái pí</i>	Cortex Mori
前胡	<i>qián hú</i>	Radix Peucedani
车前子	<i>chē qián zǐ</i>	Semen Plantaginis
葶苈子	<i>tíng lì zǐ</i>	Semen Lepidii; Semen Descurainiae
紫苏子	<i>zǐ sū zǐ</i>	Fructus Perillae
大黄	<i>dà huáng</i>	Radix et Rhizoma Rhei
石膏	<i>shí gāo</i>	Gypsum Fibrosum
黄芩	<i>huáng qín</i>	Radix Scutellariae
虎杖	<i>hǔ zhàng</i>	Rhizoma Polygoni Cuspidati
丹参	<i>dān shēn</i>	Radix et Rhizoma Salviae Miltiorrhizae

Formula Analysis

Zhì má huáng (Radix Herba Ephedrae) and *xìng rén* (Semen Armeniacae Amarum) diffuse the lung and relieve cough.

Sāng bái pí (Cortex Mori), *qián hú* (Radix Peucedani) and *chē qián zǐ* (Semen Plantaginis) descend lung qi and dissolve phlegm.

Tíng lì zǐ (Semen Lepidii), *zǐ sū zǐ* (Fructus Perillae) and *dà huáng* (Radix et Rhizoma Rhei) (added at the end) purge the lung and clear phlegm.

Shí gāo (Gypsum Fibrosum) (decocted first) and *huáng qín* (Radix Scutellariae) clear lung heat.

Hǔ zhàng (Rhizoma Polygoni Cuspidati) and *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) remove toxins and activate blood.

Chinese Patent Medicines

Clearing Phlegm-Heat Injection (*Tanreqing* Injection)

0.3-0.5 ml/kg, (maximum < 20 ml) diluted with 5% glucose injection or sodium chloride injection (normal saline), 100 ml-200 ml intravenous drip, once daily.

c. Heart Yang Deficiency

Signs and Symptoms

Manifestations include a pale complexion, panting, palpitations, cyanotic lips, cold extremities and cold sweats. The patient may spit up white, pink, or hematic frothy sputum. The tongue is dark purple; the pulse is thready-rapid or slow, or faint and verging on expiry.

Pattern Differentiation

In this pattern, heart yang is deficient or even on the verge of yang exhaustion; there is panting, palpitations, cyanotic lips, cold extremities, and a faint rapid and thready pulse.

Treatment Principles

Replenish qi to stop collapse, restore yang to rescue collapse

Formula

Modified *Shēn Fù Lóng Mǔ Jiù Nì Tāng*—Ginseng, Aconite, Os Draconis and Concha Ostreae Decoction to Rescue Collapse



人參	<i>rén shēn</i>	Radix et Rhizoma Ginseng
炙甘草	<i>zhì gān cǎo</i>	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle
附子	<i>fù zǐ</i>	Radix Aconiti Lateralis Praeparata
山茱萸	<i>shān zhū yú</i>	Fructus Corni
煅龙骨	<i>duàn lóng gǔ</i>	Gypsum Os Draconis
煅牡蛎	<i>duàn mǔ lì</i>	Gypsum Concha Ostreae
丹參	<i>dān shēn</i>	Radix et Rhizoma Salviae Miltiorrhizae

Formula Analysis

Rén shēn (Radix et Rhizoma Ginseng) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) replenish and cultivate *yuan qi*.

Fù zǐ (Radix Aconiti Lateralis Praeparata) restores yang to rescue collapse.

Shān zhū yú (Fructus Corni) nourishes yin and secures essence.

Duàn lóng gǔ (Gypsum Os Draconis) and *duàn mǔ lì* (Gypsum Concha Ostreae) subdue yang and rescue collapse.

Dān shēn (Radix et Rhizoma Salviae Miltiorrhizae) activates blood and dredges the channels.

Chinese Patent Medicines

Shēng Mài Zhù Shè Yè—Pulse-Engendering Injection

10-30 ml, diluted with 5% glucose injection 100-250 ml, intravenous drip 1-2 times daily.

For patterns of qi and yin insufficiency.

Shēn Fù Zhù Shè Yè—Ginseng and Aconite Injection

10-30 ml, diluted with 5% or 10% glucose injection 100-250 ml, intravenous drip 1-2 times daily. For yang deficiency patterns.

[WESTERN MEDICINE THERAPIES]

For common cases, the treatment is symptomatic.

For severe cases in which the nervous system is involved, treatment includes the following:

(1) Control intracranial hypertension: limit the input, give mannitol intravenous infusion, and adjust delivery intervals and dose accordingly. Furosemide may be used if necessary.

(2) Immunoglobulin intravenous infusion.

(3) Use glucocorticoid hormones accordingly.

(4) Other symptomatic treatment: control body temperature and convulsions, and give sedatives as needed.

(5) Monitor the patient's condition closely.

Treatment for respiratory or circulatory failure:

(1) Keep the airways open, administer oxygen.

(2) Place two intravenous lines for infusion, monitor breathing, heart rate, blood pressure and oxygen saturation.

(3) With respiratory dysfunction, perform endotracheal intubation with positive pressure mechanical ventilation, adjust the parameters of the breathing machine according



to blood gas analysis and chest X-ray films.

(4) Maintain blood pressure stability, and control fluid input according to central venous pressure if possible.

(5) Elevate the upper part of the body at an angle of 15°-30° into a supine position. Use an indwelling gastric tube and bladder catheter.

(6) Medicinal application: use milrinone, dopamine or dobutamine according to blood pressure changes and circulation conditions; apply diuretics if necessary.

(7) Protect the normal functions of the vital organs; maintain stability of the internal environment.

(8) Monitor blood glucose levels, and use insulin for severe hyperglycosemia.

(9) Inhibit gastric acid secretions: cimetidine and omeprazole can be used.

(10) Give antibiotics to prevent and treat secondary pulmonary bacterial infections.

Principles of treatment for the recovery phase:

(1) Avoid secondary respiratory tract infections.

(2) Promote functional recovery of the organs.

(3) Use functional rehabilitation treatment or combine Chinese and Western medicines.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) Monitor HFMD epidemic conditions, and quarantine suspected cases as soon as possible. Restrict all contact with the patient, quarantine for 7-10 days, and administer *Bǎn Lán Gēn Kē Lì*—Radix Isatidis Granules.

(2) Ensure stringent personal hygiene and foster good habits, i.e. hand washing before meals and after toilet use. Disinfect contaminated daily necessities and tableware; immerse the stools and other excreta in clarified liquor or 3% bleach. Isolate their clothes and keep the room well-ventilated.

2. NURSING CARE

(1) While the patient is ill they should eat soft light foods, drink plenty of boiled water, and gargle with saline solution or warm water to ease mouth irritation caused by food.

(2) Keep the skin clean, avoid scratching the eruptions or causing broken vesicles and infections. For vesicle erosion and infections, apply *Jīn Huáng Sǎn*—Golden Yellow Powder or *Qīng Dài Sǎn*—Indigo Naturalis Powder mixed with sesame oil onto the infected parts to astringe and dry dampness.

(3) To avoid heart yang deficiency or pathogens sinking into the heart and liver or blocking the lung, closely monitor the patient's condition.

[CASE STUDIES]

► Case # 1. Male, age 3 years. Initial Visit: 6/17/2001

Signs and Symptoms: vesicular lesions on the hand, foot and mouth for 3 days, with a fever for 2 days.

Present History: slightly itchy pink vesicular lesions on his hands and feet for 3 days



prior, no fever. The next day there was a temperature of 39.5°C which fell after he was given an ibuprofen solution, but ascended again especially at night. The vesicular lesions increased over the next 2 days, accompanied by a sore mouth and poor appetite.

Present Symptoms: low fever without sweating, itchy skin, painful mouth with difficulty eating, foul breath, salivation, congested and runny nose, slight cough without sputum, and twice daily loose stools with a fetid odor. He had a slight nosebleed the day before the visit.

Physical Examination: palpable pink vesicular lesions on the hands, feet, wrists, and ankles. The lips were red with several vesicular lesions and ulcers on the tongue and on the oral mucosa. The tongue was red with greasy yellow coating; the finger venules were purple and stagnated at the wind pass.

Diagnosis: HFMD.

Pattern Differentiation

Wind-heat and dampness with a preponderance of dampness.

Treatment Principles

Scatter wind, clear heat and resolve dampness.

Formula

金银花	<i>jīn yín huā</i>	10 g	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	10 g	Fructus Forsythiae
板蓝根	<i>bǎn lán gēn</i>	15 g	Radix Isatidis
蝉蜕	<i>chán tuì</i>	5 g	Periostracum Cicadae
淡豆豉	<i>dàn dòu chǐ</i>	10 g	Semen Sojae Praeparatum
仙鹤草	<i>xiān hè cǎo</i>	10 g	Herba Agrimoniae
黄芩	<i>huáng qín</i>	10 g	Radix Scutellariae
牡丹皮	<i>mǔ dān pí</i>	10 g	Cortex Moutan
六一散	<i>Liù Yī Sǎn</i>	12 g	Six-to-One Powder
桔梗	<i>jié gěng</i>	5 g	Radix Platycodonis
桑叶	<i>sāng yè</i>	10 g	Folium Mori
桑白皮	<i>sāng bái pí</i>	10 g	Cortex Mori
山楂	<i>shān zhā</i>	10 g	Fructus Crataegi
神曲	<i>shén qū</i>	10 g	Massa Medicata Fermentata

3 doses for 3 days.

Second Visit: vesicular lesions on the hands feet and mouth were drying and healing gradually. He still had a poor appetite, paroxysmal vexation, slight cough, hot palms and soles, thirst with a desire to drink, and constipation. His tongue was red with little coating; the finger venules were purple and stagnated at the wind pass.

Pattern Differentiation

Lung-stomach yin deficiency.

Treatment Principles

Clear and resolve residual toxin, replenish qi and nourish yin.

Formula

连翘	<i>lián qiào</i>	10 g	Fructus Forsythiae
淡竹叶	<i>dàn zhú yè</i>	8 g	Herba Lophatheri
北沙参	<i>běi shā shēn</i>	10 g	Radix Glehniae
麦冬	<i>mài dōng</i>	10 g	Radix Ophiopogonis
石膏	<i>shí gāo</i>	15 g	Gypsum Fibrosum
玉竹	<i>yù zhú</i>	10 g	Rhizoma Polygonati Odorati
桑叶	<i>sāng yè</i>	10 g	Folium Mori
天花粉	<i>tiān huā fěn</i>	10 g	Radix Trichosanthis
扁豆	<i>biǎn dòu</i>	10 g	Semen Lablab Album
甘草	<i>gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae
半夏	<i>bàn xià</i>	6 g	Rhizoma Pinelliae
山楂	<i>shān zhā</i>	10 g	Fructus Crataegi
神曲	<i>shén qū</i>	10 g	Massa Medicata Fermentata

3 doses for 3 days.

After 3 doses the vesicular lesions on the hands and feet faded, his appetite improved; the sore mouth and other symptoms disappeared.

Analysis

This disease is mainly due to wind-heat external contraction, seasonal pathogens, and epidemic toxins that enter inwards to contend with internal dampness, then exuding from the skin as vesicular lesions. The location of the disease is mainly in the lung and spleen. The lung governs the exterior, and wind-heat or pestilent pathogens first invade the lung-defense presenting with nasal congestion, runny nose and fever. The spleen governs the muscles. Vesicular lesions appears on the hands and feet as damp-heat encumbers the spleen and discharges out to the body surface. The throat is the conjunct passage of the lung and stomach, and the spleen opens to the mouth. If lung and spleen damp-heat fumigates upwards to the throat, there will be a red swollen throat and mouth ulcers.

According to the extent of dampness and heat, this disease is divided into two patterns: preponderant heat over dampness or preponderant dampness over heat.

The former manifests as red vesicular lesions with obvious erythematous halos. Mouth ulcers are more common with a higher fever; the tongue is red with a yellow coating. The treatment principle is to clear heat and remove toxins.

The pattern of preponderant dampness over heat is characterized by pink vesicular lesions without obvious erythematous halos, pain in the mouth, and a low-grade fever. The tongue is pink with a yellow or white coating. The treatment principle for this pattern is to drain dampness and remove toxins.

At the initial stages of this disease most of the cases present as wind-heat combined with dampness, but some cases present with intense heat-toxin with a persistent high fever. At later stages, the disease may present as a lung and stomach yin deficiency or spleen and stomach qi deficiency.

This child had a shorter course of disease and a persistent high fever with exterior contracted symptoms including a blocked and runny nose. His tongue was yellow and



greasy. He had symptoms of poor appetite and loose stools with a foul odor. The case was differentiated as a wind-heat with dampness pattern.

The treatment principles were to scatter wind, clear heat and remove toxins. *Liù Yī Sǎn*—Six-to-One Powder was added into the formula to drain dampness.

Shān zhā (Fructus Crataegi) and *shén qū* (Massa Medicata Fermentata) activate the spleen and resolve dampness. The whole formula acts to separate dampness and heat and isolate heat by removing dampness. The treatment was based on the pathogenesis, and thus the fever was relieved after 2 doses. By the return visit, the heat phenomenon was starting to subside. However, as the heat had damaged yin, it then presented as a lung and stomach yin damage pattern manifesting with hot palms and soles, thirst with desire to drink, constipation, and a red tongue with little coating. The treatment principle at the second visit was to clear and resolve residual toxins, replenish qi and nourish yin. A modification of *Zhú Yè Shí Gāo Tāng*—Lophatherum and Gypsum Decoction was combined with *Shā Shēn Mài Dōng Tāng*—Glehniae and Ophiopogonis Decoction.

Source: Wan LS, editor. 汪受传儿科医论医案选 [Wang Shouchuan's Selected Medical Works and Case Records on Pediatrics]. Beijing: Academy Press; 2008: 272-274.

► Case #2 Female, age 15 months. Initial Visit: 8/17/1999

History: red maculopapular eruptions on the palms and soles for 2 days. Without clear predisposing causes, the girl developed a fever with vexation and a poor appetite. She was diagnosed with an acute upper respiratory infection and treated by penicillin intravenous infusion without any effect. Vesicular lesions had erupted on her hands and feet over the previous two days.

Physical Examination: rice or soybean-sized red maculopapular eruptions distributed on the edge of her palms and soles with vesicles on some of the lesions. There were ulcerations on the surface of the left buccal mucosa. The patient also presented with lassitude, poor appetite, no defecation for 3 days, and yellow urine. Her tongue was slightly red with a greasy yellow coating; the pulse was thready and rapid.

Diagnosis: HFMD.

Treatment Principles

Clear heat and remove toxin, fortify the spleen, remove dampness and activate blood.

Formula

金银花	<i>jīn yín huā</i>	10 g	Flos Lonicerae Japonicae
薏苡仁	<i>yì yǐ rén</i>	10 g	Semen Coicis
茯苓皮	<i>fú líng pí</i>	10 g	Cutis Poriae
白术	<i>bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae
板蓝根	<i>bǎn lán gēn</i>	6 g	Radix Isatidis
大青叶	<i>dà qīng yè</i>	6 g	Folium Isatidis
山豆根	<i>shān dòu gēn</i>	6 g	Radix et Rhizoma Sophorae Tonkinensis
紫草	<i>zǐ cǎo</i>	6 g	Radix Arnebiae
黄芩	<i>huáng qín</i>	6 g	Radix Scutellariae
生地	<i>shēng dì</i>	6 g	Radix Rehmanniae
甘草	<i>gān cǎo</i>	6 g	Radix et Rhizoma Glycyrrhizae
红花	<i>hóng huā</i>	3 g	Flos Carthami

Decoct with water, take 20 ml each dose, three times daily.

Second Visit: after three doses, the vesicles on the hands and feet disappeared and the bowels opened, while the erythematous halos remained. Using the above formula, *huáng qín* (Radix Scutellariae) was removed and *tài zǐ shēn* (Radix Pseudostellariae) 15 g and *shān yào* (Rhizoma Dioscoreae) 15 g were added. The vesicles faded away after 4 more doses.

Analysis

The child presented with a sudden fever, vesicles on the palms and soles, ulcerations on the oral membranes, constipation for 3 days, a slightly red tongue with a greasy yellow coating and a thready rapid pulse.

She was diagnosed with HFMD belonging to a damp-heat steaming pattern, and was treated with a modification of *Qīng Wēn Bài Dú Yīn*—Epidemic-Clearing Toxin-Resolving Beverage.

Yì yǐ rén (Semen Coicis), *fú líng pí* (Cutis Poriae) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) were used to fortify the spleen and eliminate dampness.

Shēng dì (Radix Rehmanniaesh), *gān cǎo* (Radix et Rhizoma Glycyrrhizae) and *hóng huā* (Flos Carthami) replenish qi and nourish yin, activate blood, and resolve sores.

After three doses, *huáng qín* (Radix Scutellariae) was removed to reduce the bitter-dryness, and *tài zǐ shēn* (Radix Pseudostellariae) and *shān yào* (Rhizoma Dioscoreae) were added to supplement qi and nourish yin.

Source: Zhang BL. Clinical Observation of 87 HFMD cases treated with Epidemic-Clearing Toxin-Resolving Beverage. Hubei Journal of Traditional Chinese Medicine, 2000; 22 (7): 24.

[QUESTIONS]

1. A 5-year-old child had a 37.9°C fever for 2 days, runny nose, cough and a poor appetite. Vesicular lesions first appeared on the hard palate, gingival, and inner aspect of the lip. After one day, rice-size rashes appeared on the palms and soles with some vesicles, with a hard texture, turbid fluids, and erythematous halos.

What is the diagnosis?

- | | |
|----------------------|---------------|
| A. Herpangina | B. Chickenpox |
| C. HFMD | D. Impetigo |
| E. Papular urticaria | |

2. A 3-year-old infant had a fever for 2 days (37.4°C). There were painful vesicular lesions distributed on the buccal mucosa causing food refusal. Rice-size maculopapules appeared on the hands and feet, and there were a few scattered ruddy vesicles containing limpid fluids. The tongue was red with a thin yellow coating; the finger venules were purple. The diagnosis was HFMD.

What pattern is this case?

- Pathogens impairing lung-defense.
- Pathogens invading the lung and spleen.
- Exuberance of damp-heat and dampness toxin.
- Damp-heat stagnating in the exterior.
- Exogenous pathogens stagnating in the exterior.



3. A 3-year-old child had a fever for 2 days, reaching 38.0°C. The patient presented with sneezing, running nose, occasional cough, poor appetite, loose stools, and vesicular lesions on the gingiva and labial mucosa, with scattered ruddy papules on the palms. The tongue was red with a thin yellow coating; the finger venules were purple and floating.

Which of the following treatment principles is the best choice?

- A. Disperse wind and diffuse the lung, clear heat, remove toxins.
- B. Clear heat and cool the *ying*-blood level, remove toxins and dampness.
- C. Diffuse the lung and relieve cough, clear heat and resolve phlegm.
- D. Diffuse the lung and release the exterior, clear heat and resolve dampness.
- E. Diffuse the lung and release the exterior, invigorate the spleen and resolve dampness.

4. A 4-year-old child had a fever for 4 days, reaching 38.5°C and higher in the afternoon. There were vesicular lesions on the mouth, hands, feet, limbs and buttocks with itching. The vesicular lesions were densely distributed, or in clusters and surrounded with erythematous halos containing turbid fluids. The child also had a bitter taste in the mouth, thirst, poor appetite, nausea, occasional vomiting, dark urine, and dry stools. The tongue was red with a yellow greasy coating; the pulse was slippery and rapid.

Which of the following formula for washing is the first choice?

- A. *Má huáng* (Herba Ephedrae) and *fú píng* (Herba Spirodela).
- B. *Xiāng rú* (Herba Moslae), *bò he* (Herba Menthae) and *huò xiāng* (Herba Agastachis).
- C. *Huò xiāng* (Herba Agastachis), *huáng bǎi* (Cortex Phellodendri Chinensis) and *shé chuáng zǐ* (Fructus Cnidii).
- D. *Jīn yín huā* (Flos Lonicerae Japonicae), *yě jú huā* (Flos Chrysanthemi Indici) and *zǐ huā dì dīng* (Herba Violae).
- E. *Bǎn lán gēn* (Radix Isatidis), *pú gōng yīng* (Herba Taraxaci) and *chē qián cǎo* (Herba Plantaginis).

5. A 6-year-old child had a fever for 3 days reaching 38.9°C. Symptoms were vexation, thirst, dense dark-purple vesicular lesions in the mouth and on the hands, feet, and buttocks containing turbid fluids, as well as foul breath, and a food refusal due to a sore mouth. The tongue was crimson with a thick yellow coating; the pulse was slippery and rapid.

Which of the following formula is the choice for this case?

- A. *Qīng Wēn Bì Dú Yīn*—Epidemic-Clearing Toxin-Resolving Beverage
- B. *Gān Lù Xiāo Dú Dān*—Sweet Dew Toxin-Removing Elixir
- C. *Huáng Lián Jiě Dú Tāng*—Coptis Toxin-Resolving Decoction
- D. *Qīng Shǔ Yì Qì Tāng*—Summerheat-Clearing and Qi-Boosting Decoction
- E. *Huá Shí Huò Xiāng Tāng*—Talcum and Herba Agastachis Decoction

[REFERENCES]

- [1] Du YY, Ding GQ. Clinical Research on HFMD treatment with TCM [J]. Journal of Zhejiang University of Traditional Chinese Medicine, 2008, 32(3): 286-288.
- [2] Chen WJ, Zhu YH, Chang N, et.al. Clinical Observations of 32 Cases of HFMD Treated with Qing Hua Tou Zhen Decoction [J]. Liaoning Journal of Traditional Chinese Medicine, 2008, 43(12): 702-703.
- [3] Zhang Y. 60 Cases of HFMD Treated with Xie Huang San [J]. New Journal of Traditional Chinese Medicine, 2007, 39(9): 75-76.

Chapter 37

Epidemic Parotitis/Mumps

Epidemic parotitis (mumps) is an acute infectious disease caused by the paramyxovirus virus, characterized by fever, swelling and a pervading pain on one or both sides of the face and the lower cheek. In TCM, the condition is commonly referred to as *zhà sāi*.

Mumps is an acute respiratory infectious disease mainly found in children and teenagers. In China, it was reported that there were 226,819 cases of mumps in 2004, of which 4 cases were fatal. Among them those aged less than 15 years old accounted for 89.77% of cases and those whose ages ranged from 5-9 years old accounted for 49.16%.

In America, since the 1967 mumps vaccine has been instigated, the number of cases has decreased each year. A countrywide survey showed that the incidence had decreased to 1% from those without vaccine inoculation until 1995. The World Health Organization updated "The argument of WHO on mumps vaccine" ^[2] in 2006, and this has been used to guide the prevention and control of acute parotitis around the world. The document proposed routine immunization of the mumps vaccine in countries which had established valid immunity plans for their children or had the capacity to keep a high coverage rate of rubella and measles immunity, as well as places where there is a priority in controlling mumps incidence rates. Once the mumps vaccine has been brought into a country's immunity plan, MMR should be strongly recommended. Following the example of the rubella vaccinations, the low immunity coverage of children diverted the incidence of mumps to an older age group. However this may bring more severe burdens from the disease than before immunization was instigated.

This disease can happen in any season, but is prone to spreading in winter and spring. It is more common in children over 3 years old and seldom found in infants who are less than 2 years old. The prognosis is generally good, however, deteriorated cases can be found in a few children who are irritated by the strong pathogen or those who have poor constitutions. In this group, the toxic pathogens are found in the heart and liver, or have transferred into the lower abdominal area such as the testicles. The patient can gain lifelong immunity against parotitis after recovery from the disease.

In TCM theory, mumps is caused by seasonal pathogenic factors, and can be treated by internal and external therapies with positive results, as illustrated by the following clinical reports.

Shao Ailian et al. treated 85 cases by using ear acupoints (main acupoints: parotid, mandible, adrenal gland; matching acupoints: endocrine, liver, gall bladder, stomach, *san jiao*) plus an oral Chinese medicine called *Xiāo Sāi Yīn*—Disperse Parotid Swelling Decoction, consisting of *bǎn lán gēn* (Radix Isatidis) 15 g, *jīn yín huā* (Flos Lonicerae Japonica) 10 g, *xià kǔ cǎo* (Spica Prunellae) 15 g, *huáng qín* (Radix Scutellariae) 6 g, *mǔ dān pí* (Cortex Moutan) 6 g, *niú bàng zǐ* (Fructus Arctii) 10 g, *jiāng cán* (Bombyx Batryticatus) 6 g, and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) 6 g, and given one dose daily. This was compared with the 72 cases in the control group who were treated with anti-parotitis injections 2 ml plus ribavirin 0.2 g, administered intramuscularly once daily.

The therapeutic evaluations were as follows:

Excellent: whole-body clinical manifestations and parotid gland swelling disappearing in 3 days.

Good: whole-body clinical manifestations and parotid gland swelling disappearing in 4-6 days.

Bad: whole-body clinical manifestations and parotid gland swelling not disappearing after 6 or more days, or the appearance of further symptoms.

The results showed the test group was superior to the control group with a statistically significant difference between these two groups ($P < 0.05$)^[3].

Lv fudu. et al. treated 30 mumps cases with an external application of an empirical formula *Sì Huáng Sǎn*—Four Yellows Powder. This was compared with a control group of 30 cases which were treated by Virazole at doses of 10-15 mg/(kg · d) administered by intramuscular injection or intravenous drip. The results showed that the efficiency rate in three days was 90% in the external application group and 50% in the control group. Statistically, there was a significant difference between the two groups ($P < 0.01$)^[4].

[ETIOLOGY & PATHOMECHANISM]

Epidemic parotitis is caused by the mumps seasonal pathogen. The disease location mainly involves the foot *shaoyang* gallbladder channel and the foot *jueyin* liver channel.

The seasonal mumps pathogen pertains to warm-heat epidemic toxins that are further defined as warm toxins and pestilence. The latter is highly infectious, while the former is characterized by accumulation, stagnation and obstruction, with the pathogen transferring and attacking while spreading around the body. Therefore, when the seasonal pathogen enters the human body through the mouth and nose, pestilence tends to invade the pleuro-diaphragmatic interspace, which is semi-exterior and semi-interior. The foot *shaoyang* gallbladder channel (GB) is one of such locations, and when attacked by mumps, there is accumulation and stagnation of heat-toxins, as well as qi movement disturbances in the channel which will then develop into mumps.

When the warm-heat toxic pathogens attack, transfer and spread, they will follow the interior-exterior relationship between the *shaoyang* and *jueyin* channels and transfer into the *jueyin* channel, with the toxins accumulating in the testes and lower abdomen, possibly sinking into the heart and liver, stirring up liver-wind, and blocking the orifices and mind.

1. COMMON PATTERNS

Mild Conditions:

The foot *shaoyang* gallbladder channel starts at the external canthus, moves up to the frontal eminence, then moving downward and around the ear. The parotid gland is located along the course of the foot *shaoyang* gallbladder channel. When the warm-heat pestilence toxin invades the pleurodiaphragmatic interspace and blocks the *shaoyang* channel, healthy qi and pathogenic factors will struggle with each other causing a disharmony of interior and exterior and dysfunction of the *shaoyang* pivot. Signs and symptoms are fever, aversion to cold, pharyngalgia, headache, disseminated swelling, distention, and pain in the parotid regions.

Severe Conditions:

If the pathogen is so excessive or the constitution is so weak that the vital qi cannot

conquer the pathogen, or if stagnant warm toxins and pestilence transforms into fire, they can internally oppress the qi and *yīng* levels. Internal heat can harass the heart-spirit and consume body fluids, and liver fire can then invade the stomach. This manifests as a high fever without abatement, dysphoria, profuse thirst with a desire to drink, decreased appetite, vomiting, and scanty yellow urine. One or both sides of the parotid regions distend and feel painful and there is avoidance of pressure. Opening the mouth or chewing is uncomfortable or painful.

2. DETERIORATED PATTERNS

Attacking, Transferring and Spreading, Blocking the Orifices and Stirring Wind.

The foot *jueyin* liver channel starts at LV 1 (*dà dūn*), runs along the inner side of the leg, around the medial surface of the thigh into the pubic region, out of the external genitals, and then to the lower abdomen, where it connects as the mutual exterior-interior channel of the foot *shaoyang* gallbladder channel. The qi and blood are interlinked with each other, and both channels are inter-transformed in disease, and this may account for the disease progression. Concurrently, warm-heat toxins and pestilence are characterized by transference and spreading, so the stagnated pathogens in the gallbladder channel can very easily invade the liver channel causing accumulated pathogens in the testes and lower abdomen.

If the pathogens remain stagnated, this will cause testicular swelling and pain (accompanying orchitis) in males, and lower abdominal pain (accompanying ovaritis) in females. If the pathogens attack the chest through the ribs and spread into the abdomen where they accumulate in the *yangming* channel, this will result in severe pain of the epigastrium with nausea and vomiting (with complications of pancreatitis). If the toxic pathogen is extremely excessive, it can spread internally to the *zang* organs, sink into the liver and heart, block the mind and stir the liver-wind (with complications of parotitic encephalitis).

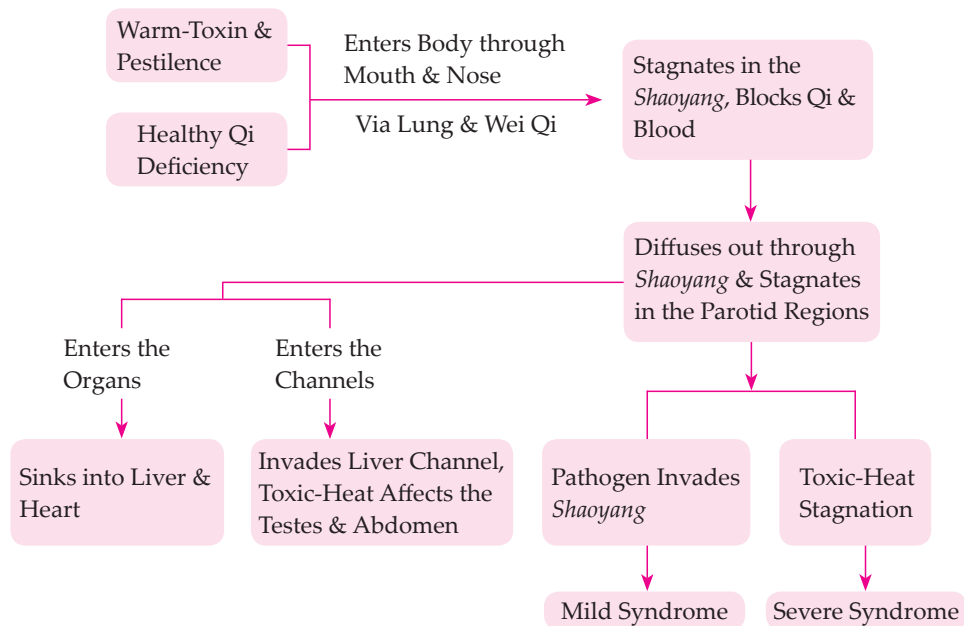


Fig. 37-1 Etiology and Pathogenesis of Mumps

[DIAGNOSIS & DIFFERENTIATION]

► Essentials of Diagnosis

- (1) History of exposure to mumps 2-3 weeks before onset.
- (2) The early symptoms last about 24 hours, including low-grade fever, headache, low appetite and malaise. These are usually followed by earache and swelling of the parotid salivary glands that will center upon the auricular lobes, spreading out with no definite borders. The local skin will have tenderness and elasticity. The glands on one side of the face often swell up 2-3 days before the other side, although it is common for only one side to be affected. The parotid duct orifice is red and swollen, sometimes accompanied by a swollen submandibular gland.
- (3) May be complicated by encephalitis, orchitis, ovaritis and pancreatitis.
- (4) CBC shows normal or lower white blood cell counts in parotitis patients. With secondary bacterial infection, CBC shows elevated WBC and neutrophilic granulocyte counts. The amylase activity in blood serum levels and urine tests parallels with the severity of the parotid swelling (which returns to normal in about 2 weeks).
- (5) Etiological examination shows the parotitis virus can be isolated from saliva, cerebrospinal fluid, blood, or urine.

► Disease Differentiation

Mumps differs from pyogenic parotitis, other epidemic parotitis and acute lymphadenitis as follows:

Table 37-1 Differential Diagnoses of Mumps, Pyogenic Parotitis, other Epidemic Parotitis and Acute Lymphadenitis

Disease Names	Mumps	Pyogenic Parotitis	Other Epidemic Parotitis	Acute Lymphadenitis
Epidemiologic History	History of contact with mumps patients	Usually secondary to scarlet fever & typhoid	Previously infected with flu virus, para-influenza virus, AIDS, etc.	Foci of infection usually on the head & face or pharynx oralis
Infectiousness	Highly contagious	Non-infectious	Infectious	Non-infectious
Clinical Manifestations	Fever, diffuse swelling & pain centered on auricular lobes	Fever, strong pain on one side of the parotid region which refuses pressure, local burning sensation, redness & swelling	Fever, diffuse swelling & pain centered on auricular lobes	Fever, Preauricular, cervical and submandibular lymph node redness and swelling, with clear borders & hard sensation
Local Features	Parotid duct orifice red & swollen	Local fluctuation can be felt when purulence has formed and spilt over from the parotid duct orifice	Parotid duct orifice red & swollen	Parotid duct orifice not red or swollen

Continued

Disease Names	Mumps	Pyogenic Parotitis	Other Epidemic Parotitis	Acute Lymphadenitis
Etiology	Mumps virus	Bacillus pyogenes	Flu-virus, para-influenza virus, AIDS, etc.	Bacteria, etc.
Peripheral CBC	Normal or reduced WBC	Elevated WBC & neutrophilic granulocyte counts	Normal or reduced WBC or elevated lymphocyte counts	Elevated WBC & neutrophilic granulocyte counts

If there is pyogenic parotitis or acute lymphadenitis, the patient should be treated by Chinese or Western medicine according to the situation. When other types of epidemic parotitis occur, treatment should be based on identification of the type of mumps pattern with consideration for both the primary infection and the parotitis.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Pattern identification mainly differentiates between common and deteriorated patterns. Common patterns are marked by fever, swollen parotid glands, no loss of consciousness, no spasms, or no swelling and pain in the testicles or lower abdomen. Deteriorated patterns are located mainly in the *shaoyang* and *jueyin* channels and marked by a high fever without abatement, repeated spasms, swollen painful testicles or lower abdominal pain.

► Treatment Principles

The basic treatment principles for mumps are to clear heat, resolve toxins, soften hardness and dissipate masses while treating exterior and interior simultaneously. Common patterns are divided into pathogenic invasion of the *shaoyang* and heat-toxin accumulation and exuberance.

When the pathogens invade the *shaoyang* channels, the treatment principles are to scatter wind, clear heat and disperse swelling to dissipate masses. On the other hand, clearing heat to resolve toxins and softening hardness to dissipate masses are applied when there is heat-toxin accumulation and exuberance.

In deteriorated patterns where the pathogenic factors have sunk into the heart and liver, the treatment methods are to clear heat to resolve toxins, extinguish wind and open the orifices. For toxins affecting the testis and abdominal areas, treatment should clear the liver, drain fire, invigorate blood and relieve pain.

Furthermore, interior and exterior therapies should be combined to relieve pain and the distention of the parotid glands.

► Classification of Patterns and Treatments

1. COMMON PATTERNS

Pathogens Invading Shaoyang

Signs and Symptoms

Manifestations include a slight fever and aversion to cold, diffuse swelling and pain on

one or both sides of the parotid regions and uncomfortable chewing, or with headache, red throat and a poor appetite. The tongue is red with a thin white or thin yellow coating; the pulse is superficial and rapid.

Pattern Differentiation

Mumps due to pathogenic *shaoyang* invasion is characterized by a slight fever, diffuse painful swelling in the parotid regions and uncomfortable chewing. There are mild general symptoms.

Treatment Principles

Scatter wind and clear heat, disperse swelling and dissipate masses

Formula

Modified *Chái Hú Gé Gēn Tāng*—**Bupleurum and Pueraria Decoction**

柴胡	<i>chái hú</i>	Radix Bupleuri
黄芩	<i>huáng qín</i>	Radix Scutellariae
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
葛根	<i>gé gēn</i>	Radix Puerariae Lobatae
桔梗	<i>jié gěng</i>	Radix Platycodonis
金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	Fructus Forsythiae
板蓝根	<i>bǎn lán gēn</i>	Radix Isatidis
夏枯草	<i>xià kū cǎo</i>	Spica Prunellae
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
僵蚕	<i>jiāng cán</i>	Bombyx Batryticatus

Formula Analysis

Chái hú (Herba Schizonepetae) and *huáng qín* (Radix Scutellariae) clear heat and rectify *shaoyang* channel qi.

Niú bàng zǐ (Fructus Arctii), *gé gēn* (Radix Puerariae Lobatae) and *jié gěng* (Radix Platycodonis) scatter wind and relieve sore throat.

Jīn yín huā (Flos Lonicerae Japonicae) and *lián qiào* (Fructus Forsythiae) clear heat and resolve toxins.

Bǎn lán gēn (Radix Isatidis) clears warm-toxic pathogens.

Xià kū cǎo (Spica Prunellae) and *chì sháo* (Radix Paeoniae Rubra) soothe the liver and dissipate masses.

Jiāng cán (Bombyx Batryticatus) expels wind, dredges the collaterals and channels, and disperses swelling.

Modifications

For obvious diffuse swelling in the cheek, add *pú gōng yīng* (Herba Taraxaci) and *qīng pí* (Pericarpium Citri Reticulatae Viride).

For high fever, add *shí gāo* (Gypsum Fibrosum).

For swollen and painful throat, add *mǎ bó* (Lasiosphaera seu Calvatia), *xuán shēn* (Radix Scrophulariae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

For poor appetite and vomiting, add *zhú rú* (Caulis Bambusae in Taenia) and *chén pí*

(Pericarpium Citri Reticulatae).

For fever and aversion to cold, add *bái zhǐ* (Radix Angelicae Dahuricae) and *zǐ sū yè* (Folium Perillae).

For cough, add *qián hú* (Radix Peucedani) and *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii).

Chinese Patent Medicines

Sāi Xiàn Yán—Mumps Pills. Take 4 -6 pills, 3 times daily.

External Therapy

Rú Yì Jīn Huáng Sǎn—Satisfied Golden Yellow Powder mixed with vinegar or tea, applied externally to the afflicted part, once or twice daily. Do not use if ulcerations appear.

Tui na

Points	Repetitions	Methods
<i>fèi jīng</i> (肺经)	100-300	Clearing
<i>gān jīng</i> (肝经)	100-300	Clearing
<i>tiān hé shuǐ</i> (天河水)	100-200	Clearing
<i>bǎn mén</i> (板门)	100-200	Kneading
SJ 17 (<i>yì fēng</i>)	50-100	Kneading
GB 20 (<i>fēng chí</i>)	50-100	Kneading

Clear *fèi jīng* 100-300 times, clear *gān jīng* 100-300 times, clear *tiān hé shuǐ* 100-200 times, rub *bǎn mén* 100-200 times, knead SJ 17 (*yì fēng*) 50-100 times and knead GB 20 (*fēng chí*) 50-100 times. Treat once or twice daily, with 3 days as one course of treatment.

Heat-Toxin Accumulation and Exuberance

Signs and Symptoms

Manifestations include a high fever, pain and hard swelling on one or both sides of the parotid region worsened by pressure, difficulty opening the mouth and chewing, restlessness, headache, sore throat with redness, profuse thirst and a desire to drink, poor appetite, vomiting, swollen and painful submandibular glands, constipation, and decreased yellow urine. The tongue is red with a yellow coating; the pulse is slippery and rapid.

Pattern Differentiation

Mumps due to accumulation of heat-toxin is characterized by painful swelling and distention of the parotid region worsened by pressure with difficulty opening the mouth and chewing, along with general symptoms such as high fever, restlessness, thirst and headache. This pattern easily transforms into deteriorated patterns, so it must be detected and diagnosed early.

Treatment Principle

Clear heat and resolve toxins, soften hardness and dissipate masses

Formula

Modified *Pǔ Jì Xiāo Dú Yǐn*—Universal Relief Toxin-Removing Beverage

柴胡	<i>chái hú</i>	Radix Bupleuri
黄芩	<i>huáng qín</i>	Radix Scutellariae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
连翘	<i>lián qiào</i>	Fructus Forsythiae
板蓝根	<i>bǎn lán gēn</i>	Radix Isatidis

升麻	<i>shēng má</i>	Rhizoma Cimicifugae
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
马勃	<i>mǎ bó</i>	Lasiosphaera seu Calvatia
桔梗	<i>jié gěng</i>	Radix Platycodonis
玄参	<i>xuán shēn</i>	Radix Scrophulariae
薄荷	<i>bò he</i>	Herba Menthae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
僵蚕	<i>jiāng cán</i>	Bombyx Batryticatus

Formula Analysis

Chái hú (Radix Bupleuri) and *huáng qín* (Radix Scutellariae) eliminate heat and rectify *shaoyang* channel qi.

Huáng lián (Rhizoma Coptidis), *lián qiào* (Fructus Forsythiae), *bǎn lán gēn* (Radix Isatidis) and *shēng má* (Rhizoma Cimicifugae) clear heat and resolve toxins.

Niú bàng zǐ (Fructus Arctii), *mǎ bó* (Lasiosphaera seu Calvatia), *jié gěng* (Radix Platycodonis), *xuán shēn* (Radix Scrophulariae) and *bò he* (Herba Menthae) clear heat, relieve a sore throat, disperse swelling and dissipate masses.

Chén pí (Pericarpium Citri Reticulatae) regulate qi and dredge stagnation.

Jiāng cán (Bombyx Batryticatus) resolve toxins and dredge the collateral channels.

Modifications

For a high fever, add *shí gāo* (Gypsum Fibrosum) and *zhī mǔ* (Rhizoma Anemarrhenae).

For severe distention and swelling of the parotid region, add *xià kū cǎo* (Spica Prunellae) and *pú gōng yīng* (Herba Taraxaci).

For vomiting, add *zhú rú* (Caulis Bambusae in Taenia).

For constipation, add *dà huáng* (Radix et Rhizoma Rhei) and *máng xiāo* (Natrii Sulfas) to relax the bowels and discharge heat.

Chinese Patent Medicine

Sài Jīn Huà Dú Sǎn—Effective Resolving-Toxin Powder

0.25-0.5 g, twice daily.

External Therapy

Rú Yì Jīn Huáng Sǎn—Satisfied Golden Yellow Powder

Mix with vinegar or tea; apply externally to the afflicted area once or twice daily. Do not use if ulcerations occur.

Acupuncture

SJ 17 (<i>yì fēng</i>)	ST 6 (<i>jiá chē</i>)	LI 4 (<i>hé gǔ</i>)
SJ 5 (<i>wài guān</i>)	SJ 1 (<i>guān chōng</i>)	

Needle all points with drainage and strong stimulation for 30 minutes.

Treat once daily. Other methods include point bloodletting therapy.

Ear Acupuncture

Ear apex (<i>ěr jiān</i>)	Apex of antitragus (<i>duì píng jiān</i>)	Adrenal gland (<i>shèn shàng xiàn</i>)
Cheek (<i>miàn jiǎ</i>)		

Point bloodletting with a three-edged needling can be used on ear apex (*ěr jiān*). Other points should be needled with strong stimulation, retaining the filiform needle for 20-30 min. Apply once daily, or once every second day.

Auricular Point-Pressing

Bilateral parotid glands (<i>sāi xiàn</i>)	Subcortex (<i>pí zhì xià</i>)	Adrenal gland (<i>shèn shàng xiàn</i>)
Cheek (<i>miàn jiá</i>)		

Press the ear points with *wang bu liu xing* (cowherb seeds) fixed with adhesive tape until the ear feels warm. Press 4-5 times daily, with 3-4 days as one course of treatment.

Tui na

Points	Repetitions	Methods
<i>Wèi jīng</i> (胃经)	100-300	Clearing
<i>Gān jīng</i> (肝经)	100-300	Clearing
<i>Tiān hé shuǐ</i> (天河水)	100-200	Clearing
<i>Liù fǔ</i> (六腑)	100-200	Pushing
<i>Èr rén shàng mǎ</i> (二人上马)	100-300	Kneading
DU 14 (<i>dà zhuī</i>)	50-100	Kneading
<i>Jǐ</i> (spine, 脊)	100-200	Pinching
KI 1 (<i>yǒng quán</i>)	50-100	Kneading

Clear *wèi jīng* and *gān jīng* 100-300 times, clear *tiān hé shuǐ* 100-200 times, push *liù fǔ* 100-200 times, knead *èr rén shàng mǎ* 100-300 times, knead DU 14 (*dà zhuī*) 50-100 times, pinch along the spine 100-200 times and knead KI 1 (*yǒng quán*) 50-100 times. Apply once or twice daily, with 3 days as one course of treatment.

2. DETERIORATED SYNDROMES

Pathogenic Factors Sinking into the Heart and Liver

Signs and Symptoms

Manifestations include high fever, hard painful swelling and distention of the parotid region worsened by pressure, coma, hypersomnia, headache, stiff neck, repeated convulsions, and vomiting. The tongue is red with a yellow coating; the pulse is slippery and rapid.

Pattern Differentiation

Characterized by a high fever, painful swelling and distention of the parotid region; there may be loss of consciousness, hypersomnia, headaches, stiff neck, repeated convulsions and vomiting.

Treatment Principles

Clear heat and resolve toxins, extinguish wind and open orifices

Formula

Modified *Qīng Wēn Bài Dú Yīn*—Epidemic-Clearing Toxin-Resolving Beverage

栀子	<i>zhī zǐ</i>	Fructus Gardeniae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
连翘	<i>lián qiào</i>	Fructus Forsythiae
生甘草	<i>shēng gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
水牛角	<i>shuǐ niú jiǎo</i>	Cornu Bubali
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
生石膏	<i>shēng shí gāo</i>	Gypsum Fibrosum
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
竹叶	<i>zhú yè</i>	Folium Phyllostachydis Henonis
玄参	<i>xuán shēn</i>	Radix Scrophulariae
芦根	<i>lú gēn</i>	Rhizoma Phragmitis
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
僵蚕	<i>jiāng cán</i>	Bombyx Batryticatus

Formula Analysis

Zhī zǐ (Fructus Gardeniae), *huáng lián* (Rhizoma Coptidis), *lián qiào* (Fructus Forsythiae) and *shēng gān cǎo* (Radix et Rhizoma Glycyrrhizae) clear heat and resolve toxins.

Shuǐ niú jiǎo (Cornu Bubali), *shēng dì huáng* (Radix Rehmanniae), *shēng shí gāo* (Gypsum Fibrosum), *mǔ dān pí* (Cortex Moutan) and *chì sháo* (Radix Paeoniae Rubra) clear heat and cool ying-blood.

Zhú yè (Folium Phyllostachydis Henonis), *xuán shēn* (Radix Scrophulariae) and *lú gēn* (Rhizoma Phragmitis) clear heat and promote fluid production.

Gōu téng (Ramulus Uncariae Cum Uncis) and *jiāng cán* (Bombyx Batryticatus) pacify the liver and extinguish wind.

Modifications

For serious headaches, add *lóng dǎn cǎo* (Radix et Rhizoma Gentianae) and *shí jué míng* (Concha Haliotidis).

For nausea and vomiting, add *zhú rú* (Caulis Bambusae in Taenia) and *dài zhě shí* (Haematitum).

For severe pain and hard swelling of the parotid region worsened by pressure, add *hǎi zǎo* (Sargassum), *kūn bù* (Thallus Laminariae; Thallus Eckloniae), *mǔ lì* (Concha Ostreae), *chì sháo* (Radix Paeoniae Rubra), *mǔ dān pí* (Cortex Moutan) and *yù jīn* (Radix Curcuma).

For obvious loss of consciousness, add *shí chāng pú* (Rhizoma Acori Tatarinowii) and *yù jīn* (Radix Curcuma).

For repeated convulsions, add *líng yáng jiǎo* (Cornu Saigae Tataricae).

Chinese Patent Medicines

Ān Gōng Niú Huáng Wán—Peaceful Palace Bovine Bezoar Pill.

0.25-0.5 pill, once or twice daily.

Xǐng Nǎo Jīng Zhù Shè Yè—Awaken the Brain Injection

4-10 ml, combined with 5% glucose injection 150 ml by intravenous drip once or twice daily.

External Therapy

Qingfu Plaster.

First, clean the skin and apply *Qingfu* Plaster on gauze the size of the affected region. The thickness of the application should be approximately 0.5 cm; apply gauze to the affected area and secure. Change the dressing once daily.

Acupuncture

SJ 17 (<i>yì fēng</i>)	ST 6 (<i>jiá chē</i>)	LI 4 (<i>hé gǔ</i>)
SJ 5 (<i>wài guān</i>)	SJ 1 (<i>guān chōng</i>)	

Needle all points with drainage and strong stimulation; retain the needles for 30 minutes. Point bloodletting therapy may also be used. Treat once daily.

Ear Acupuncture

Ear apex (<i>ěr jiān</i>)	Apex of antitragus (<i>duì píng jiān</i>)	Adrenal gland (<i>shèn shàng xiàn</i>)
Cheek (<i>miàn jiá</i>)		

Point bloodletting therapy can be used for ear apex (*ěr jiān*) with a three-edged needle. The other points should be needled with strong stimulation and the needle retained for 20-30 min. Treat once daily.

Toxin Affecting the Testes and Abdomen

Signs and Symptoms

One or both testicles become swollen and painful after the swollen parotid regions have subsided, or there will be pain in the upper or lower abdomen that worsens with pressure. The tongue is red with a yellow coating; there is a rapid pulse.

Pattern Differentiation

Mumps toxin affecting the testes and abdomen is characterized by swelling and pain of the testicles or upper and lower abdominal pain. The pain is experienced after swelling and distention of the parotid region has subsided.

Treatment Principles

Clear the liver, drain fire, invigorate blood and relieve pain.

Formula

Modified *Lóng Dǎn Xiè Gān Tāng*—Gentian Liver-Draining Decoction

龙胆草	<i>lóng dǎn cǎo</i>	Radix et Rhizoma Gentianae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
黄芩	<i>huáng qín</i>	Radix Scutellariae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
柴胡	<i>chái hú</i>	Radix Bupleuri
川楝子	<i>chuān liàn zǐ</i>	Fructus Toosendan
荔枝核	<i>lì zhī hé</i>	Semen Litchi
延胡索	<i>yán hú suǒ</i>	Rhizoma Corydalis
桃仁	<i>táo rén</i>	Semen Persicae

Formula Analysis

Lóng dǎn cǎo (Radix et Rhizoma Gentianae) and *zhī zǐ* (Fructus Gardeniae) clear excess liver-gallbladder fire.

Huáng qín (Radix Scutellariae) and *huáng lián* (Rhizoma Coptidis) clear heat and remove toxins.

Chái hú (Radix Bupleuri) and *chuān liàn zǐ* (Fructus Toosendan) soothe the liver and promote bile secretion.

Lì zhī hé (Semen Litchi) and *yán hú suǒ* (Rhizoma Corydalis) regulate qi and dissipate masses.

Táo rén (Semen Persicae) invigorates blood and softens hardness.

Modifications

For obviously swollen testicles, add *qīng pí* (Pericarpium Citri Reticulatae Viride), *é zhú* (Rhizoma Curcumae), *wū yào* (Radix Linderae) and *yán hú suǒ* (Rhizoma Corydalis).

For severe pain of the upper abdomen accompanied by vomiting, add *yù jīn* (Radix Curcumae) and *zhú rú* (Caulis Bambusae in Taenia).

For lower abdominal pain accompanied by distention and constipation, add *dà huáng* (Radix et Rhizoma Rhei), *chuān liàn zǐ* (Fructus Toosendan), *zhǐ qiào* (Fructus Aurantii) and *mù xiāng* (Radix Aucklandiae).

For excessive heat, add *pú gōng yīng* (Herba Taraxaci) and *zǐ huā dì dīng* (Herba Violae).

For swollen and hard testicles, add *dǎn nán xīng* (Arisaema cum Bile), *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii), *zhì bǎi bù* (Radix Stemonae), *mǔ lì* (Concha Ostreae), *kūn bù* (Thallus Laminariae, Thallus Eckloniae), *jiāng cán* (Bombyx Batryticatus), *é zhú* (Rhizoma Curcumae) and *sān léng* (Rhizoma Sparganii).

For serious upper abdominal pain and distention worsened by pressure or with frequent vomiting and constipation, use a modification of *Dà Chái Hú Tāng*—Major Bupleurum Decoction to harmonize *shaoyang* and purge *yangming* channel heat accumulation.

External Therapy

Grind *qīng dài* (Indigo Naturalis) 10 g, *dà huáng* (Radix et Rhizoma Rhei) 10 g, *zào jiǎo cì* (Gleditsia Sinensis) 10 g and *lì zhī hé* (Semen Litchi) 10 g into fine powder, and mix well with clear water. Apply a reasonable amount to the swollen painful region of the testicles, supporting the testicles with cotton tape. Keep the powder moist by adding clear water as needed. Apply once daily.

Acupuncture

SJ 17 (<i>yì fēng</i>)	ST 6 (<i>jiá chē</i>)	LI 4 (<i>hé gǔ</i>)
SJ 5 (<i>wài guān</i>)	LV 3 (<i>tài chōng</i>)	SP 10 (<i>xuè hǎi</i>)
SP 6 (<i>sān yīn jiāo</i>)		

Needle all points with drainage and strong stimulation. Treat once daily.

[WESTERN MEDICINE THERAPIES]

If complications occur, the treatment strategy should include Western medicine therapies.

For meningitis with intracranial hypertension, use mannitol to reduce intracranial

pressure.

For convulsions, use sodium phenobarbital or diazepam to relieve convulsions.

For orchitis, the infant should rest in bed and have the scrotum supported with a "T" tied up the front using cotton tape or a cold wet compress. An adrenal cortical hormone can be used if necessary.

For pancreatitis, fasting the patient to ensure an adequate water and electrolyte balance, and give rapid symptomatic therapy including supplemental liquids and nutrition.

For vomiting and violent abdominal pain, inject anisodamine intravenously or intramuscularly two or three times daily. Gradually change to a liquid or semi-liquid diet during remission.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) A susceptible child should avoid public places during a mumps epidemic. Children in kindergarten or middle and primary schools need regular medical examinations. Those who have a history of contact should be separated from others and take *bǎn lán gēn* (Radix Isatidis) decoction for 3-5 days. Give one dose daily.

(2) Children who have not suffered from mumps can be given parotitis immunoglobulins for prevention.

(3) 14 months after birth, children can be given the live attenuated mump vaccine or a measles-mumps-rubella vaccine.

2. NURSING CARE

(1) Infants with mumps should be separated from others until parotid region swelling and distention has disappeared for 3 days. The clothes, quilts, toys and appliances that the child has had contact with should be boiled and sterilized. The room should be disinfected by infusing steaming table vinegar and water for 30 minutes once daily.

(2) Infants should stay in bed until the fever abates. Infants with orchitis should remain in bed for a longer time with the scrotum supported by cotton tape or a cold wet compress.

(3) Closely observe the children with conditions of high fevers, headaches, drowsiness or vomiting to detect any complications in time and give the necessary treatment.

[CASE STUDIES]

► Case #1

Male, age 10 years.

First Visit: there was a sore jaw on both sides with difficulty chewing for 3 days. He had a fever the day before, 39°C at the time of the visit. The jaw was swollen and distended on both sides, soft when touched; this contributed to his poor appetite. There was taught shiny skin and obvious swelling on the left, which was worsened by pressure. He also had lassitude, foul breath, yellow, decreased amounts of urine and normal stools. His tongue was red with white thick and greasy coating, and he had a rapid pulse.

CBC: white blood cell count was $11 \times 10^9/L$, neutrophilic granulocyte count 84% and

lymphocytes 16%.

The patient was diagnosed with mumps due to heat-toxins and stagnant fire blocking the *shaoyang* channel. The treatment principle was to clear heat and resolve toxins.

Formula

连翘	<i>lián qiào</i>	10 g	Fructus Forsythiae
黄芩	<i>huáng qín</i>	6 g	Radix Scutellariae
板蓝	<i>bǎn lán gēn</i>	30 g	Radix Isatidis
牛蒡子	<i>niú bàng zǐ</i>	10 g	Fructus Arctii
僵蚕	<i>jiāng cán</i>	6 g	Bombyx Batryticatus
柴胡	<i>chái hú</i>	3 g	Radix Bupleuri
甘草	<i>gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae
桔梗	<i>jié gěng</i>	6 g	Radix Platycodonis
薄荷	<i>bò he</i>	3 g	Herba Menthae
山楂	<i>shān zhā</i>	10 g	Fructus Crataegi

3 doses.

After 3 doses, the fever reduced, the mass gradually faded, there was no jaw pain, appetite was improved with stools and urine returned to normal, and his tongue coating had thinned. Two more doses were given to consolidate the therapeutic effect.

Analysis

This condition resulted from heat stagnation in the *shaoyang* channel, so the main treatment principle was to clear heat and resolve toxins. The prescription was based on *Pǔ Jì Xiǎo Dú Yīn*—Universal Relief Toxin-Removing Beverage.

Bǎn lán gēn (Radix Isatidis) and *niú bàng zǐ* (Fructus Arctii) act to relieve toxic heat stagnation with *lián qiào* (Fructus Forsythiae) and *huáng qín* (Radix Scutellariae) to clear stagnant fire in the upper body; *chái hú* (Radix Bupleuri) and *bò he* (Herba Menthae) act to eliminate wind-heat and soothe *shaoyang* channel qi.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) and *jié gěng* (Radix Platycodonis) remove stagnation, *jiāng cán* (Bombyx Batryticatus) expels wind, resolves phlegm and dredges the collaterals and channels; *shān zhā* (Fructus Crataegi) acts to resolve food accumulation and stimulate the appetite.

After the 3 doses, his fever was reduced and the mass gradually faded; after 5 doses, the condition was resolved completely.

Source: Dong TY, Ed. 幼科刍言 [Exercising Caution in Pediatrics]. Shanghai: Scientific and Technical Publisher; 1982: 106-107.

► Case #2

Male, age 3 years. Initial Visit: 25/9/1975

History: The patient had a high fever (39.4°C) for one day with swelling and pain of both parotid regions. The size of the right region was about 5 cm×4 cm, and the opening of the parotid duct was slightly red and swollen. Several small ulcerations of the mouth mucosa were visible, with a red pharynx, tonsils II ° swelling, and occasional coughing. The tongue was pale with a white greasy coating; the palate was purplish in front and yellowish

orange in the back. The pulse was deep, wiry and rapid.

Diagnosis: Mumps.

Pattern Differentiation: Toxic pathogenic exterior invasion causing blood heat stagnation.

Treatment Principle: Clear heat and eliminate pathogens, invigorate blood and disperse swelling.

Formula

青黛	<i>qīng dài</i>	3 g	Indigo Naturalis (packaged)
紫草	<i>zǐ cǎo</i>	6 g	Radix Arnebiae
寒水石	<i>hán shuǐ shí</i>	12 g	Glauberitum (decocted first)
贯众	<i>guàn zhòng</i>	10 g	Rhizoma Cyrtomii
乳香	<i>rǔ xiāng</i>	6 g	Olibanum
白芷	<i>bái zhǐ</i>	6 g	Radix Angelicae Dahuricae
细辛	<i>xì xīn</i>	1.2 g	Radix et Rhizoma Asari

2 doses.

Second Visit: After 2 doses, the fever had reduced and the masses on the parotid regions had faded gradually. The right region was about 2 cm×2 cm and the left 1 cm×1 cm. The tenderness was relieved, the palate color was lighter; the pulse was deep, wiry and moderate.

Formula

青黛	<i>qīng dài</i>	3 g	Indigo Naturalis (packaged)
紫草	<i>zǐ cǎo</i>	6 g	Radix Arnebiae
乳香	<i>rǔ xiāng</i>	6 g	Olibanum
白芷	<i>bái zhǐ</i>	6 g	Radix Angelicae Dahuricae
白及	<i>bái jí</i>	10 g	Rhizoma Bletillae
牙皂	<i>(yá) zào jiǎo cì</i>	3 g	Gleditsia Sinensis

2 doses.

After 2 doses, the mass on the left parotid region faded away completely.

Analysis

Dr. Wang saw this condition as existing with internal accumulated heat that had later become complicated by an externally contracted epidemic pathogenic toxin. The pathogenic heat accumulation stagnated qi, obstructed blood and blocked the channels to cause swelling, distention and pain in the parotid regions.

In the formula, *qīng dài* (Indigo Naturalis), *zǐ cǎo* (Radix Arnebiae) and *guàn zhòng* (Rhizoma Cyrtomii) were used to clear heat and resolve toxins, and *rǔ xiāng* (Olibanum), *bái zhǐ* (Radix Angelicae Dahuricae), *(yá) zào jiǎo cì* (Gleditsia Sinensis) and *xì xīn* (Radix et Rhizoma Asari) were used effectively to invigorate blood, dispel wind, resolve stasis and disperse swelling.

Source: BJ Children's Hospital, Ed. 王鹏飞儿科临床经验选[Wang Pengfei's Selected

Clinical Experiences in Pediatrics]. Beijing: Beijing Publisher; 1981: 79-80.

► Case #3

Child, age 7 years.

At the first visit, it was reported that the patient had recently caught a cold earlier in the spring. There was a slight aversion to cold with fever, swelling and pain on both sides of the parotid regions, slightly dry stools, reduced yellow urine, thirst and vexation. The pulse was superficial, slippery, rapid and forceful when pressed. The tongue was red with a white thickly rooted coating.

Diagnosis: Mumps caused by warm pathogens and interior toxic-heat accumulation.

The treatment principle at the early stage was to disperse pathogenic qi with light-natured herbs, clear heat, resolve toxins and disperse stagnant fire. The child was treated externally with a hot pack (a towel soaked in warm water, wrung out and applied on the parotid). The patient was advised to avoid meat, seafood or oily greasy food, and to stay in bed and rest.

(Editor's note: the water temperature should not be very high, otherwise it will burn. The swelling may increase after using the pack, but this will fade gradually).

Formula

薄荷	<i>bò he</i>	2 g	Herba Menthae (added later)
杏仁	<i>xìng rén</i>	10 g	Semen Armeniacae Amarum
蝉蜕	<i>chán tuì</i>	6 g	Periostracum Cicadae
僵蚕	<i>jiāng cán</i>	10 g	Bombyx Batryticatus
前胡	<i>qián hú</i>	6 g	Radix Peucedani
片姜黄	<i>piàn jiāng huáng</i>	6 g	Rhizoma Wenyujin Concisum
浙贝母	<i>zhè bèi mǔ</i>	12 g	Bulbus Fritillariae Thunbergii
白茅根	<i>bái máo gēn</i>	24 g	Rhizoma Imperatae
芦根	<i>lú gēn</i>	24 g	Rhizoma Phragmitis
山楂	<i>shān zhā</i>	12 g	Fructus Crataegi

2 doses.

After 2 doses, the fever reduced through sweating, the bowels opened, and the mass faded. *Xuán shēn* (Radix Scrophulariae) 24 g and *chì sháo* (Radix Paeoniae Rubra) 10 g were added to the formula. After 3 doses, the child was cured.

Analysis

Children are more susceptible to mumps, which mainly manifest as swelling, hardness and pain on the parotid regions, also accompanied by an aversion to cold with fever. It is one of the “warm toxins”, often caused primarily by intrinsic heat, followed by a warm pathogen attack that invades the upper body and accumulates in the *shaoyang* channel. Because the *shaoyang* is the location of the qi's helm, it can accumulate pathogens if qi movement is disturbed and unsmooth. The treatment principle here is to regulate the ascending, descending and dispersing movement of qi.

Xìng rén (Semen Armeniacae Amarum), *qián hú* (Radix Peucedani) and *bò he* (Herba Menthae) dissipate the lung and eliminate the pathogens.

Zhè bèi mǔ (Bulbus Fritillariae Thunbergii) disperses swelling and dissipates the mass.

Bái máo gēn (Rhizoma Imperatae) and *lú gēn* (Rhizoma Phragmitis) discharge heat and promote water passage.

Shān zhā (Fructus Crataegi) harmonizes the stomach and aids digestion.

The prescribed medicinals matched the pathogenesis, so the condition was cured after only 2 doses. The external hot pack treatment was Dr. Zhao's own experience based on the saying, "Warm therapy can resolve and dispel pathogens".

Source: Peng JZ, et al. Ed. 赵绍琴临证验案精选 [Zhao Shaoqin's Selected Effective Clinical Cases]. Beijing: Xueyuan Press; 1996: 48-49.

[QUESTIONS]

1. A 7-year-old child has a painful swelling and distention of the left parotid region aggravated by chewing for two days. Examination: T: 38.0°C, swollen left parotid, more painful when pressed; the parotid duct orifice is dark red. The tongue has a red tip with a thin yellow coating.

Which of the following therapies is most ideal?

- Take *Sāi Xiàn Yán*—Pills for Mumps, with *Rú Yì Jīn Huáng Sǎn*—Satisfied Golden Yellow Powder applied externally.
- Take *Sài Jīn Huà Dú Sǎn*—Effective Resolving-Toxin Powder, with *bài jiàng cǎo*—Herba Patriniae applied externally.
- Take *Pǔ Jì Xiāo Dú Yǐn*—Universal Relief Toxin-Removing Beverage with *Rú Yì Jīn Huáng Sǎn*—Satisfied Golden Yellow Powder applied externally.
- Take *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill with *bò he* (Herba Menthae) applied externally.
- Take *Sāi Xiàn Yán*—Pills for Mumps with *xiǎo huí xiāng* (Fructus Foeniculi) applied externally.

2. A 7-year-old child first had a fever and painful left parotid region, and then swelling and pain on both side of the cheeks, with high fever, restlessness, profuse thirst with the desire to drink, chewing difficulty and the occasional headache. The tongue is red with a yellow coating; the pulse is slippery and rapid. CBC: normal WBC and increase in the number of lymphocytes.

Which of the following treatment principles are most ideal?

- Scatter wind, clear heat and dissipate masses.
- Scatter wind, invigorate blood and dissolve stasis.
- Clear heat and resolve toxins, soften hardness and dissipate masses.
- Clear heat, calm fright and soothe the mind.
- Regulate qi, invigorate blood and dissipate masses.

3. A 6-year-old child has had a fever for 2 days with a swollen and painful left parotid region for one day. The child also presented with a slight cough, sore throat, poor appetite, dark yellow urine and normal stools. Examination: T 38.5°C, swollen left parotid region worsened by pressure, and a dark red parotid duct orifice. The tongue tip was red with a thin and yellow coating.

Which formula is the best choice?

- Qīng Wēn Bài Dú Yǐn*—Epidemic-Clearing Toxin-Resolving Beverage

- B. *Pǔ Jì Xiāo Dú Yǐn*—Universal Relief Toxin-Removing Beverage
- C. *Xiān Fāng Huó Míng Yǐn*—Immortal Formula Life-Giving Beverage
- D. *Wǔ Wèi Xiāo Dú Yǐn*—Five Ingredients Toxin-Removing Beverage
- E. *Chái Hú Gé Gēn Tāng*—Bupleurum and Pueraria Decoction

4. An 8-year-old child has had a fever for 5 days, diffuse swelling and pain on both parotid regions for 3 days, poor appetite, restlessness, thirst, headache and constipation for 2 days. Examination: T 39.0°C. Swelling and distention and pain on both parotid regions that worsens when pressed, during chewing, and when the mouth is opened. The parotid duct orifice is red and swollen. The tongue is red with a thick yellow coating; the pulse is wiry and excessively powerful.

Which of the following pathogeneses are correct?

- A. The pathogen attacked the lung and defensive qi, then invading the *shaoyang* channel.
- B. Heat toxin stagnated and accumulated in the *shaoyang* channel.
- C. Accumulated internal toxic heat sank into the heart and liver.
- D. Wind-heat accumulated in the *shaoyang* channel.
- E. Toxins invaded the *shaoyang* channel and involved the liver channel.

[REFERENCES]

- [1] Bao Fang, Cui Aili, Guo Xuebin, et al. Epidemiology and Etiological Analysis on Mumps from 2004 to 2006 in China. *Chinese Journal of Vaccines and Immunization*, 2009; 15(2): 115-118.
- [2] Mumps Vaccine WHO Position Paper. *Weekly Epidemiological Record*, 2006; (7):51-60.
- [3] Shao Ailian, Song Jingying. Auricular Acupoint Pressure Therapy as the Main Therapy in 85 Mumps Cases. *Shanxi Journal of Traditional Chinese Medicine*, 1997; 13(6): 34.
- [4] Lv Fudu, Shang Yong. The Effects of Empirical “Si Huang” Powder Treatment in 30 Cases of Child Epidemic Parotitis. *Gansu Journal of Traditional Chinese Medicine*, 2008; 21(3): 28.

Chapter 38

Malaria (*Nüè Jí*)

Malaria is an infectious disease caused by the parasite of the genus *Plasmodium*. The condition is transmitted through mosquito bites and mainly characterized by intermittent febrile episodes with paroxysmal high fever, shaking, chills and sweating; anemia and spleen enlargement are also present in some cases.

Malaria is one of the most common infectious diseases that cause death in infants and young children. The World Health Organization (WHO) 2009 report states that in 2006 there were 247 million cases of malaria worldwide causing nearly one million deaths, of which 85% were children aged less than 5 years.

In 2008, malarial epidemics occurred in 109 countries and regions. Children in Africa suffer from malaria on an average of 1.6-5.4 times each year, causing 1/5 of all childhood deaths, with one death every 30 seconds. As a hyperendemic area in eastern Africa where malaria epidemics occur all through the year, Somalia is especially affected. Malaria is also one of the most major causes of childhood death in many tropical zones.^[1]

In China, reports showed 46,988 malaria cases with 15 deaths in 2007. The mortality decreased by 22.2% as compared with 2006, with morbidity at 0.36/10,000. Malaria is mainly found in remote regions and underdeveloped areas as well as those areas populated by Chinese minorities.

In order to promote the control of malaria, in 2005, the World Health Assembly established four key intervention measures, with performance goals. These measures covered more than 80% of the malaria areas and countries. Those four measures included providing insecticide-treated mosquito nets (ITNs) for the risk groups, proper anti-malarial drugs for those suspected cases or clearly diagnosed patients, indoor spraying with residual insecticides for the families at risk, and the application of intermittent preventive treatment (IPT) for pregnant women. The World Health Assembly further defined that these intervention measures should ensure the morbidity and mortality rates of malaria decreased by at least 50% during 2000-2010, and reduced by at least 75% during 2005-2015.

Malaria is caused by the protozoa *Plasmodium*. There are four species of *Plasmodium* recognized as the usual cause of human malaria: *P. vivax*, *P. malariae*, *P. falciparum* and *P. ovale*. Malaria is transmitted by an infectious mosquito bite, and while it occurs during any season of the year, it is more common in Summer and Autumn, the main breeding seasons for mosquitoes. This disease can affect children at any age, but has a higher morbidity for those less than 5 years old.

Chinese medicine has a long history in treating malaria with particular therapeutic effectiveness. Artemisinin-based anti-malarial medicines abstracted from Chinese medicinals including Artemisinin, Artesunate, Artemether and Riamet have been used worldwide with greatly increased interest in recent years.

Huo Kai-ming treated 89 cases of cerebral malaria with patients randomly divided into two groups: 48 cases in the treatment group and 41 cases in the control group. Artesunate was used in the treatment group and quinine in the control, with treatment for 7 days in both groups. The cure rates after 7 days were 91.67% in the treatment group and 85.37% in

the control group.

There was no statistically significant difference between the two groups, but reduction of fever in the treatment group was 26.1+10.2 hours and 39.5 + 11.6 hours in the control group. The durations of consciousness after coma were 36.2 + 10.1 hours in the treatment group and 59.7+12.5 hours in the control. There were statistically significant differences between the two groups on both of the time spans relating to fever-reduction and consciousness. Relatively more side-effects were shown in the control group. Conclusion: Artesunate can be regarded as the drug of choice for treating cerebral malaria because of its rapid action with few side effects. ^[2]

Wu Jinhai et al. treated 120 African children with falciparum malaria (the test group and control each had 60 subjects). Artemether injection was used in the test group and quinine dihydrochloride injection was used in the control group. The treatment course was 5 days.

Results: The average times of fever-reduction, plasmodium in peripheral blood turning negative, average duration of hospitalization, and duration of child-patients awakened from a cerebral malaria coma in the test group were all shorter than those in the control group ($P < 0.01$).

Conclusion: In treating falciparum malaria in children, Artemether was effective, easier to administer, and with minimal toxic side-effects. It may be used as a replacement for quinine in the treatment of childhood falciparum malaria. ^[3]

Chinese medicine has various therapeutic methods for treating malaria; also the combination of TCM and Western medicine are being applied in China and other parts of the world.

Gong Xiuhang treated 133 malaria cases in children which were divided into two groups: 80 cases in the test group and 53 cases in the control group. The test group used point-needling of *sì fèng* (EX-UE10) combined with chloroquine phosphate tablets. *Sì fèng* (EX-UE10) is located on the palmar surface at the middle of the transverse creases of the proximal interphalangeal joints of the index, middle, third, and little fingers.

Needling method: after routine sterilization, pinch each proximal interphalangeal joint, prick the acupoints to 0.1 *cun* with the needle and then squeeze out a small amount of yellow clear liquid or blood. Needle once on alternate days and evaluate the therapeutic effects after 3 sessions.

The control group used chloroquine phosphate tablets. The results showed 66 cases (82.5%) cured in the test group, and 30 cases (58.6%) cured in the control group. There was a statistically significant difference between the two groups in the cure rate ($P < 0.01$). ^[4]

Lin Guijun treated 132 African children with malaria by combining acupuncture and moxibustion with Western medicine. Subjects were divided randomly into a test group of 67 cases and a control group of 65 cases. In the test group, the treatment was a combination of acupuncture and moxibustion using the following points: DU 14 (*dà zhuī*), PC 5 (*jiān shǐ*), SP 6 (*sān yīn jiāo*), ST 36 (*zú sān lǐ*), KI 3 (*tài xī*) and LI 4 (*hé gǔ*); they were also given quinoline. In the control group, the treatment was quinoline combined with symptomatic treatment. The treatment course was one week for both groups.

Results showed total effective rates in the test and control groups at 97.0% and 95.4% respectively. There was statistically significant difference in therapeutic effects between the two groups ($P < 0.05$). The test group was superior to the control group in aspects of fever-reduction, plasmodium density in blood, shortened course of disease, and recovery time

of Hb and RBC in the blood. Conclusion: acupuncture and moxibustion combined with Western medicine was more effective than Western medicine treatment alone. ^[5]

[ETIOLOGY & PATHOMECHANISM]

Malarial pathogens and miasmatic toxins pertain to latent qi and pestilential qi, which is infectious and with a concealed pathogenicity; that is, malaria tends to attack people with weak immunity and can remain latent within the body. When infants and young children (with typically immature yin and yang constitutions) are bitten by infectious mosquitoes during malaria seasons, the pathogens and miasmatic toxins from the infected mosquitoes enter the child's body through the skin and blood vessels. As the pathogens and toxins invade and lurk within the body, the healthy and pathogenic qi contend with each other. The disease location mainly involves the liver, gallbladder, heart, spleen and kidney.

Malaria Pathogen Invading and Impairing the *Shaoyang* Pivot (Mild Conditions)

Pestilential qi is characterized by its highly contagious nature, while latent qi is apt to invade the body's pleura-diaphragmatic interspaces, which are considered as half-exterior and half-interior. The foot *shaoyang* gallbladder channel is one of the half-exterior and half-interior locations where even slight malaria pathogens and miasmatic toxins will lurk, even if the body has strong healthy qi. These latent pathogens can stagnate internally to block qi and blood, causing channel dysfunction that impairs the *shaoyang* pivot while also allowing for the malaria to develop.

This pattern of malaria manifests with alternating chills and fever, a regular onset, and fever that subsides after sweating. This pattern is commonly seen in clinical quartan malaria and ovale malaria, and is a relatively mild condition.

Malaria Pathogen Harassing the Heart and Liver with Toxins Damaging Blood (Severe Conditions)

When a person with insufficient healthy qi is invaded by a strong malaria pathogen and miasmatic toxin, the pathogen may lurk internally in the heart, liver, spleen or kidney.

If the pathogens harass the heart and liver, they disturb the heart-spirit and stir liver wind, manifestations include a high fever, severe headaches, restlessness, coma, delirium, convulsions and paralysis. This pattern is commonly seen in the onset of cerebral malaria from falciparum, or malignant tertian malaria.

If summerheat-dampness is predominant, they will lodge in the middle *jiao* causing impaired ascending and descending of qi and transverse invasion of bile. This pattern manifests with remittent fever, vomiting, diarrhea, severe abdominal pain, poor appetite, or jaundice, and vomiting of bile. This pattern is commonly seen in gastrointestinal-type malaria, congenital malaria, early childhood malaria, and the bile-type associated with falciparum malaria.

If summerheat-dampness with heat is predominant, the toxic pathogen may accumulate in the lower *jiao*, damaging the kidney essence and liver blood, also causing qi dysfunction in the transformation and separation of the pure and turbid. This manifests with scanty dark reddish urine or anuria, coma and delirium, or even convulsions. This pattern is mainly seen in blackwater fever which is related to those instances of incomplete treatment, or occasionally seen in untreated falciparum malaria or other forms of malaria as well as

malaria complicated with renal failure.

In general, for latent qi caused disease, the exuberant pestilential qi lurks internally for a long duration, struggles with healthy qi, finally injuring qi and blood. The deficient qi and blood and latent toxic pathogens stagnate in the liver and spleen to induce chronic malaria. These patients often have a pale complexion, mental fatigue, lack of strength, emaciation, lusterless nails, and rib-side masses. If malarial pathogens and miasmatic toxins are extremely exuberant and the healthy qi is very weak and thus unable to resist the latent pathogens, these factors may cause body fluids and yang qi to collapse, or even yin and yang separation. In this condition, the patients may have hypothermia, listlessness, a pale complexion, cyanotic lips, and reversal cold of the hands and feet. The pulse is faint and verging on expiry as commonly seen in shock-type malignant tertian malaria and early childhood malaria.

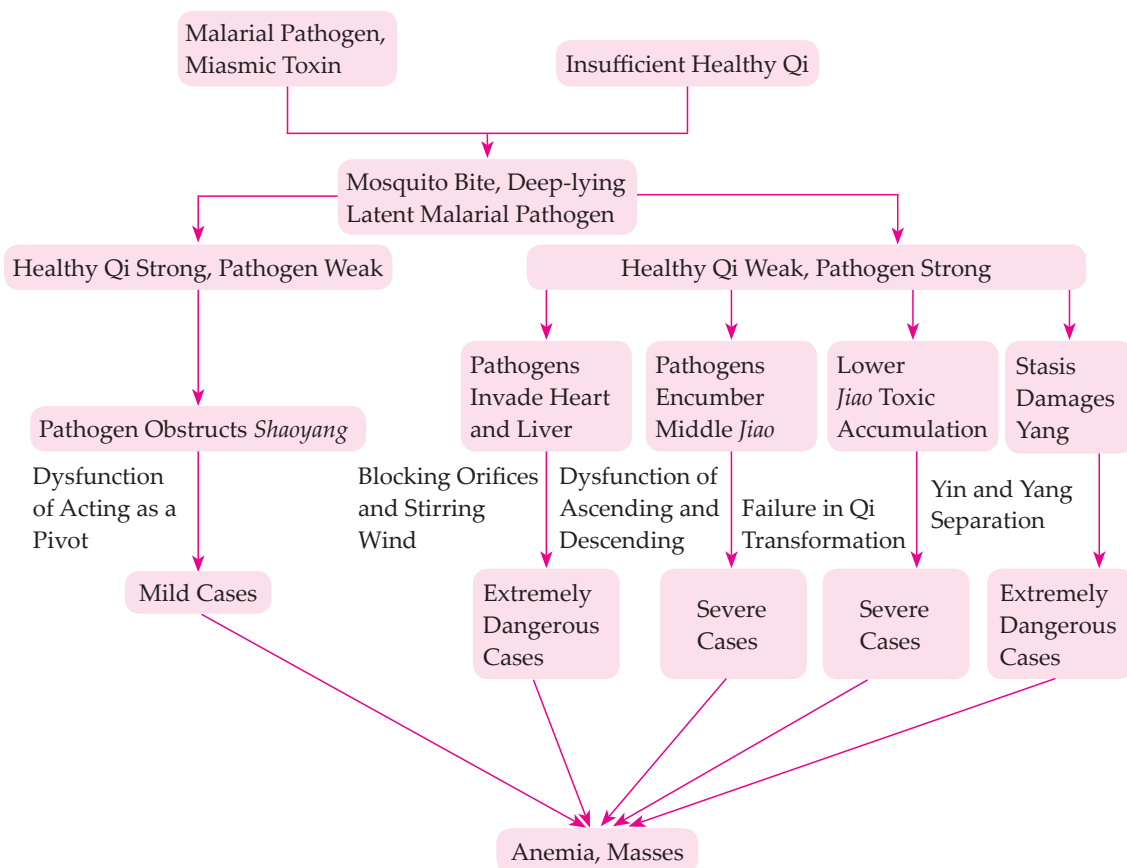


Fig. 38-1 Malaria Etiology & Pathomechanisms

[DIAGNOSIS & DIFFERENTIATE DIAGNOSIS]

► Essentials of Diagnosis

(1) The patients have had a history of contact with malaria, have had a blood transfusion in recent days, or have traveled or resided within a malaria-endemic area during the epidemic season. The incubation period is 10-17 days for benign tertian or vivax malaria,



14-18 to 25-40 days for quartan malaria, 16-18 days for ovale malaria and 9-16 days for malignant tertian or falciparum malaria. At late incubation before the primary attacks, a short prodromal period of several days often appears. Manifestations include slight fever, fatigue, and aching pain in the back and four limbs.

(2) Paroxysmal periodicity: benign tertian malaria and ovale malaria attack on alternating days, quartan malaria attacks every 3 days, while falciparum malaria often has an irregular or remittent fever. The younger the child is, the more variable the symptoms may be. In children over 5 or 6 years old, the clinical manifestations are similar to those of adults.

(3) The typical presentation of malaria includes these distinct stages: the shaking chills period, which is the first phase when the malaria attacks. In this period, patients have chills, shaking, a pale complexion and a thready rapid pulse, usually with nausea and vomiting. This period lasts for about 20-30 minutes.

The following phase is the fever period. Patients have a high fever with temperatures ranging from 40-41°C with headache and general body aches. This period lasts for about 4-8 hours.

The next phase is the sweating and fever-reduction period. During this period the patient has drenching sweats, an abrupt dropping of temperature where they suddenly feel well but fatigued, followed by an apyretic (no fever) period. Some patients may have associated jaundice and the spleen enlargement during an acute attack. They can also develop anemia, hepatomegaly and splenomegaly with a long-lasting disease course.

(4) Malignant tertian or falciparum malaria is caused by *Plasmodium falciparum*, which accounts for most severe complications and nearly all of the deaths. Aside from shaking chills and high fever (according to the location that the plasmodium has attacked), it can be clinically divided into five types:

a. Cerebral malaria type (manifestations include severe headache, restlessness, coma, delirium, convulsion, paralysis, hyperreflexia, meningeal irritation signs and encephalopathy).

b. Gastrointestinal type (manifestations include vomiting, diarrhea, and severe abdominal pain).

c. Kidney-renal failure type (manifestations include progressive oliguria, anuria or uremia).

d. Jaundice and remittent fever type (manifestations include remittent fever, jaundice, vomiting bile, anemia, liver enlarged, and coma).

e. Shock and collapse type (manifestations include hypothermia, reversal cold of hands and feet, reduced blood pressure, and a thready rapid pulse).

(5) During early childhood, acute malaria attack is atypical, which is unlike the disease as seen in older children and adults. The manifestations of the shaking chills period are limited to cold in four limbs, a pale face, and cyanotic lips. In the fever period, the child has a high fever and often icy-cold limbs, vomiting, and diarrhea. In the fever-reduction period, profuse sweating is rare. Anemia and obvious spleen enlargement can develop rapidly. However, these conditions may recover rapidly soon after treatment. If untreated, the child may worsen and die, or the acute symptoms may gradually abate, passing into a stage of chronic malaria, in which both recurrence rates and mortality rate are high.

(6) Congenital malaria is acquired antenatally from malaria infected mothers where

newborns may develop the onset of malaria within 5-6 days after birth. Plasmodium can be found in the blood, the same as present in the mother. Congenital malaria has a high mortality rate.

(7) Etiological diagnosis: a diagnosis of malaria is established by the identification of Plasmodium by stained blood smears. Plasmodium is easily found just before and during acute attacks. A thick blood smear has a higher detection rate than a thin blood smear. If necessary, bone marrow puncture of the iliac crest may be performed to get thick and thin bone marrow smears for identification.

► Differential Diagnosis

Malaria should be differentiated from influenza, pulmonary tuberculosis and infantile anemia.

Table 38-1 Differential Diagnosis of Malaria, Influenza, Pulmonary Tuberculosis and Infantile Anemia

Disease Names	Mild Pattern (Ordinary Malaria)	Influenza	Pulmonary Tuberculosis	Infantile Anemia
Latent Period	10-25 days	1-3 days	None	None
Prevalent Season	Summer & Autumn	Winter & Spring	Any season	Any season
Typical Manifestations	Shaking chills lasting about 20-30 minutes, then high fever (40-41°C), headache & body aches for 4-8 hours, finally profuse sweating, sudden temperature drop & being relaxed but tired. Possible jaundice, anemia, hepatomegaly & splenomegaly in chronic disease	Aversion to cold, fever, headache, nasal congestion, rhinorrhea, itching or red sore & swollen throat, muscle aches, or cough with sputum	Aversion to wind or chills, fever, cough, night sweats, fatigue, poor appetite, or shortness of breath, cyanosis. Some patients have hepatomegaly & splenomegaly	Pale complexion, lusterless nails, dizziness. Late stage: emaciation, withered hair, malnutrition, growth retardation, uncertain fever, possible hepatosplenomegaly
Cold & Fever Period	Chills & fever periodically	Irregular aversion to cold with fever	Tidal fever commonly, irregular	Uncertain
Test Features	Plasmodium in blood smears	Virus isolation or serological tests to identify the pathogen	PPD: Positive	Erythrocyte count, hemoglobin or hematocrit lower than normal
Etiology	Plasmodium protozoon	Influenza viruses, para-influenza viruses	Mycobacterium tuberculosis	None

Chinese medicine treatment is very effective for influenza; refer to the chapter *Common Cold (gǎn mào)*. Pulmonary tuberculosis should be treated by standard anti-TB treatment. A combination of Chinese medicine and Western medicine can improve efficacy and reduce the side effects of anti-TB drugs. The primary or secondary etiology of anemia should be identified and then treated with Chinese and Western medicine accordingly.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

The patterns in malaria should first be identified as mild or severe. A mild condition is due to pathogens obstructing the *shaoyang* channel, causing dysfunction of the *shaoyang* pivot. Since the pathogen is mild and the healthy qi is strong, the toxic pathogen is easily expelled from the exterior, so the prognosis is good.

In severe patterns, because the pathogen is exuberant and the healthy qi is deficient, the pathogen lurks deeply to harass the five organs and damage qi and blood. The accumulated pathogen creates havoc within the body causing toxins to gather and damage the blood; there is a poor prognosis. In clinical practice, it is important to differentiate the location of toxic pathogens and the relative excess or deficiency of healthy qi and the pathogens.

Table 38-2 Differentiation of Mild and Severe Patterns in Malaria

Mild Pattern	Severe Patterns			
Chills & fever alternate days or every 3 days or irregularly, body pain, headache, sore throat, blush, thirst, sweating, fatigue, reduced appetite. Red tongue with yellow & white coating, wiry pulse.	Malarial pathogen invading heart & liver	Malarial pathogen encumbering the middle <i>jiao</i>	Toxin accumulating in the lower <i>jiao</i>	Damage to blood & yang
	High fever, severe headache, irritability, coma, delirium, convulsions, paralysis. Scarlet tongue, wiry rapid pulse. Purple stagnated venules.	Remittent fever, vomiting, diarrhea, severe abdominal pain, reduced appetite, or jaundice, vomiting bile. Red tongue with greasy yellow coating; wiry, slippery and rapid pulse. Purple stagnated venules.	Oliguria, dark urine or without urine, or vomiting, poor appetite, or decreased consciousness, delirium, convulsions.	Lusterless nails, rib-side masses, low temperature, listlessness, pale complexion, cyanotic lips, reversal cold of hands & feet. Faint pulse verging on expiry.

► Treatment Principles

The general treatment principle for malaria is to reinforce healthy qi and eliminate pathogens. While eliminating the pathogens, first harmonize *shaoyang* and clear heat.

At the early disease stage, the treatment methods are to harmonize *shaoyang*, reconcile nutrient and defense aspects, and expel the malaria pathogen.

If there is exuberant summerheat-dampness formed into miasmatic toxins, the treatment methods are to clear summerheat, resolve toxins, remove dampness, dispel turbidity, reinforce healthy qi and eliminate malignant malaria.

If the healthy qi is deficient and the patient is invaded by strong malarial pathogens and miasmatic toxins, the pathogen lurks deep within and harasses the five organs. In this condition, it is important to identify the location of the disease and then give appropriate treatment.

If the malaria pathogen invades the heart and liver, closes the orifices and stirs wind, the treatment methods are to clear heart heat, open the orifices, cool the liver, and extinguish wind.

If malaria encumbers the middle *jiao* causing ascending and descending disorders, the treatment methods are to remove damp, dispel phlegm, harmonize the stomach, direct counterflow downward, and relieve spasms and pain.

If there is jaundice, the treatment methods should combine methods to clear heat, drain dampness, activate blood, and relieve jaundice.

If toxins accumulate in the lower *jiao* causing qi transformation dysfunction, the treatment methods are to clear heat, promote urination, cool blood, and resolve stasis.

For chronic malaria patients with qi and blood deficiency and pathogen accumulation in the liver and spleen, in order to prevent relapses the condition should be treated with a combination of supplementation and elimination methods: reinforce healthy qi, supplement qi, nourish blood, soften hardness and dissipate masses.

In serious cases with damaged blood and yang qi or even yin and yang separation, the treatment methods are to cultivate original qi, supplement yin, replenish qi, astringe body fluids, and restore yang to save collapse.

The appropriate time for taking malaria medicinals is 2 hours before the onset of symptoms.

► Classification of Patterns and Treatments

Malaria Pathogens Constraining the Shaoyang Channel

Signs and Symptoms

Manifestations include shaking and chills with fever attacking on alternate days, irregularly or in every three days, with body pain, headache, sore throat, malar flush, thirst, sweating, fatigue and reduced appetite. The tongue is red with a yellow and white coating; the pulse is wiry. The finger venules are pale purple or purple and stagnated.

Pattern Differentiation

This pattern is characterized by alternating chills and fever on alternate days or regularly every three days. It starts with shaking chills, following by a high fever, and sweating with fever relief. These are the classic manifestations of benign tertian malaria or quartan malaria. The symptoms of irregular chills and fever or severe headaches and body pain without fever are caused by the malaria pathogen invading *shaoyang* and obstructing channel qi.

Treatment Principles

Eliminate pathogens to prevent malaria attacks, harmonize *shaoyang*

Formula

Modified *Xiǎo Chái Hú Tāng*—Minor Bupleurum Decoction with *Jié Nüè Qī Bǎo Yīn*—Seven Treasures Preventing Malaria Beverage

柴胡	<i>chái hú</i>	Radix Bupleuri
黄芩	<i>huáng qín</i>	Radix Scutellariae
青蒿	<i>qīng hāo</i>	Herba Artemisiae Annuae
常山	<i>cháng shān</i>	Radix Dichroae
槟榔	<i>bīng láng</i>	Semen Arecae
草果	<i>cǎo guǒ</i>	Fructus Tsaoko
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
生姜	<i>shēng jiāng</i>	Rhizoma Zingiberis Recens
党参	<i>dǎng shēn</i>	Radix Codonopsis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
大枣	<i>dà zǎo</i>	Fructus Jujubae

Formula Analysis

Chái hú (Radix Bupleuri) and *huáng qín* (Radix Scutellariae) clear and eliminate the malaria pathogen and harmonize the *shaoyang*.

Qīng hāo (Herba Artemisiae Annuae), *cháng shān* (Radix Dichroae), *bīng láng* (Semen Arecae) and *cǎo guǒ* (Fructus Tsaoko) expel malaria with their aromatic nature, resolve dampness, and dissipate pathogens.

Bàn xià (Rhizoma Pinelliae) and *shēng jiāng* (Rhizoma Zingiberis Recens) dry dampness, resolve phlegm, harmonize the stomach, and direct counterflow downwards.

Dǎng shēn (Radix Codonopsis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae) and *dà zǎo* (Fructus Jujubae) replenish qi, support the middle, and eliminate pathogens.

Modifications

For body pain, add *guì zhī* (Ramulus Cinnamomi) and *dú huó* (Radix Angelicae Pubescentis).

For chest oppression, epigastric stuffiness, vomiting, and with a greasy tongue coating, remove *gān cǎo* (Radix et Rhizoma Glycyrrhizae) and *dà zǎo* (Fructus Jujubae), and add *cāng zhú* (Rhizoma Atractylodis), *zhú rú* (Caulis Bambusae in Taenia), *huò xiāng* (Herba Agastachis) and *hòu pò* (Cortex Magnoliae Officinalis).

For thirst with a desire to drink and profuse sweating, add *shēng shí gāo* (Gypsum Fibrosum), *zhī mǔ* (Rhizoma Anemarrhenae), *tiān huā fēn* (Radix Trichosanthis) and *lú gēn* (Rhizoma Phragmitis).

For a sore throat, add *shè gān* (Rhizoma Belamcandae), *mǎ bó* (Lasiosphaera seu Calvatia) and *xuán shēn* (Radix Scrophulariae).

For severe chills and slight fever or only chills without fever with general lassitude, stuffiness and fullness in the chest and rib-side, no thirst, a thick greasy white tongue coating and a wiry pulse, replace the formula with a modification of **Bù Huàn Jīn Zhèng Qì Sǎn—Priceless Qi-Correcting Powder**

藿香	<i>huò xiāng</i>	Herba Agastachis
佩兰	<i>pèi lán</i>	Herba Eupatorii
苍术	<i>cāng zhú</i>	Rhizoma Atractylodis

厚朴	<i>hòu pò</i>	Cortex Magnoliae Officinalis
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
荷叶	<i>hé yè</i>	Folium Nelumbinis
草果	<i>cǎo guǒ</i>	Fructus Tsaoko
槟榔	<i>bīng láng</i>	Semen Arecae
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii

Chinese Patent Medicines

a. *Xiǎo Chái Hú Kē Lì*—Minor Bupleurum Granules

Mixed with boiled water, take 1 bag 3 times daily.

b. Artemether: intramuscular injection

First dose: 3.2 mg/kg. 2nd-5th days, 1.6 mg/kg, once daily.

Tui na

Applicable for malaria patients during the fever stage.

Procedure:

Help the child to lie down stretched out. The practitioner's left hand holds the left hand of the child, and the right thumb of the practitioner pushes on the child's palmar surface from the first finger thumb knuckle and the ring finger towards the root of the finger, 100 times. The practitioner also pushes on the index finger from *hukou* (the part of the hand between the thumb and the index finger) to the fingertip along the radial border 100 times, then presses and kneads the center of the palm and the large thenar area with the thumb 100 times clockwise. Finally, apply clearing to *tiān hé shuǐ* (天河水), withdrawing to *liù fǔ* (六腑), and kneading on ST 25 (*tiān shū*, 天枢).

Acupuncture

DU 14 (<i>dà zhuī</i>)	PC 5 (<i>jiān shǐ</i>)	DU 13 (<i>táo dào</i>)
ST 36 (<i>zú sān lǐ</i>)	GB 20 (<i>fēng chí</i>)	LI 4 (<i>hé gǔ</i>)

For children less than 3 years old, do not retain the needle; for children over 3 years old, retain the needle at each point for 15 minutes. Treat once daily, with 7 days as one course of treatment. For a persistent high fever, select points to prick and bleed, such as *shí xuān* (EX-UE11).

Auricular Acupuncture

1. First group:

Brain Stem (<i>nǎo gàn</i>)	Apex of Tragus (<i>píng jiān</i>)	Intertragic Notch (<i>píng jiān</i>)
Spleen (<i>pí</i>)		

Procedure: 1-2 hours before the malaria onset, use short filiform needles with strong stimulation and 30 minutes needle retention, then give intermittent strong stimulation, or use cochlear auricular needles, retaining needles at each point for 24 hours.

2. Second group:

Adrenal Gland (<i>shèn shàng xiàn</i>)	Subcortex (<i>pí zhì xià</i>)	Endocrine (<i>nèi fēn mì</i>)
Liver (<i>gān</i>)	Spleen (<i>pí</i>)	

Procedure: 1-2 hours before the malaria onset, prick the points with strong stimulation; retain the needles for one hour, treat consecutively for 3 days.

Malaria Pathogens Encumbering the Middle *Jiao***Signs and Symptoms**

Manifestations include remittent fever, vomiting, diarrhea, severe abdominal pain, reduced appetite or jaundice, and vomiting bile. The tongue is red with a greasy yellow coating; the pulse is wiry, slippery and rapid. The finger venules are purple and stagnated.

Pattern Differentiation

This pattern is characterized by remittent fever, vomiting, diarrhea, severe abdominal pain, and reduced appetite. These are the manifestations of spleen and stomach ascending and descending dysfunction caused by exuberant summerheat-dampness encumbering the middle *jiao*. The symptoms of jaundice, vomiting bile, a red tongue with a greasy yellow coating, a wiry and slippery rapid pulse, and purple and stagnated venules are all due to summerheat-dampness encumbering the middle *jiao* and liver and gallbladder failing to govern the free flow of *qi* with transverse gallbladder counterflow.

Treatment Principles

Clear summerheat and resolve dampness, treat malignant malaria and harmonize the middle

Formula

Modified *Dá Yuán Yǐn*—Membrane-Source-Opening Beverage
with *Qīng Zhàng Tāng*—Malaria-Clearing Decoction

草果	<i>cǎo guǒ</i>	Fructus Tsaoko
槟榔	<i>bīng láng</i>	Semen Arecae
青蒿	<i>qīng hāo</i>	Herba Artemisiae Annuae
常山	<i>cháng shān</i>	Radix Dichroae
黄芩	<i>huáng qín</i>	Radix Scutellariae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
柴胡	<i>chái hú</i>	Radix Bupleuri
竹茹	<i>zhú rú</i>	Caulis Bambusae in Taenia
枳实	<i>zhǐ shí</i>	Fructus Aurantii Immaturus
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
滑石	<i>huá shí</i>	Talcum
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Cǎo guǒ (Fructus Tsaoko), *bīng láng* (Semen Arecae), *qīng hāo* (Herba Artemisiae Annuae) and *chángshān* (Radix Dichroae) resolve dampness, dispel turbidity and expel malarial pathogens with their aromatic nature.

Huáng qín (Radix Scutellariae), *huáng lián* (Rhizoma Coptidis) and *zhī mǔ* (Rhizoma Anemarrhenae) clear summer-heat and discharge heat, dry dampness and eliminate pathogens.

Chái hú (Radix Bupleuri) and *zhú rú* (Caulis Bambusae in Taenia) clear and dissipate dampness and harmonize the stomach.

Zhǐ shí (Fructus Aurantii Immaturus), *bàn xià* (Rhizoma Pinelliae) and *chén pí* (Pericarpium Citri Reticulatae) dry dampness, resolve phlegm and regulate stomach qi.

Huá shí (Talcum) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) clear heat, drain dampness, remove toxins, and harmonize the middle.

Add *mǎ biān cǎo* (Herba Verbenae) and *shǔ qī* (Folium Dichroae), to eliminate pathogens and prevent malaria attack.

For jaundice and vomiting bile, add *yīn chén* (Herba Artemisiae Scopariae), *shān zhī* (Fructus Gardeniae), *huáng bǎi* (Cortex Phellodendri Chinensis) and *dà huáng* (Radix et Rhizoma Rhei).

For severe abdominal pain and frequent vomiting, add *cán shā* (Faeces Bombycis), *mù xiāng* (Aucklandiae), *dài zhě shí* (Haematitum) and *bái sháo* (Radix Paeoniae Alba).

Chinese Patent Medicine

1. Artemisinin:

Oral administration: first take 15 mg/kg; after 6-8 hours, take another dose of 7.5 mg/kg. On the 2nd and 3rd days, take 7.5 mg/kg/day, with 3 days as one course. Take the medication following the above instructions and finish within 3 days.

Deep intramuscular injection: first give 15 mg/kg; after 6-8 hours, give another injection of 7.5 mg/kg. On the 2nd and 3rd days, inject 7.5 mg/kg/day. Finish the injections within 3 days.

2. Artemether:

Intramuscular injection: first give 3.2 mg/kg. On the 2nd-5th days, use 1.6 mg/kg/day, once daily.

Acupuncture

DU 14 (<i>dà zhuī</i>)	PC 5 (<i>jiān shǐ</i>)	SP 6 (<i>sān yīn jiāo</i>)
ST 36 (<i>zú sān lǐ</i>)	RN 16 (<i>zhōng wǎn</i>)	ST 25 (<i>tiān shū</i>)
LI 4 (<i>hé gǔ</i>)		

For children less than 3 years old, prick the acupoints without needle retention; for children over 3 years old, retain the needle in each point for 15 minutes. Treat once daily, with 7 days for one treatment course.

Malaria Pathogens Invading the Heart and Liver

Signs and Symptoms

Manifestations include high fever, shaking chills, vomiting, coma, delirium, restlessness, stiff neck, convulsions or flaccid paralysis of the limbs. The tongue is crimson with a thick greasy yellow or dry yellow coating; the pulse is wiry, slippery and rapid, or wiry and

rapid. The finger venules are purple or stagnated and extending to the life-pass.

Pattern Differentiation

This pattern is characterized by a high fever, shaking chills, vomiting, coma, delirium, restlessness, stiff neck, convulsions or flaccid limb paralysis, crimson tongue with a thick greasy yellow or dry yellow coating, and a rapid wiry pulse. These symptoms are caused by extremely exuberant malarial pathogens and miasmatic toxins blocking the heart orifice and stirring liver-wind.

Treatment Principles

Clear heart heat and open the orifices, cool the liver and extinguish wind

Formula

Modified *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction

羚羊角粉	<i>líng yáng jiǎo</i>	Cornu Saigae Tataricae (powdered, infused)
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
菊花	<i>jú huā</i>	Flos Chrysanthemi
茯神	<i>fú shén</i>	Sclerotium Poriae Paradicis
竹茹	<i>zhú rú</i>	Caulis Bambusae in Taenia
浙贝母	<i>zhè bèi mǔ</i>	Bulbus Fritillariae Thunbergii
龙胆草	<i>lóng dǎn cǎo</i>	Radix et Rhizoma Gentianae
黄芩	<i>huáng qín</i>	Radix Scutellariae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
鲜生地	<i>xiān shēng dì</i>	Radix Rehmanniae
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Líng yáng jiǎo (Cornu Saigae Tataricae), *gōu téng* (Ramulus Uncariae Cum Uncis) and *jú huā* (Flos Chrysanthemi) cool the liver and extinguish wind.

Fú shén (Sclerotium Poriae Paradicis) calms the mind.

Zhú rú (Caulis Bambusae in Taenia) and *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii) clear heart-heat and resolve phlegm.

Lóng dǎn cǎo (Radix et Rhizoma Gentianae), *huáng qín* (Radix Scutellariae) and *zhī zǐ* (Fructus Gardeniae) clear heat and remove toxins.

Xiān shēng dì (Radix Rehmanniae), *bái sháo* (Radix Paeoniae Alba) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) emolliate the liver and nourish the sinews.

Modifications

For exuberant stagnant phlegm, add *shí chāng pú* (Rhizoma Acori Tatarinowii), *dǎn nán xīng* (Arisaema cum Bile), *yù jīn* (Radix Curcumae) and *zhú lì* (Succus Bambusae).

For abdominal distension and constipation, add *dà huáng* (Radix et Rhizoma Rhei) and *xuán míng fēn* (Natrii Sulfas Exsiccatus).

If there is oliguria, dark red urine or even anuria, or vomiting with low appetite, or coma with delirious speech during the early stages of malaria, the patient should be urgently treated by formulas that clear heat and promote urination, resolve toxins and

activate blood, such as a modification of *Wēn Dǎn Tāng*—Gallbladder-Warming Decoction combined with *Fù Zǐ Xiè Xīn Tāng*—Aconite Heart-Draining Decoction, also combined with Western medicine for emergency treatment.

Chinese Patent Medicine

1. Artemisinin: Take first dose 15 mg/kg, followed by 2nd dose of 7.5 mg/kg after 6-8 hours; take 7.5 mg/kg/day on the 2nd and 3rd days. The treatment course is 3 days.

Deep intramuscular injection: The first dose is 15 mg/kg, with the 2nd dose of 7.5 mg/kg after 6-8 hours and 7.5 mg/kg/day on the 2nd and 3rd days. The treatment course is 3 days.

2. Artesunate: The first dose for children under the age of 7 years is 1.5 mg/kg; repeat the same dosage at 4th, 24th and 48th hour intervals.

3. *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill: take 1/4-1/2 pill once daily.

Malaria Pathogens Accumulating in the Liver and Spleen

Signs and Symptoms

When the malaria pathogen encumbers the middle *jiao* or there are lasting recurrent episodes of malaria, the manifestations include fever, shaking chills, rib-side masses with tenderness, shallow yellow or pale lusterless complexion, thin and weak skin and muscles, and withered yellow hair. The tongue is light red with a greasy white or yellow coating; the pulse is thready and weak. The finger venules are light.

Pattern Differentiation

This pattern results from damp-heat encumbering the middle *jiao* causing qi and blood stagnation. It is characterized by fever, shaking, chills and rib-side masses with tenderness. Patients with chronic malaria may have the symptoms of sallow or pale lusterless complexion, thin weak skin and muscles, and withered yellow hair. The tongue is light red with a greasy white coating; the pulse is thready and weak, and there are light finger venules. All of these signs and symptoms are caused by the struggle between healthy and pathogenic qi, qi and blood damaged by malaria pathogens and miasmatic toxins, and an insufficient acquired constitution leading to a deficient source of qi and blood production.

Treatment Principles

Move qi and activate blood, soften hardness and dissipate masses, replenish qi and blood.

Formula

Modified *Biē Jiǎ Yīn*—Turtle Shell Beverage with *Shí Quán Dà Bǔ Tāng*—Perfect Major Supplementation Decoction

草果	<i>cǎo guǒ</i>	Fructus Tsaoko
槟榔	<i>bīng láng</i>	Semen Arecae
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
厚朴	<i>hòu pò</i>	Cortex Magnoliae Officinalis
鳖甲	<i>biē jiǎ</i>	Carapax Trionycis
川芎	<i>chuān xiōng</i>	Rhizoma Chuanxiong
党参	<i>dǎng shēn</i>	Radix Codonopsis

黄芪	<i>huáng qí</i>	Radix Astragali
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
白芍	<i>bái sháo</i>	Radix Paeoniae Alba
大枣	<i>dà zǎo</i>	Fructus Jujubae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Cǎo guǒ (Fructus Tsaoko) and *bīng láng* (Semen Arecae) treat malaria with their aromatic nature.

Bái zhú (Rhizoma Atractylodis Macrocephalae), *chén pí* (Pericarpium Citri Reticulatae) and *hòu pò* (Cortex Magnoliae Officinalis) dry dampness, fortify the spleen, move qi, and regulate the spleen and stomach.

Biē jiǎ (Carapax Trionycis) and *chuān xiōng* (Rhizoma Chuanxiong) move qi, activate blood, soften hardness, and dissipate masses.

Dǎng shēn (Radix Codonopsis), *huáng qí* (Radix Astragali), *dāng guī* (Radix Angelicae Sinensis), *bái sháo* (Radix Paeoniae Alba), *dà zǎo* (Fructus Jujubae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) replenish qi, nourish blood, reinforce healthy qi, and harmonize the middle.

Modifications

For rib-side masses with swelling and pain, add *fēng fáng* (Nidus Vespa), *tǔ biē chóng* (Eupolyphaga seu Steleophaga), *chái hú* (Radix Bupleuri) and *líng xiāo huā* (Ios Campsis).

For distention and fullness of the costal regions with a pale tongue with a thick greasy white coating, add *guì zhī* (Ramulus Cinnamomi), *fú líng* (Poria), *jú luò* (Vascular Aurantii) and *jié gēng* (Radix Platycodonis).

For a lusterless complexion and petechia on the tongue, add *táo rén* (Semen Persicae), *hóng huā* (Flos Carthami) and *é zhú* (Rhizoma Curcumae).

For a pale complexion with thin skin, weak muscles, and a red tongue with sparse coating, add *huáng jīng* (Rhizoma Polygonati), *hé shǒu wū* (Radix Polygoni Multiflori), *xuán shēn* (Radix Scrophulariae) and *sāng shèn* (Fructus Mori).

Chinese Patent Medicine

Artemether: administer via intramuscular injection, and the first dose is 3.2 mg/kg. On the 2nd-5th day, give 1.6 mg/kg/day, once daily.

During malaria onset or in chronic cases with hypothermia, listlessness, pale complexion, cyanotic lips, reversal cold of the hands and feet, and feeble or impalpable pulse, the healthy qi is deficient and declining and fails to resist the pathogen. This can lead to essence and blood consumption, and even yin-yang separation. Immediately apply *Dú Shēn Tāng*—Pure Ginseng Decoction or a modification of *Shēn Fù Lóng Mǔ Jiù Nǐ Tāng*—Ginseng, Aconite, Os Draconis and Oyster Shell Decoction combined with Western medicine emergency treatment.

[WESTERN MEDICINE THERAPIES]

Prompt anti-malarial chemotherapy and chemoprophylaxis treatment is required along with supportive care under careful observation:

(1) Control clinical symptoms mainly with the drugs chloroquine and quinine. New

drugs include: pyronaridine, piperaquine and mefloquine (methoxy quinoline).

(2) Control recurrences and dissemination with primaquine or pamachin (aminoquin, plasmoquine).

(3) Pyrimethamine is mainly used for prevention.

Artemisinin is the first choice of anti-malarial although pyronaridine phosphate and chloroquine phosphate can also be used. It is most important to control the high body temperature and convulsions and to clear mucus from the throat. Emergency treatment is given according to different situations such as infectious shock or acute respiratory failure; hydrocortisone or dexamethasone may be dripped intravenously when necessary. Patients should have bed rest and a nutritious diet during the onset while also noting and treating anemia or diffuse intravascular coagulation if they develop.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) Keep the environment sanitized and eradicate all mosquitoes; in winter and spring, kill the larvae and clear breeding areas.

(2) All malaria patients including sick children and asymptomatic *Plasmodium* carriers should be treated completely to control the sources of infection.

(3) Protect susceptible patients by accepting eradication measures to prevent mosquito bites in endemic areas; if necessary, administer drug prophylaxis to the entire population.

A Chinese medicine prophylactic formula contains: *cháng shān* (Radix Dichroae) 300 g, *bàn xià* (Rhizoma Pinelliae) 125 g and *chén pí* (Pericarpium Citri Reticulatae) 125 g, ground to powder. *Cháng shān* (Radix Dichroae) 1500 g and *shǔ qī* (Folium Dichroae) 100 g are thickly decocted separately and then mixed with *shēng jiāng zhī*/ginger juice (Succus Rhizomatis Zingiberis) 160 g. Make mung bean-sized pills. Dose: 3 g, once daily taken continuously for 6 days during the months of July, August and September.

2. NURSING CARE

(1) Prevent over dressing and covering with very heavy quilts when the patient has shaking chills so as to protect the patient's physical strength. Patients should avoid exposure to direct wind during the fever stage, avoiding invasion by cold pathogens.

(2) After a malaria attack, patients usually become qi and blood deficient; therefore it is important to pay attention to supplementing their nutrition. Give them a diet rich in nutrition which is easy to digest and plenty of boiled water to drink. Do not allow them to eat cold and greasy foods.

(3) Take the medication regularly and at the proper times while carefully to noting any drug reactions.

[CASE STUDIES]

► Case #1. Male, age 11.

The patient had a history of intermittent fever for one month. His body temperature ranged between 38-39°C, occasionally reaching 40°C; also with headache and nausea.

The fever subsided after sweating. He had a poor appetite, sallow skin, and a thin build. Plasmodium vivax trophozoites were found in the ear blood test. He had not used any anti-malarial drugs before hospitalization.

Clinical examination: Conscious with a sallow complexion and normal skin, no throat congestion. Heart and lung normal, the abdomen soft; liver and spleen were impalpable. Signs of CNS involvement were also present.

Blood: WBC $6.4 \times 10^9/L$, neutrophils 0.44, stabnuclear neutrophil 0.06, reticulocytes 0.004, RBC $3.25 \times 10^{12}/L$, Hb 83g / L, platelets $224 \times 10^9/L$.

Diagnosis:

Malaria (benign tertian malaria)

Pattern Differentiation:

Hyperactivity of liver yang and latent malaria pathogens in the *shaoyang*.

Treatment Principles:

Pacify the liver and harmonize *shaoyang*.

Formula

青黛	<i>qīng dài</i>	3 g	Indigo Naturalis
柴胡	<i>chái hú</i>	3 g	Radix Bupleuri
草豆蔻	<i>cǎo dòu kòu</i>	6 g	Semen Alpiniae Katsumadai
生地	<i>shēng dì</i>	10 g	Radix Rehmanniae
寒水石	<i>hán shuǐ shí</i>	10 g	Glauberitum

3 doses for 3 days.

Second visit: after 3 doses, the temperature was still around 39.0°C. The same formula was given with additional *dì gǔ pí* (Cortex Lycii) 10 g and *lóng dǎn cǎo* (Radix et Rhizoma Gentianae) 10 g. With a total of 5 doses, his temperature returned to normal. After taking medicinals for 8 days, the disease was cured and the patient was discharged.

Analysis

Dr Wang Peng-fei holds that malaria is mainly associated with an internal disturbance caused by summerheat-dampness, accumulation of phlegm and food, and invasion of pathogens. The child had a fever, headache and vomiting, which are manifestations of hyperactive liver yang. Alternating fever and chills indicated that the pathogen was half exterior and half interior. *Qīng dài* (Indigo Naturalis) and *lóng dǎn cǎo* (Radix et Rhizoma Gentianae) were used to clear heat and pacify the liver, with *chái hú* (Radix Bupleuri) used to harmonize the exterior and interior.

Source: Beijing Children's Hospital. *Wang Pengfei's Selected Clinical Experiences in Pediatrics*. Beijing: Beijing Publisher; 1981: 79-80.

► Case #2. Female, age 11. Initial Visit: 7/12/1972

This patient suffered from malaria the previous autumn without a complete cure. The disease relapsed in the spring with alternating fever and chills on alternate days. She had 3 malaria attacks in the past 2 months. Because the pathogen was latent for a long time, the patient's constitution had deteriorated with a dark yellow complexion. Her tongue was covered with a greasy white coating; her pulse was thready and wiry. She also felt stuffiness

and fullness in the left rib-side with abdominal distention after eating and loose stools. An enlarged spleen was palpable at 5 cm below the left costal margin. The liver was normal.

All of these manifestations were caused by autumn malaria lurking deeply at the interior, resulting in recurrent fever and chills; the pathogen was also invading the liver and spleen. The mutual contention of the malaria pathogen and qi and blood leads to internal masses called *nüe mu* (mother-of-malaria); the cause is malaria or malaria with splenomegaly. This pattern belongs to an excess-deficiency complex, so the treatment principle is to supplement and disperse masses at the same time.

Formula

Modified *Zhǐ Shí Xiāo Pǐ Wán*—**Immature Bitter Orange and Glomus-Dispersing** with *Biē Jiǎ Yǐn*—**Turtle Shell Beverage** acts to harmonize the middle, fortify the spleen, regulate qi, disperse masses, and prevent malaria relapses.

炒党参	<i>chǎo dǎng shēn</i>	6 g	Radix Codonopsis (dry-fried)
炒白术	<i>chǎo bái zhú</i>	5 g	Rhizoma Atractylodis Macrocephalae (dry-fried)
清半夏	<i>qīng bàn xià</i>	5 g	Rhizoma Pinelliae Concisum
陈枳实	<i>chén zhǐ shí</i>	3 g	Fructus Aurantii Immaturus (aged)
炙鳖甲	<i>zhì biē jiǎ</i>	10 g	Carapax Trionycis (liquid-fried) (decocted first)
广木香	<i>guǎng mù xiāng</i>	3 g	Radix Aucklandiae
花槟榔	<i>huā bīng láng</i>	4 g	Semen Arecae
川厚朴	<i>chuān hòu pò</i>	4 g	Cortex Magnoliae Officinalis
煨草果	<i>wèi cǎo guǒ</i>	3 g	Fructus Tsaoko (roasted)
乌梅肉	<i>wū méi ròu</i>	6 g	Fructus Mume
陈皮	<i>chén pí</i>	3 g	Pericarpium Citri Reticulatae
生姜	<i>shēng jiāng</i>	1 piece	Rhizoma Zingiberis Recens
大枣	<i>dà zǎo</i>	3 pieces	Fructus Jujubae

3 doses.

Second visit (7/16/72): Her white and greasy tongue coating was becoming thinner; her pulse was slightly wiry. The fever and chills had gone away completely. Her gastric and rib-side distention and fullness began to alleviate, and her stools were loose; there was still mild abdominal distention after eating food. It was considered that splenic transformation and transportation remained insufficient and the damp-turbidity had not been cleared completely. The original formula was given again with the addition of *sān léng* (Rhizoma Sparganii) 4 g and *é zhú* (Rhizoma Curcumae) 4 g to free the collaterals, resolve accumulation and stuffiness. *Cǎo guǒ* (Fructus Tsaoko) and *wū méi* (Fructus Mume) were removed from the formula. 5 doses were given.

Third visit (7/21/72): Her complexion was lustrous, abdominal distention was alleviated, and bowel movements were normal with well-formed stools. Her tongue coating was thin and yellow, and her pulse was no longer wiry but now soggy and moderate. The palpable splenomegaly was reduced to 1 cm. These manifestations showed that the stomach qi was on the way to recovery and that spleen qi was beginning to regain normal

function. She was prescribed *Xiāng Shā Zhǐ Zhú Wán*—Aucklandia, Amomum, Immature Bitter Orange, and Atractylodes Macrocephala Pill to fortify the spleen, harmonize the stomach, and resolve the accumulation and food stagnation.

At a 6 month follow-up, there was no recurrence of malaria, and no splenic enlargement.

Analysis

The patient had suffered a summerheat attack, with malaria occurring in the autumn. The malaria pathogen was latent, half exterior and half interior. When there is a weak constitution and incomplete treatment, the pathogen remains latent and deep-lying, also causing recurrent fever and chills.

A long course of malaria leads to qi and blood disharmony, and the deep-latent phlegm-dampness damages the *zang-fu* organs. The latent pathogens and disharmonized qi and blood had combined with each other and stagnated in the rib-side, which caused a malaria mass with splenomegaly. The malaria could not be cured until the splenomegaly mass had resolved. Since the pattern had developed from excess to deficiency, the treatment here was to use both supplementation and mass-dispersing methods. *Zhǐ Shí Xiǎo Pǐ Wán*—Immature Bitter Orange and Glomus-Dispersing was used to disperse masses and *Biē Jiǎ Yǐn*—Turtle Shell Beverage was used to suppress the malaria.

Dǎng shēn (Radix Codonopsis) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) supplement the middle and reinforce spleen-earth.

Wū méi (Fructus Mume) and *cǎo guǒ* (Fructus Tsaoko) prevent malaria attacks.

Bīng láng (Semen Arecae), *chuān hòu pǔ* (Cortex Magnoliae Officinalis) and *zhǐ shí* (Fructus Aurantii Immaturus) soften hardness and disperse masses.

Guǎng mù xiāng (Radix Aucklandiae) and *shā rén* (Fructus Amomi) resolve distention and regulate qi.

Biē jiǎ (Carapax Trionycis) disperses masses and prevent malaria attacks.

Shēng jiāng (Rhizoma Zingiberis Recens) and *dà zǎo* (Fructus Jujubae) activate yang with acrid and sweet natures, harmonize the stomach, and fortify the spleen.

Sān léng (Rhizoma Sparganii) and *é zhú* (Rhizoma Curcumae) can be added to free the channels, resolve stasis and disperse masses.

At the recovery phase, use *Xiāng Shā Zhǐ Zhú Wán*—Aucklandia, Amomum, Immature Bitter Orange and Atractylodes Macrocephala Pill to regulate the condition. Once the malaria mass is dispersed, the malaria is relieved and the patient recovers.

Source: Yang YJ. 儿科临证验案 [Effective Cases in Clinical Pediatrics]. Hefei: Anhui Science and Technology Press, 1980: 66-67.

[QUESTIONS]

1. A child aged 8 has had an intermittent fever every 3 days for one month. There is a headache and aversion to cold followed by a high fever (T: 38.7-39.5°C) and sweating, after which the temperature subsides. The patient also has fatigue, poor appetite, a sallow complexion, and normal stools and urine. The tongue is red with a thin yellow coating; the finger venules are pale purple.

What is the most likely diagnosis?

- | | | |
|----------------|----------------------|--------------------|
| A. Common Cold | B. Malaria | C. Food stagnation |
| D. Anemia | E. Parasitic disease | |

2. A child aged 4 has had an irregular and sometimes high fever for 2 weeks associated with nausea, vomiting, abdominal pain, irritability, fatigue, reduced appetite, and scanty dark urine with bowel movements 4 times a day with loose stools. Laboratory blood smear exhibited trophozoites of Plasmodium.

Which of the following medicinals is the best choice?

- A. *Shuāng huáng lián Kǒu Fú Yè*—Double Goldthread Oral Liquid
- B. *É zhú yóu Kǒu Fú Yè*—Oral Liquid of Zedoary Turmeric Oil
- C. *Bǎn lán gēn chōng jì*—Radix Isatidis Granules
- D. Artemether injection
- E. *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill

3. A child aged 10 has had a high fever (T: 38.5-40.5°C) and shaking chills for one week associated with irritability, dizziness, headache, vomiting 4 times, occasional unconsciousness, delirium, and 2 convulsions. The tongue was crimson with a dry yellow coating; the finger venules were purple and stagnated. Laboratory blood tests found Plasmodium.

Which of the following medicinals is the best choice?

- A. *Zǐ Xuě Dān*—Purple Snow Elixir
- B. Berberine
- C. Artemisinin
- D. *Lóng Dǎn Xiè Gān Tāng*—Gentian Liver-Draining Decoction
- E. *Xiǎo Chái Hú Kē Lì*—Minor Bupleurum Particles

4. A child aged 12 has had an intermittent fever on alternating days for 2 months. The child suffered with shaking chills, a high fever ranging from 38.6-40.2°C followed by sweating, fever withdrawal, fatigue, and lack of appetite. The tongue was red with a yellow coating. The finger venules were purple.

Which of the following acupoints should be used in combination with oral medicinals?

- A. Moxibustion on *shí xuān* (EX-UE11, 十宣)
- B. Acupuncture in DU 20 (*bǎi huì*, 百会) and KI 1 (*yǒng quán*, 涌泉)
- C. Acupuncture in RN 12 (*zhōng wǎn*, 中脘) and RN 4 (*guān yuán*, 关元)
- D. Acupuncture in LI 20 (*yíng xiāng*, 迎香) and GB 34 (*yáng líng quán*, 阳陵泉)
- E. Acupuncture in DU 14 (*dà zhuī*, 大椎) and PC 5 (*jiān shǐ*, 间使)

[REFERENCES]

- [1] <http://www.who.int/mediacentre/factsheets/fs094/zh/print.html>
- [2] Huo Kaiming. Artesunate Treatment of 48 Cases of Cerebral Malaria in Children [J]. Journal of Tropical Medicine, 2008; 3 (3):253-254.
- [3] Majin Hai, Wu Yuhua, LUCIEN TOKO, et al. Comparison of the Effects of Artemether and Quinine for Falciparum Malaria in 120 Child Cases [J]. Ningxia Medical Journal, 2005; 27 (4):270-271.
- [4] Gong Hangxiu. Pinpricking *sì fēng* (EX-UE10, 四缝) Points Associated with Medicinal Treatment for Children with Malaria [J]. Clinical Acupuncture, 1998; 14 (11):41-42.
- [5] Lin Guijun. Randomized Contrast Observation of Acupuncture Associated with Western Medicine Treatment of African Children with Malaria [J]. Chinese Acupuncture, 2007; 27 (11):859-861.

Chapter 39

AIDS

AIDS (*Ài Zī Bìng*) or acquired immune deficiency syndrome, is a serious chronic and infectious disease caused by the human immunodeficiency virus (HIV).

The first case of AIDS was found in the United States in 1981, and by the end of 2001, HIV had infected more than 60 million people worldwide, of which 95% were from developing countries. The annual number of new infections with HIV is more than 6 million. Half of these new infections are young people between the ages of 15-24 years old. Women account for 40% of those infected, which has resulted in 600,000 newborns also becoming infected.

More than 500,000 children die of HIV infections each year. HIV/AIDS has become a major cause of child mortality worldwide. According to World Health Organization (WHO) estimations, there will be 5-10 million children infected by HIV in the next decade, with more than 90% of them occurring in Asia and Africa ^[1]. The latest reports published by UNAIDS about Global AIDS showed that by December 2005, there were 40.3 million HIV infected surviving individuals in the world (8.3 million in Asia), including 17.5 million women and 2.3 million children. In 2005, there were 4.9 million newly infected HIV patients (1.1 million in Asia), including 700,000 children under the age of 15.

In 2005, 3.1 million cases died of AIDS, including 570,000 children under the age of 15. Since AIDS became recognized, 4 million children under the age of 15 have died from it and there are about 2.5 million children living with HIV infections which are increasing by more than 800 thousand each year or more than 2000 cases daily. More than 90% of these children are infected through maternal vertical transmission, with more than 95% from developing countries. At the present time there are no precise reports of the number of children with AIDS in China ^[2].

In children, this disease occurs mainly in those of preschool age, although there are reports in other age groups. Children infected through maternal transmission may present with nonspecific clinical symptoms after birth, while asymptomatic HIV infected children will not show any signs or symptoms.

The clinical manifestations of HIV infected children include persistent systemic lymphadenopathy of undetermined origin, hepatosplenomegaly, mumps, persistent fevers of undetermined origin, chronic and recurrent diarrhea, protracted refractory interstitial pneumonia and oral fungal infections, various opportunistic infections, growth retardation and so on. These infants are prone to encephalopathy with early onset, rapid disease development, and a poor prognosis.

Compared with adults, HIV infected children present with a short incubation, acute onset and rapid disease development with growth retardation deviating from the normal growth curve and recurrent bacterial infections, especially by bacteria with polysaccharide capsules. Chronic parotitis and lymphocytic interstitial pneumonia are also common.

There are no clear records about this disease in ancient Chinese literature. In TCM the condition is attributed to warm disease patterns, and according to its characteristics, the causes may relate to exterior pathogens, most of which are congenital. This serious



condition presents with acute onset, rapid decline or halted growth and development, retardation and high mortality rates. It is similar to latent-qi warm disease patterns, pestilence, and so on. The clinical manifestations are related to fetal feebleness, the five retardations, five kinds of flaccidity, infantile malnutrition, diarrhea, mumps, thrush, pneumonia with wheezing and cough, scrofula and abdominal masses. At present there are few independent reports about the treatment of AIDS infected children with Chinese medicine. However, there are research reports on the treatment of children with AIDS with traditional Chinese medicine.

In Tanzania, Huang Shijing et al. treated 729 AIDS cases aged from 7-64 years old with Chinese medicine. Their research showed that Chinese medicine could improve the symptoms with significant results and enhance the immune function, especially when the $CD4^+$ T cells were below 200 cell/mm^3 [3]. At the same time, there have been a number of clinical reports from China and abroad about adult patients treated with combined oral and external Chinese medicine treatments, with shown clinical results produced by various Chinese patent medicines. Recent Chinese medicine trials have provided a good foundation for improving treatment of children with AIDS.

[ETIOLOGY & PATHOMECHANISM]

This is a severe and highly infectious condition characterized by an acute onset and a rapid progression. Chinese medicine considers the main external cause as toxic pathogenic pestilence, with internal causes mainly involving congenital essence insufficiency and insufficiency of the *chong* and *ren* channels. The patterns involve a deficiency-excess complex, and the locations of disease involve the five viscera and the six bowels.

Classified as a latent-qi warm disease, it can exist at birth or be caused by pestilential epidemic toxins during childhood that result in essence and blood insufficiency with a concealed pathogenic toxin. The main points of the pathogenic change involve pathogenic toxin exuberance with an insufficiency of healthy qi, which is the main factor leading to concealed pathogens which often damage the body's qi, blood and fluids. Therefore, the disease often shows as a deficiency-excess complex with concealed pathogens, or with healthy qi and pathogenic qi contending with each other. Or there can be a stalemate between healthy and pathogenic qi without symptoms, or the pathogenic toxin may become rampant due to healthy qi failing to resist the pathogenic qi.

In addition to re-infection by seasonal pathogens, the disease also presents with highly mutable symptoms. With lung and spleen deficiency and disharmony, the lung fails to disperse and purify and the spleen fails to transport. This allows for severe invasion of wind-damp-heat-toxins that invade the mouth, throat, skin and muscles; this often manifests with white erosions and soreness of the mouth and throat, or itching of the skin with red rashes.

When children have spleen and kidney deficiency, congenital constitution insufficiency and when spleen and stomach qi fails to transport and transform, then dampness pathogens may obstruct, stagnate and hinder the functions of the ascending and descending qi movement. This manifests as chronic diarrhea, poor appetite, increasing mental fatigue, lack of strength, a lusterless or sallow complexion, sparse hair, emaciation, impatience or easily angered, or a dull expression with possible mild infantile malnutrition, or infantile

malnutrition with accumulation.

As concealed pathogens attack the lung system, lung *wei* fails to disperse, leading to recurrent fever and aversion to cold, spontaneous sweating and night sweats or persistent fever.

It can also lead to lung heat exuberance with intense contention between the pathogens and healthy qi, which manifests as fever, cough, wheezing, chest pain and phlegm accumulation. If pestilent toxins obstruct the *shaoyang* channel, the liver and gallbladder fail to govern the free flow of qi leading to liver and eye dysfunction. This can manifest as red, hot, swollen painful ears and surrounding areas possibly with abscesses, nebula and blurred vision.

Furthermore, if the pathogens conceal in the heart and brain and consume blood and damage marrow, the heart and liver fails to be nourished and the toxins invade the heart and liver. Manifestations include dizziness, headache, possible dementia, hallucinations, epilepsy, convulsions and delirium.

If the pestilent pathogens conceal deep in the body, healthy qi becomes insufficient with lingering pathogens which obstruct and hinder the qi and blood movement. The manifestations in this pattern include cervical or generalized lymphadenectasis and subcostal or abdominal masses.

If the concealed lingering pathogenic toxins damage the *zang-fu* organs, the manifestations are listlessness, skinny physique, short and underweight body, sluggish growth and development, possible aversion to cold, cold limbs, low voice, weak breathing and a weak, thready and faint pulse.

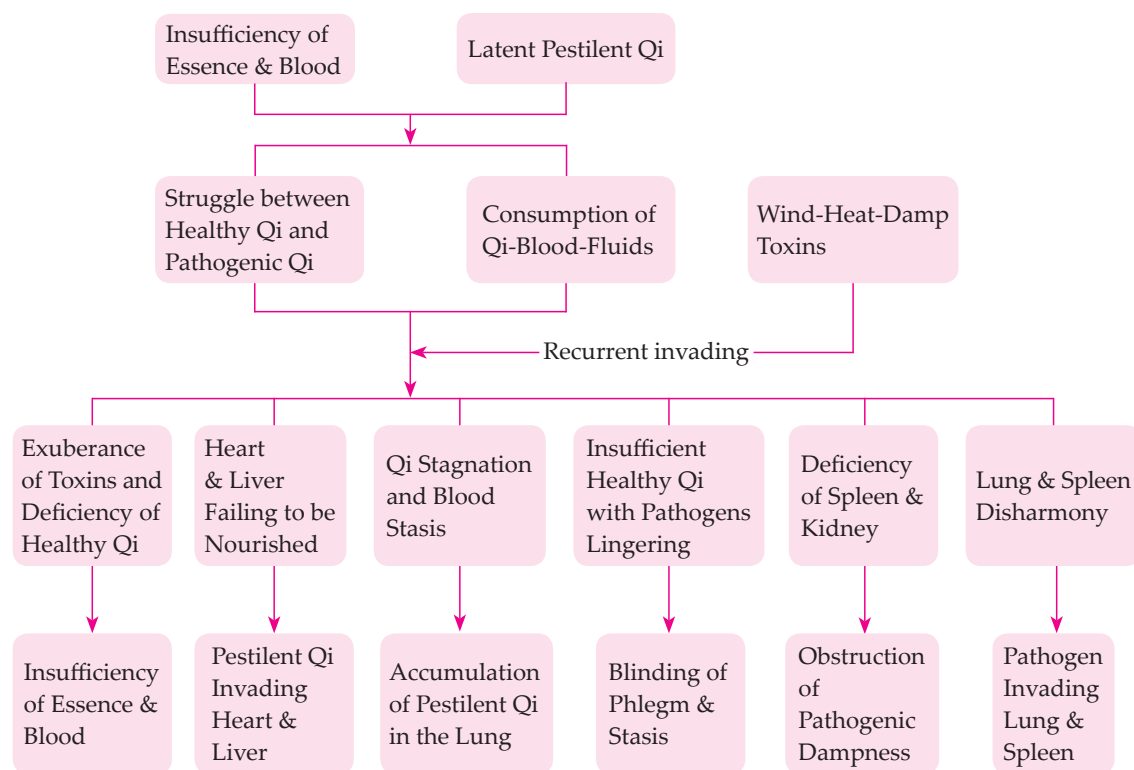


Fig. 39-1 Etiology and Pathomechanism of AIDS



[DIAGNOSIS & DIFFERENTIATION]

► Essentials of Diagnosis

1. EPIDEMIC HISTORY

- a. Infant born to HIV infected mother.
- b. Receiving blood infusion or blood products without anti-HIV antibody assay.

2. CLINICAL MANIFESTATIONS

Asymptomatic HIV infections in children can present without any signs and symptoms.

AIDS infected children can present with persistent generalized lymphadenopathy of undetermined origin (diameter > 1 cm), hepatosplenomegaly, parotitis, persistent fever of undetermined origin lasting more than 1 month, chronic diarrhea, retarded growth, weight loss (reduction > 10% of the baseline within 3 months), lingering intractable interstitial pneumonia, oral fungal infection and various opportunistic infections.

The characteristics of AIDS infected children compared with AIDS infected adults are:

- a. Short incubation, abrupt onset and rapid progression
- b. Retarded growth deviating from the normal growth curve is a special manifestation of AIDS infected children
- c. They are prone to recurrent bacterial infections, especially by bacteria with polysaccharide capsules.
- d. Chronic parotitis and lymphocytic interstitial pneumonitis (LIP) is commonly encountered.
- e. Encephalopathy syndrome easily occurs in infants with early onset, rapid development and a poor prognosis.

3. LABORATORY EXAMINATIONS

Asymptomatic HIV infected children ≥ 18 months of age that have HIV positive antibodies are confirmed by the definitive test; plasma HIV-RNA (+).

4. STANDARDS OF DIAGNOSIS

- a. The disease can be diagnosed if the child ≥ 18 months of age, has relevant epidemic history, and any one of the laboratory tests are positive.
- b. The disease can be diagnosed if the child < 18 months of age, has relevant epidemic history, and plasma HIV-RNA (+) from two samples taken at different times.
- c. HIV antibodies in children can be positively confirmed by the definitive tests of plasma HIV-RNA (+), CD4⁺ count and decreased lymphocytes percentages.
- d. The criteria for accurate diagnosis in children with one or more of the clinical manifestations are: children ≥ 18 months of age with positive HIV antibodies (confirmed by the definitive test) or plasma HIV-RNA (+); for children < 18 months of age, it is plasma HIV-RNA (+) from two samples taken at different times.

If possible, CD4⁺ T cell count and percentage test should be performed. The immunological classification is shown in Table 39-1.

Table 39-1 Immunological Classification of Children in Different Age Groups Based on the CD4⁺ T-cell Count and the Percentage of CD4⁺ T Cells in the Total Lymphocytes

Immunological Classification	<1 year (%)	1-5 years (%)	6-12 years (%)
Without Reduction	$\geq 1500/\text{mm}^3$ (≥ 25)	$\geq 1000/\text{mm}^3$ (≥ 25)	$\geq 500/\text{mm}^3$ (≥ 25)
Moderate Reduction	750-1499/ mm^3 (15-24)	500-999/ mm^3 (15-24)	200-499/ mm^3 (15-24)
Severe Reduction	<750/ mm^3 (<15)	<500/ mm^3 (<15)	<200/ mm^3 (<15)

► Differential Diagnosis

a. The identification with primary immunodeficiency disease (Table 39-2)

Table 39-2 Differentiation Table Between HIV/AIDS and Primary Immunodeficiency Disease

Identification Points	HIV/AIDS	Primary Immunodeficiency Disease
Family History	—	+
Opportunistic Infections	+	+
Growth Retardation	+	+
Accompanied by Malignant Tumor	+	+
HIV Testing	+	—
Immunoassay	Decreased CD4 ⁺ T-cell count & percentage	Abnormal Ig in serum, T & B cell insufficiencies

b. The identification with secondary immunodeficiency disease (Table 39-3)

Table 39-3 Differentiation Table between HIV/AIDS and Secondary Immunodeficiency Disease

Identification Points	HIV/AIDS	Secondary Immunodeficiency Disease
Etiology	HIV infection	Systemic disease, dystrophy, surgery, viral infection, tumors
Recurrent Infections	+	+
Growth Retardation	+	Children with dystrophy +; others—
Accompanied by Malignant Tumor	+	+
HIV Testing	+	—
Immunoassay	Decreased CD4 ⁺ T-cell count & percentage	Hypoproteinemia, abnormalities of Ig, decreased T lymphocytes
Course	Long-term or lifetime	Temporary



Furthermore, the symptoms of fever, emaciation, fatigue and lack of strength should be differentiated from other infectious diseases such as tuberculosis. Lymphadenectasis and hepatosplenomegaly should be differentiated from benign lymph node syndrome, hepatitis and leukemia, etc. Growth retardation and stagnation should be differentiated from rickets and dwarfism. Chronic diarrhea, chronic fever, thrush, pneumonia, tympanitis and parotitis should be differentiated from diseases caused by ordinary bacterial and viral infections. Rashes and ecchymosis should be differentiated from leukemia and infectious mononucleosis. Dizziness and headache, dementia, convulsions, epilepsy and ataxia should be differentiated from encephalitis and meningitis caused by ordinary bacterial and viral infections.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Recognition

a. Latent Pathogens and Onset Identification

The disease belongs to the latent-qi warm disease pattern in which the pathogenic toxins are hidden and lodged in the body, unnoticeably consuming qi and blood. It often presents with the pathogenesis of pathogenic toxins concealed in the body with an intense struggle between the healthy and pathogenic qi. With lurking pathogenic toxins, the child may not experience any discomfort, or they may have scrofula, rib-side masses, mental fatigue, lack of strength, or retarded growth.

As healthy qi struggles intensely with the pathogenic qi, it may manifest as chronic diarrhea, persistent fever, high fever, cough and wheezing, dyspnea, or headache and dizziness, irritability, even convulsions, hallucinations, dementia, or blurred vision, or white colored erosion and sores in the mouth and throat, poor appetite, spontaneous sweating, night sweats, or maculae and papules, ulcers, loose stools, diarrhea with undigested food, or urinary and fecal incontinence, or abdominal masses. These manifestations are caused by latent pathogens attacking internally or external pathogens activating latent pestilence, which results in intense contention between the healthy qi and the pathogens with damage to the *zang-fu* organs.

b. Identifying the Nature of Deficiency and Excess and the Disease Severity

The disease not only belongs to a latent-qi warm disease pattern, but also has the characteristics of virulent, contagious and miscellaneous diseases. The damaged healthy qi and pestilent qi excess are the prominent pathogenic features. Therefore, it is important to differentiate between the deficient or excessive nature of the disease. If the healthy qi is overly deficient, or the pathogenic qi is overly excessive, then the patient's condition will be grave with a worse prognosis and vice versa.

If the patient has symptoms of intermittent diarrhea, fever, cough, spontaneous sweating, night sweats, mental fatigue and lack of strength, or headache and dizziness, irritability, poor appetite, or white erosion and sores in the mouth and throat, or growth retardation, it denotes that the healthy qi is surviving and is still resisting the pathogens.

The healthy qi struggles with the pathogenic qi, resulting in a dysfunction of the *zang-fu* organs, and qi consumption and yin damage. It belongs to the pattern of deficient healthy qi and excessive branch. Manifestations may include persistent fever, cough, dyspnea, cyanosis, irritability, possible convulsions, hallucinations, dementia, blurred vision,

maculae and papules, ulcers, or white erosion and sores in the mouth and throat, or urinary and fecal incontinence, or abdominal masses, a stunted underweight body, failure to thrive, or aversion to cold and cold limbs, low voice and weak breathing, and a weak, thready and faint pulse. All of these are the manifestations of the healthy qi struggling intensely with the pathogenic qi, pestilent qi severely damaging the healthy qi, the healthy qi failing to resist the pathogenic qi and the exuberant pathogenic toxins damaging the essence and blood, consuming qi and yang and resulting in yin and yang exhaustion. These manifestations indicate a critical condition and an unfavorable prognosis.

► Treatment Principles

The treatment principle for this disease mainly lies in reinforcing the healthy qi, supplementing deficiency, resolving toxins and expelling pestilent qi. When the pathogenic toxins conceal inside the body, the treatment principle is to supplement the kidney and fortify the spleen, nourish blood and supplement essence, move qi and activate blood, or move qi and dissipate masses, also assisting with resolving toxins and expelling pestilent qi. For the patient who has obvious symptoms and is not infected by vertical transmission, the treatment is to scatter wind, clear heat and resolve toxins.

When the healthy qi is struggling intensely with the pathogenic qi, patients may present with mutable symptoms. If there is intense lung-heat, the treatment is to ventilate the lung and promote the normal flow of qi, resolve toxins, invigorate blood and dissolve stasis.

If the liver and gallbladder fails to ensure a free flow of qi due to pestilent constraint in the *shaoyang*, then the treatment is to soothe the liver and rectify qi, resolve toxins and dissipate nodules.

If wind-damp-heat-toxins invade the lung and spleen resulting in the lung qi failing to diffuse and purify and the spleen failing to transform and transport, then the treatment is to scatter wind and clear heat, resolve toxins and resolve dampness, ventilate the lung and fortify the spleen.

If pathogens conceal in the heart and brain, consuming blood and damaging marrow, then the treatment is to resolve toxins and expel pestilent qi, clear the heart and open the orifices, replenish essence and supplement the marrow.

For more serious cases, when the pestilent qi lodges deeply inside the body with deficient qi and yin, then the treatment is to replenish qi, nourish yin, produce marrow, and assist with clearing and resolving the pestilent qi.

If exuberant pathogenic toxins raise havoc resulting in the exhaustion of yin and yang, then the treatment is to resolve toxins and expel pestilent qi and supplement the yin and yang. For yin and yang exhaustion, replenish qi and astringe fluids, restore yang to save from collapse, open blockages and stop collapse.

► Classification of Patterns and Treatments

Wind-Damp-Heat Toxins Invading Lung and Spleen

Signs and Symptoms

Manifestations include papules and urticaria with obvious pain and itching, rashes with increasing ulceration or scabs formed after scratching. The edges and tip of the tongue are red, with a white or a thin and greasy coating; the pulse can be floating and rapid, or slippery and rapid. Or there can be whitish erosion and sores in the mouth and throat, poor

appetite, dry mouth and pharynx or fever. The tongue can be reddish-yellow with a thick or a yellow greasy coating; the pulse can be floating and rapid, or soggy and rapid, or slippery and rapid, with purple finger venules.

Pattern Differentiation

Cutaneous disorders are common in this disease, characterized by papules and urticaria with an obvious and painful itch. Scratching the itch causes the formation of ulcerations or incrustations. The tongue has red edges and tip with a white or a thin and greasy coating; the pulse is floating and rapid. All of these are the manifestations of wind-damp-heat toxins invading the lung's *wei* qi, with toxins constrained in the skin. The manifestations of wind-damp-heat toxins invading the spleen and stomach and constrained in the middle *jiao* present with white erosion and sores in the mouth and throat, poor appetite, dry mouth and pharynx or fever. The tongue is red with a yellow and thick or a yellow and greasy coating; the pulses are floating and rapid, or soggy and rapid, or slippery and rapid, with purple finger venules.

Treatment Principles

Scatter wind and clear heat, remove toxins and resolve dampness, promote eruption and relieve itching and pain

Formula

When rashes are the main complaint, use a modified *Xiāo Fēng Sǎn*—Wind-Dispersing Powder

荆芥	<i>jīng jiè</i>	Herba Schizonepetae
防风	<i>fáng fēng</i>	Radix Saposhnikoviae
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
蝉蜕	<i>chán tuì</i>	Periostracum Cicadae
生石膏	<i>shēng shí gāo</i>	Gypsum Fibrosum
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
苦参	<i>kǔ shēn</i>	Radix Sophorae Flavescentis
徐长卿	<i>xú cháng qīng</i>	Radix et Rhizoma Cynanchi Paniculati
白鲜皮	<i>bái xiān pí</i>	Cortex Dictamni
浮萍	<i>fú píng</i>	Herba Spirodela
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
生甘草	<i>shēng gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Jīng jiè (Herba Schizonepetae), *fáng fēng* (Radix Saposhnikoviae), *niú bàng zǐ* (Fructus Arctii), *jīn yín huā* (Flos Lonicerae Japonicae) and *chán tuì* (Periostracum Cicadae) scatter wind and expel pathogens.

Shēng shí gāo (Gypsum Fibrosum) and *zhī mǔ* (Rhizoma Anemarrhenae) clear the qi level

to discharge heat.

Kǔ shēn (Radix Sophorae Flavescentis), *xú cháng qīng* (Radix et Rhizoma Cynanchi Paniculati) and *bái xiān pí* (Cortex Dictamni) dry dampness and clear heat, scatter wind and relieve itching.

Fú píng (Herba Spirodela) dissipates pathogens and promotes eruption.

Shēng dì huáng (Radix Rehmanniae) and *shēng gān cǎo* (Radix et Rhizoma Glycyrrhizae) moisten dryness and promote fluid production.

For mouth sores and erosions as the main complaint, use a modified *Qīng Rè Xiè Pí Sǎn*—**Heat-Clearing Spleen-Draining Powder**.

黄芩	<i>huáng qín</i>	Radix Scutellariae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
石膏	<i>shí gāo</i>	Gypsum Fibrosum
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
淡竹叶	<i>dàn zhú yè</i>	Herba Lophatheri
灯心草	<i>dēng xīn cǎo</i>	Medulla Junci

Formula Analysis

Huáng qín (Radix Scutellariae) and *zhī zǐ* (Fructus Gardeniae) clear heat and dry dampness.

Huáng lián (Rhizoma Coptidis) and *shí gāo* (Gypsum Fibrosum) drain the accumulated spleen and stomach heat.

Shēng dì huáng (Radix Rehmanniae) clears heat and nourishes yin.

Dàn zhú yè (Herba Lophatheri) and *dēng xīn cǎo* (Medulla Junci) clear heat and drain fire and guide the heat down.

Modifications

After a considerable period of time, the patients' skin becomes rough, dry and painful and itchy, with scattered scratch marks and incrustated bloodied scabs. They also have a pale tongue with a thin and white or white and greasy coating; and a deep and thready pulse.

Modified *Dāng Guī Yīn Zǐ*—**Chinese Angelica Drink** with *Quán Chóng Tāng*—**Scorpion Decoction**

丹参	<i>dān shēn</i>	Radix et Rhizoma Salviae Miltiorrhizae
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
鸡血藤	<i>jī xuè téng</i>	Caulis Spatholobi
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
全蝎	<i>quán xiē</i>	Scorpion
威灵仙	<i>wēi líng xiān</i>	Radix et Rhizoma Clematidis
地肤子	<i>dì fū zǐ</i>	Fructus Kochiae
蛇床子	<i>shé chuáng zǐ</i>	Fructus Cnidii

防风	<i>fáng fēng</i>	Radix Saposhnikoviae
苦参	<i>kǔ shēn</i>	Radix Sophorae Flavescentis
生薏苡仁	<i>shēng yì yǐ rén</i>	Semen Coicis
桑枝	<i>sāng zhī</i>	Ramulus Mori
刺蒺藜	<i>cì jí lí</i>	Fructus Tribuli
生甘草	<i>shēng gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Chinese Patent Medicine

Shī Dú Qīng Jiāo Náng—Damp-Toxin-Clearing Capsules

Take 2-3 pills, 2-3 times daily.

External Therapies, Single Medicinals and Formulas

When rashes are the main manifestation:

a. Decoct *jīn yín huā* (Flos Lonicerae Japonicae), *bǎn lán gēn* (Radix Isatidis), *pú gōng yīng* (Herba Taraxaci), *chē qián cǎo* (Herba Plantaginis), *fú píng* (Herba Spirodela) and *huáng bǎi* (Cortex Phellodendri Chinensis) as lotions and apply onto the affected area, once daily.

b. *Rú Yì Jīn Huáng Sǎn*—Satisfied Golden Yellow Powder can be used externally on the affected areas, once or twice daily.

For mouth ulcers as the main manifestation:

a. *Bīng Péng Sǎn*—Borneol and Borax Powder

Sprinkle onto the surface of the ulceration, several times daily.

b. *Qīng Dài Sǎn*—Natural Indigo Powder

Sprinkle a little onto the surface of the ulcerations, 2-3 times daily.

Spleen and Kidney Deficiency and Pathogenic Damp Obstruction

Signs and Symptoms

These intermittent and intractable symptoms manifest as chronic diarrhea with loose stools several times daily or watery diarrhea with undigested food in the stools, poor appetite, exacerbating mental fatigue and lack of strength, restless sleep, lusterless or sallow complexion, sparse hair, emaciation, irritability or dull expression, possible developing into mild infantile malnutrition or infantile malnutrition with accumulation. The tongue is light red with a white or greasy coating; the pulse is thready and weak or soggy and moderate, and there are pale finger venules.

Pattern Differentiation

The manifestations of damp obstruction and disorders of ascending and descending of qi movement in the middle *jiao* are diarrhea with loose stools several times daily, or even watery diarrhea with undigested food in the stools.

Spleen and kidney deficiency with dysfunction of generation and transformation causes stubborn symptoms such as a poor appetite, exacerbating mental fatigue and lack of strength, lusterless or sallow complexion. The tongue is light red with a white or greasy coating; the pulse is thready and weak, or soggy and moderate, with pale finger venules.

The symptoms of restless sleep, sparse hair, emaciation and irritability or dull expression are caused by spleen deficiency and liver yang hyperactivity (disharmony between Wood and Earth). These may gradually develop into mild infantile malnutrition or

infantile malnutrition with accumulation.

Treatment Principles

Supplement kidney, fortify the spleen and harmonize the stomach, drain dampness and check diarrhea

Formula

Modified *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder

党参	<i>dǎng shēn</i>	Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
扁豆	<i>biǎn dòu</i>	Semen Lablab Album
怀山药	<i>huái shān yào</i>	Rhizoma Dioscoreae
莲子肉	<i>lián zǐ</i>	Semen Nelumbinis
薏苡仁	<i>yì yǐ rén</i>	Semen Coicis
砂仁	<i>shā rén</i>	Fructus Amomi
桔梗	<i>jié gěng</i>	Radix Platycodonis

Formula Analysis

Dǎng shēn (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria) and *biǎn dòu* (Semen Lablab Album) fortify the spleen and replenish qi, dry dampness and check diarrhea.

Huái shān yào (Rhizoma Dioscoreae) and *lián zǐ* (Semen Nelumbinis) supplement the kidney and nourish the heart, replenish qi and reinforce healthy qi.

Yì yǐ rén (Semen Coicis), *shā rén* (Fructus Amomi) and *jié gěng* (Radix Platycodonis) move qi and resolve dampness, fortify the spleen and harmonize the stomach.

Modifications

For a poor appetite, thick and greasy coating, add *huò xiāng* (Herba Agastachis), *cāng zhú* (Rhizoma Atractylodis), *chén pí* (Pericarpium Citri Reticulatae) and *jiāo shān zhā* (Fructus Crataegi Praeparata) to resolve dampness and help transportation.

For watery diarrhea, adds *zhū líng* (Polyporus), *zé xiè* (Rhizoma Alismatis) and *chē qián zǐ* (Semen Plantaginis) to drain dampness and check diarrhea.

For loose yellow stools with a foul odor, red tongue with yellow and greasy coating, use a modification of *Gé Gēn Huáng Qín Huáng Lián Tāng*—Pueraria, Scutellaria, and Coptis Decoction to clear heat and dry dampness, raise clear yang and check diarrhea.

For diarrhea before dawn, aversion to cold with cold limbs and slow, moderate pulse, use a modification of *Fù Zǐ Lǐ Zhōng Tāng*—Aconite Center-Regulating Decoction with *Sì Shén Wán*—Four Spirits Pill to warm the kidney and middle *jiao*, activate the spleen and check diarrhea.

For mild infantile malnutrition, use a modification of *Zī Shēng Jiàn Pí Wán*—Life-Promoting and Spleen-Fortifying Pill.

For infantile malnutrition with accumulation, use *Féi Ēr Wán*—Childhood-Malnutrition Rectifying Pill.

Chinese Patent Medicines

Shēn Líng Bái Zhú Wán—Ginseng, Poria and Atractylodes Macrocephalae Pill.

Take 6 g, 3 times daily.

Jiàn Pí Bā Zhēn Gāo—Spleen-Invigorating Eight Gem Cake

Take 2 cakes, mixed with boiled water into a paste, 2-3 times daily.

External Treatments

Decoct 30 g of *guǐ zhēn cǎo* (Sticktight) with water, steam the affected area with the decoction, then soak the feet in the decoction, 2-3 times daily for 3-5 days as a treatment course.

Tui na

Points	Repetitions	Methods
<i>Sān guān</i> (三关)	200-400	Pushing
<i>Pí tǔ</i> (脾土)	200-300	Supplementing
<i>Dà cháng</i> (大肠)	200-300	Clearing
<i>Bǎn mén</i> (板门)	200-400	Pushing
<i>Fù</i> (abdomen)	200-400	Rubbing
BL 13 (<i>fèi shù</i>)	50-100	Pressing
BL 20 (<i>pí shù</i>)	50-100	Pressing
BL 21 (<i>wèi shù</i>)	50-100	Pressing
BL 25 (<i>dà cháng shù</i>)	50-100	Pressing

Apply pushing method on *sān guān* 200-400 times, supplement *pí tǔ* 200-300 times, clear *dà cháng* 200-300 times, push *bǎn mén* 200-400 times, rub *fù* 200-400 times, and press BL 13 (*fèi shù*), BL 20 (*pí shù*), BL 21 (*wèi shù*) and BL 25 (*dà cháng shù*) 50-100 times.

Acupuncture

ST 36 (<i>zú sān lǐ</i>)	RN 12 (<i>zhōng wǎn</i>)	ST 25 (<i>tiān shū</i>)
BL 20 (<i>pí shù</i>)		

Use supplementing method or neutral supplementation and drainage method, without needle retention, once or twice daily.

Moxibustion

ST 36 (<i>zú sān lǐ</i>)	RN 12 (<i>zhōng wǎn</i>)	RN 8 (<i>shén què</i>)
----------------------------	----------------------------	--------------------------

Apply cone or ginger moxibustion, once or twice daily.

Insufficient Healthy Qi with Lingering Pathogens, Binding of Phlegm and Stasis

Signs and Symptoms

Manifestations include mental fatigue and lack of strength, lusterless complexion, cervical lymphadenectasis, disseminated lymphadenopathy, rib-side masses with fixed tenderness or abdominal masses, or loose stools, or persistent fever. The tongue is pale or crimson with ecchymoses or petechiae, along with purple and uneven finger venules, and a wiry or a thready and uneven pulse.

Pattern Differentiation

The toxic-pestilence pathogens lodges in the essence and blood and obstructs qi and blood movement, fluids can not be distributed due to qi constraint and then accumulate into phlegm-fluid retention. Accumulation of toxins with phlegm and stasis results from blood stasis due to qi stagnation, and accumulates and gathers in the liver and spleen or in the channels, collaterals and skin, leading to cervical or disseminated lymphadenectasis, rib-side masses or abdominal masses. Symptoms such as loose stools, persistent fever, pale or crimson tongue with ecchymoses or petechiae and with a thin and greasy coating, purple and uneven finger venules, and a wiry or a thready and uneven pulse are all caused by a healthy qi insufficiency with lingering pathogens, qi stagnation and blood stasis.

Treatment Principles

Reinforce healthy qi and replenish qi, resolve toxins and dissolve stasis, soften hardness and dissipate masses

Formula

Modified *Xiāo Luǒ Wán*—Scrofula-Dispersing Pill with *Xuè Fǔ Zhú Yū Tāng*—Blood Stasis Expelling Decoction

桃仁	<i>táo rén</i>	Semen Persicae
红花	<i>hóng huā</i>	Flos Carthami
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
川芎	<i>chuān xiōng</i>	Rhizoma Chuanxiong
玄参	<i>xuán shēn</i>	Radix Scrophulariae
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
煅牡蛎	<i>duàn mǔ lì</i>	Concha Ostreae Praeparatum
浙贝母	<i>zhè bèi mǔ</i>	Bulbus Fritillariae Thunbergii
昆布	<i>kūn bù</i>	Thallus Laminariae; Thallus Eckloniae
夏枯草	<i>xià kū cǎo</i>	Spica Prunellae
僵蚕	<i>jiāng cán</i>	Bombyx Batryticatus
半夏	<i>bàn xià</i>	Rhizoma Pinelliae
白花蛇舌草	<i>bái huā shé shé cǎo</i>	Herba Hedyotis Diffusae

Formula Analysis

Táo rén (Semen Persicae), *hóng huā* (Flos Carthami), *chì sháo* (Radix Paeoniae Rubra) and *chuān xiōng* (Rhizoma Chuanxiong) move qi and activate blood.

Xuán shēn (Radix Scrophulariae) and *dāng guī* (Radix Angelicae Sinensis) nourish yin and blood.

Duàn mǔ lì (Concha Ostreae Praeparatum), *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii), *kūn bù* (Thallus Laminariae) and *xià kū cǎo* (Spica Prunellae) soften hardness and dissipate masses.

jiāng cán (Bombyx Batryticatus), *bàn xià* (Rhizoma Pinelliae) and *bái huā shé shé cǎo* (Herba Hedyotis Diffusae) resolve toxins and dissipate pathogens, expelling them from the exterior.

**Modifications**

For large masses, add *chuān shān jiǎ* (Squama Manitis), *sān léng* (Rhizoma Sparganii) and *é zhú* (Rhizoma Curcumae).

For severe pain, add *rǔ xiāng* (Olibanum), *mò yào* (Myrrha) and *yán hú suǒ* (Rhizoma Corydalis).

For persistent fever, add *bò hé* (Herba Menthae), *dàn dòu chǐ* (Semen Sojae Praeparatum), *shān zhī* (Fructus Gardeniae) and *hú huáng lián* (Rhizoma Picrorhizae).

Chinese Patent Medicine

Xiǎo Ēr Huà Dú Sǎn—Children's Toxin-Removing Powder

Take 0.6 g, 1-2 times daily; reduce the dose appropriately for children under 3 years old. It can also be applied topically onto the affected areas.

External Treatment

Sān Huáng Èr Xiāng Sǎn—Three Yellows Two Fragrance Powder

Apply externally on the swollen lymph nodes, twice daily.

Toxic Pestilence Obstructing the Lung, Qi Constraint and Blood Stasis**Signs and Symptoms**

Manifestations include a high fever, cough, dyspnea, profuse phlegm, even panting with shortness of breath, cyanosis, mental fatigue and lack of strength, poor appetite, dry stools, scanty and dark urine. The tongue is crimson or purple with a yellow and thick coating; the pulse is wiry and rapid or slippery and rapid, with purple and stagnant finger venules.

Pattern Differentiation

This pattern belongs to the attack stage of this disease and is caused by the pestilent qi lurking in the lung, or together with new externally contracted pathogens. Accumulating in the lung, the pestilent qi struggles intensely with the healthy qi, causing the lung to fail to purify and rebel upwards. It manifests as high fever, cough, panting and phlegm expectoration. Because the lung governs qi, accumulation of qi and heat cause the failure of the lung qi to distribute; this results in constraint and stagnation of the qi mechanism with qi stagnation and blood stasis. It therefore manifests with dyspnea, cyanosis, purple tongue and purple finger venules.

The symptoms of mental fatigue and lack of strength, poor appetite, dry stools, scanty dark urine, red or crimson tongue with thick yellow coating, and wiry rapid or slippery rapid pulses are manifestations of the accumulation of heat-toxins damaging qi and body fluids.

Treatment Principles

Clear heat and resolve toxins, ventilate the lung and rectify qi, activate blood and open constraint

Formula

Modified *Má Xìng Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction with *Huáng Lián Jiě Dú Tāng*—Coptis Toxin-Resolving Decoction.

炙麻黄	zhì má huáng	Herba Ephedrae Praeparata cum Melle
生石膏	shēng shí gāo	Gypsum Fibrosum
知母	zhī mǔ	Rhizoma Anemarrhenae
杏仁	xìng rén	Semen Armeniacae Amarum

桑白皮	<i>sāng bái pí</i>	Cortex Mori
葶苈子	<i>tí lì zǐ</i>	Semen Lepidii
黄芩	<i>huáng qín</i>	Radix Scutellariae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
山梔	<i>shān zhī</i>	Fructus Gardeniae
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
虎杖	<i>hǔ zhàng</i>	Rhizoma Polygoni Cuspidati

Formula Analysis

Zhì má huáng (Herba Ephedrae Praeparata cum Melle) ventilates the lung and relieves panting.

Shēng shí gāo (Gypsum Fibrosum) and *zhī mǔ* (Rhizoma Anemarrhenae) clear lung and stomach heat to generate body fluids.

Xìng rén (Semen Armeniacae Amarum), *sāng bái pí* (Cortex Mori) and *tíng lì zǐ* (Semen Lepidii) ventilate and purge lung qi, relieve cough and panting.

Huáng qín (Radix Scutellariae), *huáng lián* (Rhizoma Coptidis) and *shān zhī* (Fructus Gardeniae) clear lung and resolve toxins.

Mǔ dān pí (Cortex Moutan) and *hǔ zhàng* (Rhizoma Polygoni Cuspidati) resolve toxins and activate blood.

Modifications

For severe toxic heat, add *dà qīng yè* (Folium Isatidis), *pú gōng yīng* (Herba Taraxaci), *bài jiàng cǎo* (Herba Patriniae) and *cǎo hé chē* (Rhizoma Paridis).

For profuse sticky yellow phlegm, add *Dài Gé Sǎn*—Natural Indigo and Gecko Powder, *tiān zhú huáng* (Concretio Silicea Bambusae), *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii) and *dǎn nán xīng* (Arisaema cum Bile).

For constipation, add *quán guā lóu* (Fructus Trichosanthis), *dà huáng* (Radix et Rhizoma Rhei) and *xuán míng fěn* (Natrii Sulfas Exsiccatus).

For dyspnea, cyanosis, purple and dusky tongue, add *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *chì sháo* (Radix Paeoniae Rubra) and *mǎ biān cǎo* (Herba Verbenae).

Chinese Patent Medicines

a. *Xiǎo Ér Fèi Rè Ké Chuǎn Kǒu Fú Yè*—Children Lung-Heat and Cough and Asthma Liquid
Take 5-10 ml, 3 times daily.

b. *Tán Rè Qīng Injection*—Phlegm and Heat-Clearing Injection

Take 0.3-0.5 ml/kg, do not exceed 20 ml, dilute with 5% glucose injection or 0.9% sodium chloride injection (100-200 ml), and administer by intravenous drip, 30-60 drops per minute, once daily.

Acupuncture

LU 5 (<i>chǐ zé</i>)	LU 6 (<i>kǒng zuì</i>)	LU 7 (<i>liè quē</i>)
LI 4 (<i>hé gǔ</i>)	BL 13 (<i>fēi shù</i>)	ST 36 (<i>zú sān lǐ</i>)

Needle all points with drainage with 5 min needle retention, or do not retain the needle. Treat once daily.

Pestilent Qi Attacking Heart and Liver, Blocking the Orifices and Generating Wind

Signs and Symptoms

Manifestations include fever, headache, dizziness, blurred vision, nebula, irritability, red swollen painful ears, festering with pus in serious cases, possible convulsions, dementia or hallucinations. The tongue is red with a yellow or thick greasy coating; the pulse is wiry and rapid or slippery and rapid. There are uneven purple finger venules.

Pattern Differentiation

This pattern appears during the attack stage of the disease in which pestilent toxins lodge in the *zang-fu* and the liver and gallbladder channels, also affecting the heart, brain, essence and marrow, or when complicated by new external pathogens invading the patient. As the pestilent toxin internally constrains, obstructs and struggles with healthy qi, the liver and gallbladder fail to ensure the free flow of qi, causing ascending hyperactivity of liver yang manifesting as fever, headache, dizziness, and irritability.

If the heat-toxin constrains and obstructs the liver-gallbladder and brain possibly blocking the heart and disturbing the spirit, it leads to blurred vision, or dementia and hallucinations.

If toxic accumulation obstructs the liver and gallbladder channels, it manifests as red, swollen painful ears, and possible festering or oozing pus.

If the pestilent toxin is seriously constrained, it will cause internal wind that affects the liver. The liver wind stirs internally, leading to convulsions.

A red tongue with yellow or thick greasy coating, a wiry and rapid or slippery and rapid pulse with purple finger venules are all manifestations of pestilent toxin constrained in the interior, resulting in the liver and gallbladder qi failing to flow freely and phlegm production due to qi constraint.

Treatment Principles

Clear pestilence and resolve toxins, rectify qi and relieve swelling, open the orifices and extinguish wind, nourish blood and generate marrow.

Formula

Modified *Qīng Wēn BÀI Dú Yǐn*—Epidemic-Clearing Toxin-Resolving Beverage

水牛角	<i>shuǐ niú jiǎo</i>	Cornu Bubali
生石膏	<i>shēng shí gāo</i>	Gypsum Fibrosum
黄连	<i>huáng lián</i>	Rhizoma Coptidis
山梔	<i>shān zhī</i>	Fructus Gardeniae
连翘	<i>lián qiào</i>	Fructus Forsythiae
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
玄参	<i>xuán shēn</i>	Radix Scrophulariae
竹叶	<i>zhú yè</i>	Folium Phyllostachydis Henonis
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
僵蚕	<i>jiāng cán</i>	Bombyx Batryticatus
芦根	<i>lú gēn</i>	Rhizoma Phragmitis

Formula Analysis

Shuǐ niú jiǎo (Cornu Bubali), *mǔ dān pí* (Cortex Moutan), *shēng dì huáng* (Radix Rehmanniae) and *chì sháo* (Radix Paeoniae Rubra) clear heat and resolve toxins, cool blood and dispel stasis.

Shēng shí gāo (Gypsum Fibrosum), *zhú yè* (Radix Rehmanniae) and *lú gēn* (Rhizoma Phragmitis) clear qi-level heat to preserve fluids.

Huáng lián (Rhizoma Coptidis), *shān zhī* (Fructus Gardeniae) and *lián qiào* (Fructus Forsythiae) clear heat and resolve toxins from the *sanjiao*.

Gōu téng (Bombyx Batryticatus) and *jiāng cán* (Bombyx Batryticatus) extinguish wind and check convulsions.

Modifications

For blurred vision or nebula, add *dà qīng yè* (Folium Isatidis), *bǎn lán gēn* (Radix Isatidis), *bái jí lí* (Fructus Tribuli), *qīng xiāng zǐ* (Semen Celosiae), *mì méng huā* (Flos Buddlejae) and *mù zéi* (Herba Equiseti Hiemalis).

For red, swollen and painful ears, possible with ulcers festering and pus, use modified *Pǔ jì Xiāo Dú Yǐn*—Universal Relief Toxin-Removing Beverage.

For dysphoria, red complexion and convulsions, use modified *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction.

For dementia, hallucinations, thick and greasy tongue coating, add *huáng jīng* (Rhizoma Polygonati), *shān zhū yú* (Fructus Corni), *gōu jǐ* (Rhizoma Cibotii), *hé shǒu wū* (Radix Polygoni Multiflori), *yù jīn* (Radix Curcumae), *shí chāng pú* (Rhizoma Acori Tatarinowii), *yuǎn zhì* (Radix Polygalae) and *zhēn zhū mǔ* (Concha Margaritiferae Usta).

For prolonged illness with listlessness, a lusterless complexion, deep sunken orbits, emaciation, shortness of breath, panting, imminent collapse, a red tongue with little coating, a deficient scattered pulse, or a pale complexion with aversion to cold, reversal cold of the limbs, copious dripping of cold sweat, and faint pulses verging on expiry, use a modification of *Shēng Mài Sǎn*—Pulse-Engendering Powder with *Shēn Fù Lóng Mǔ Jiù Nǐ Tāng*—Ginseng, Aconite, Dragon and Oyster Shell Decoction.

Chinese Patent Medicines

a. *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Pill

1/4-1/2 pill, once daily.

b. *Qīng Kāi Líng Injection*—Effective Clearing and Opening Injection

Intramuscular injection, 2 ml 2-3 times daily; intravenous drip, 10-20 ml diluted with 5% glucose injection, once daily.

c. *Shēn Mài Injection*—Ginseng and Wheat Injection

Intramuscular injection, 2-4 ml once daily; intravenous injection, 10-60 ml (diluted with 250-500 ml 15% glucose injection)

Latent Epidemic Toxin, Essence and Blood Insufficiency

Signs and Symptoms

Manifestations include mental fatigue, poor appetite, sallow complexion, thin weak muscles, underweight with stunted stature, retarded or arrested growth, or recurrent respiratory infections. There is a light red tongue with thin white or scanty coating. The pulse is thready and weak; there are light red finger venules.

Pattern Differentiation

The manifestations of mental fatigue, poor appetite, sallow complexion, thin and

weak muscles, underweight and stunted stature, a light red tongue with thin white or scanty coating, a thready and weak pulse and light red finger venules are all caused by latent pestilence consuming the essence and blood, also consuming and damaging the foundations of the congenital and acquired constitution, resulting in growth retardation or arrested growth. Recurrent respiratory infections are caused by the repeated invasion of exterior pathogens due to a thin weak body with essence and blood insufficiency.

Treatment Principles

Supplement the kidney and replenish essence, nourish blood and generate marrow, clear and resolve epidemic toxins

Formula

Modified *Bǔ Shèn Dì Huáng Wán*—Kidney Supplementing Rehmannia Pill

紫河车	<i>zǐ hé chē</i>	Placenta Hominis
杜仲	<i>dù zhòng</i>	Cortex Eucommiae
狗脊	<i>gǒu jǐ</i>	Rhizoma Cibotii
川续断	<i>chuān xù duàn</i>	Radix Dipsaci
肉苁蓉	<i>ròu cōng róng</i>	Herba Cistanches
熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
黄精	<i>huáng jīng</i>	Rhizoma Polygonati
茯苓	<i>fú líng</i>	Poria
怀山药	<i>huái shān yào</i>	Rhizoma Dioscoreae
菟丝子	<i>tù sī zǐ</i>	Semen Cuscutae
桑寄生	<i>sāng jì shēng</i>	Herba Taxilli
刺五加	<i>cì wǔ jiā</i>	Radix et Rhizoma seu Caulis Acanthopanax Senticosi
防风	<i>fáng fēng</i>	Radix Saposhnikoviae
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii

Formula Analysis

Zǐ hé chē (Placenta Hominis), *dù zhòng* (Cortex Eucommiae), *gǒu jǐ* (Rhizoma Cibotii), *chuān xù duàn* (Radix Dipsaci) and *ròu cōng róng* (Herba Cistanches) warm the kidney and supplement yang, replenish essence and generate marrow.

Shú dì huáng (Radix Rehmanniae Praeparata), *huáng jīng* (Rhizoma Polygonati), *fú líng* (Poria) and *huái shān yào* (Rhizoma Dioscoreae) supplement the kidney and supplement essence.

Tù sī zǐ (Semen Cuscutae), *sāng jì shēng* (Herba Taxilli) and *cì wǔ jiā* (Radix et Rhizoma seu Caulis Acanthopanax Senticosi) strengthen the kidney and bone.

Fáng fēng (Radix Saposhnikoviae) and *niú bàng zǐ* (Fructus Arctii) clear heat and dissipate pathogens.

Modifications

For patients with five retardations and five kinds of flaccidity, add *lóng gǔ* (Os Draconis), *mǔ lì* (Concha Ostreae) and *bā jǐ tiān* (Radix Morindae Officinalis).

For recurrent fever with chills, headache and body pain, no sweating or little sweating, use a modification of *Yín Qiào Sǎn*—Lonicera and Forsythia Powder or *Chái Gé Jiě Jī Tāng*—Bupleurum and Pueraria Muscle-Resolving Decoction.

For patients with mild infantile malnutrition or infantile malnutrition with accumulation, use a modification of *Zī Shēng Jiàn Pí Wán*—Lifesaving Spleen Fortifying Pill, or *Féi Ēr Wán*—Childhood Malnutrition-Rectifying Pill.

Chinese Patent Medicines

a. *Qǐ Jú Dì Huáng Wán*—Lycium Berry, Chrysanthemum and Rehmannia Pill

Take 3 g, 3 times daily.

b. *Hé Chē Dà Zào Wán*—Placenta Hominis Major Supplementing Pill

Take 3 g, 3 times daily.

c. *Féi Ēr Wán*—Childhood Malnutrition-Rectifying Pill

Take 1 pill, twice daily.

d. *Jiàn Pí Bā Zhèn Gāo*—Spleen-Fortifying Eight Gem Cake

Take 2-4 g, twice daily.

Tui na

Points	Repetitions	Methods
<i>Pí jīng</i> (脾经)	200-300	Supplementing
<i>Shèn jīng</i> (肾经)	300-400	Supplementing
<i>Dà cháng</i> (大肠)	200-300	Supplementing
<i>Nèi bā guà</i> (内八卦)	150-300	Pinching Clockwise
<i>Bǎn mén</i> (板门)	200-300	Kneading
ST 36 (<i>zú sān lǐ</i>)	200-300	Kneading
RN 12 (<i>zhōng wǎn</i>)	200-300	Kneading
BL 21 (<i>wèi shù</i>)	200-300	Kneading

Apply supplementation on *pí jīng* 200-300 times, *shèn jīng* 300-400 times, and *dà cháng* 200-300 times. Pinch in a clockwise circle on *nèi bā guà* 150-300 times, knead *bǎn mén* and ST 36 (*zú sān lǐ*) 200-300 times, knead RN 12 (*zhōng wǎn*) and BL 21 (*wèi shù*) 200-300 times.

Acupuncture

DU 14 (<i>dà zhuī</i>)	DU 20 (<i>bǎi huì</i>)	ST 36 (<i>zú sān lǐ</i>)
BL 23 (<i>shèn shù</i>)	BL 20 (<i>pí shù</i>)	RN 4 (<i>guān yuán</i>)
RN 12 (<i>zhōng wǎn</i>)	RN 6 (<i>qì hǎi</i>)	DU 1 (<i>cháng qióng</i>)
LI 4 (<i>hé gǔ</i>)		

Apply supplementation or neutral supplementation and drainage without needle retention. Treat 1-2 times daily, with 3 months as one treatment course.

Moxibustion

DU 4 (<i>mìng mén</i>)	BL 15 (<i>xīn shù</i>)	BL 20 (<i>pí shù</i>)
BL 23 (<i>shèn shù</i>)	ST 36 (<i>zú sān lǐ</i>)	RN 4 (<i>guān yuán</i>)
DU 20 (<i>bǎi huì</i>)	RN 8 (<i>shén què</i>)	SP 10 (<i>xuè hǎi</i>)
SP 6 (<i>sān yīn jiāo</i>)		



Apply cone or ginger moxibustion once or twice a day, with one month as one treatment course.

[WESTERN MEDICINE THERAPIES]

Western medicine therapy includes anti-HIV therapy, prevention and treatment of opportunistic infections, regulation of immune function, supportive therapy and psychological care. There is no radically effective radical therapy for AIDS at the present time. All anti-retroviral drugs can be used for children.

The indications for antiviral drugs include:

1. The symptoms are caused by HIV infection.
2. The count or percentage of CD4⁺ T-cell has decreased, with a moderate or severe immune suppression condition.
3. The child is less than one year old regardless of their clinical, immunological, or viral load status.
4. If the child is older than one year, the clinical, immunological, or viral load status should be closely monitored. The treatment should start once the following conditions occur:

- a. The number of the replications of HIV-RNA is high (HIV-RNA of plasma >50000 copies /ml) or has increased progressively.
- b. The count or percentage of CD4⁺ T-cell has decreased rapidly with a moderate immune suppression condition.
- c. Clinical symptoms have appeared.

Anti-HIV drugs can be divided into three categories:

- a. Nucleotide reverse transcriptase inhibitors (NRTI): such as zidovudine (ZDV).
- b. Non-nucleotide reverse transcriptase inhibitors (NNRTI) such as niverapine (NVP). Because these drugs can easily cause the emerging of drug-resistant HIV symptoms, it is therefore necessary to combine them with nucleotides to enhance the anti-viral activity.
- c. In regard to protease inhibitors (PI) such as indinavir (IDV) and ritonavir, there is poor efficacy in treatment if one drug only is used. It is therefore recommended that more than two kinds of drugs are used, i.e. the highly active anti-retroviral therapy (HAART). The initial therapeutic regimen may be changed if it lacks efficacy, however the best match of drugs is still uncertain. After a confirmation of diagnosis of AIDS, the patient should be referred for hospital treatment.

[PREVENTION AND NURSING]

1. PREVENTION

(1) Preventing Vertical Transmission

- a. HIV/AIDS infected women need to think carefully about becoming pregnant, and are advised to terminate pregnancy in the early stages.
- b. To prevent transmission of HIV infection, cesarean section is recommended for HIV/AIDS infected women. This is to reduce the infant's exposure to blood and secretions from the mother's birth canal.
- c. To prevent transmission through breast milk, the infants that are born to HIV/AIDS



infected mothers should only be given formula milk.

d. The HIV/AIDS infected pregnant women should be given PMTCT therapy.

(2) Avoid using blood and blood products that have not been tested for HIV.

(3) Protect children from drug abuse and child-sex abuse.

(4) HIV/AIDS infected children should receive the same vaccinations as healthy children, however, the BCG vaccination is not recommended.

2. NURSING

a. Pay attention to psychological counseling and care, and foster an understanding of HIV/AIDS to encourage their confidence in overcoming the disease. Help reduce their feelings of humiliation, frustration, anxiety, sadness and fear, so that they are able to cooperate more actively with treatment while letting them know that they also have the right not to tell anyone about their disease.

b. Provide adequate nutrition and encourage physical exercise to strengthen their resistance.

c. Observe the condition closely, prevent and treat opportunistic infections.

d. Regular follow-ups are required to closely monitor the child's health.

[QUESTIONS]

1. A 4-year-old child has suffered from recurrent diarrhea for more than one year. The child has diarrhea 3-4 times daily with loose stools and sometimes undigested food. The child also presented with grain-like papules on the face and torso for 2 years, with the symptoms worsening in summer and improving in winter; itching with scratch marks but without pus, blood, or festering; sallow complexion, normal appetite and normal urine. The tongue was light red with a white and greasy coating, and there were purple finger venules. The child's height is 93 cm, and the weight is 14 kg. The child had been diagnosed with HIV infection through blood tests.

What pattern differentiation needs to be considered?

A. Damp Exuberance, spleen deficiency, and damp-heat invading the skin

B. Damp-heat pouring downwards

C. Both qi and blood deficiency

D. Wind-damp-heat toxins, liver and kidney yin deficiency

E. Essence and blood deficiency, binding of phlegm and stasis

2. A 10-year-old child has had red skin rashes distributed over the whole body and both mandibles for more than 4 years with obvious itching, scratch marks, festering and scabs. The rashes are scabrous and blanch with pressure. The child also has a sore throat, no chills or fever, a watery nasal discharge, poor sleep at night, a normal appetite, and diarrhea 2-3 times daily with loose yellow stools. Physical examination shows a height of 143 cm and weight is 51 kg. There are red lips and pharynx, both tonsils are swollen III degree, and there are two swollen lymph nodes the size of a peanut in the right submandibula. The tongue has a yellow greasy coating, and the pulse is slippery and rapid. The child has been diagnosed with HIV by blood tests.

Which of the following best describes the condition?

A. Latent pathogens in the body

B. Qi stagnation and blood stasis

C. Powerful and healthy

D. The disease has already occurred



E. Exuberance of pathogenic toxins

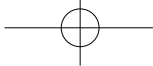
3. A 4-year-old child has presented with intermittent fever and a cough for 3 months along with fluctuating temperatures from 37-39.5°C, a paroxysmal cough with profuse expectoration of thick white or yellow sputum, and no vomiting or diarrhea. During the last 2 weeks, the child has had a frequent cough, occasional wheezing, vomiting when the cough was severe, a poor appetite, dry stools once every 1-2 days and scanty dark urine. The tongue is red with a thick yellow greasy coating; there were purple finger venules reaching to the qì pass. The height is 95 cm and the weight is 12.5 kg. The child has been diagnosed with HIV by blood tests.

Which formulas should be first selected?

- A. *Sāng Jú Yǐn*—Mulberry Leaf and Chrysanthemum Beverage with *Yín Qiào Sǎn*—Lonicera and Forsythia Powder
- B. *Má Xīng Shí Gān Tāng*—Ephedra, Apricot Kernel, Gypsum and Licorice Decoction with *Huáng Lián Jiě Dú Tāng*—Coptis Toxin-Resolving Decoction
- C. *Sāng Jú Yǐn*—Mulberry Leaf and Chrysanthemum Beverage with *Dà Chéng Qì Tāng*—Major Purgative Decoction
- D. *Sān Ào Tāng*—Rough and Ready Three Decoction with *Bái Hǔ Tāng*—White Tiger Decoction
- E. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder with *Shè Gān Má Huáng Tāng*—Belamcanda and Ephedra Decoction

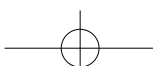
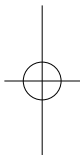
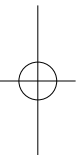
[REFERENCES]

- [1] Duan SC, Liu XY, Zhu QR. Pediatric Infectious Disease Studies [M]. Shanghai Science and Technology Press, 2003: 256.
- [2] UNAIDS/WHO. AIDS Epidemic Update [OL]. Dec. 2005. (www.UNAIDS.org).
- [3] Huang SJ, Wei JA, Cao HY, et, al. Clinical Observations on TCM Differentiation and Treatment in 729 AIDS Cases [J]. Journal of Traditional Chinese Medicine, 2004; 45 (9): 680.



Part VII

Neonatal Diseases



Chapter 40

Fetal Feebleness (*Tāi Qiè*)

Fetal feebleness (*tāi qiè*) is characterized by a low birth weight and underdevelopment in infants with impaired *zang-fu* organ function. It usually occurs in low birth weight children from a variety of fetal ages, but most often the condition appears among infants who are characterized as “small for their gestational age” (SGA).

The WHO (World Health Organization) listed low birth weight as an important index regarding “primary health care for every person”. The United Nation’s International Children’s Emergency Fund estimated that the number of annual deliveries of low birth weight infants was about 25 million globally, representing 17% of all live births with 90% of these appearing in developing countries. The incidence of low birth weight infants in developed countries was only 2%-6%, while in developing countries the rate was 18%. A 1998 survey of 44 cities and counties in 11 provinces in China showed the incidence of low birth weight was 4.2% in cities, and 6.7% in rural areas. The incidence within cities was close to the rate of that in developed countries^[1].

A low birth weight infant refers to a birth weight below 2500 g within one hour after birth, whereas a birth weight less than 1500 g is called a very-low birth weight infant (VLBW). Low birth weight infants have immature organs, low survival abilities, low immunity to disease, and are thus more vulnerable to illnesses and death.

Data from the Chinese government shows low birth weight as ranking second as a cause of neonatal and infant mortality in China. Research has shown that in comparison to infants of 22-25 gestational weeks, the risk of death in 26-27 week infants was reduced by 65%, and the risks to 32-39 week infants was further reduced to 92%. These results demonstrate that as the gestational age and birth weight increased, the risk of death was significantly reduced^[2].

Recent research has found that treatment using traditional Chinese herbal medicines (based on pattern differentiation) can increase survival rates, improve the infant’s constitution, and improve their quality of life. Chinese medicinals can also help to accelerate growth and development to the levels of normal birth weight infants.

Wang Shou-chuan et al. investigated the effects of traditional Chinese medicinals on infants with fetal feebleness by treating 100 infant subjects with *Zhù Zhǎng Kǒu Fú Yè*—Promoting Growth Oral Liquid containing *rén shēn* (Radix Ginseng), *zǐ hé chē* (Placenta Hominis), *lù jiǎo piàn* (sliced Cornus Cervi) and *mài yá* (Germinated Barley), while another 50 control cases were treated with placebos. Results showed that the overall effective rate in the treatment group was 78% as compared to 52% in the control group ($P < 0.001$). The treatment group was significantly more improved than the control group in weight, length, head circumference, chest circumference, and upper arm circumference; there was also a reduced incidence of sickness ($P < 0.05$). In comparison to the control group at the end of trial, serum T3 was increased and T4 was decreased more significantly in the treatment group ($P < 0.05$)^[3].

[ETIOLOGY & PATHOMECHANISM]

Fetal feebleness is closely related to embryonic growth and development in the uterus. The visceral location of this disease involves the five *zang*, with spleen and kidney being the key organs. The principal pathogenesis is deficiency of spleen and kidney resulting in an inadequate primary source with insufficient nourishment and support. The kidney stores essence, which is the material basis for human life and activities. This essence has two components, namely the congenital essence and the postnatal (i.e. acquired) essence. The former is inherited from the parents while the latter is acquired after birth.

These two kinds of essence also have an interdependent relationship as the congenital essence is responsible for the embryo's formation, growth and development, while at the same time the congenital essence requires continual replenishment from the postnatal essence. In turn, the postnatal essence depends on the congenital essence for absorption and transformation.

Infants born with fetal feebleness have already suffered from insufficient kidney essence during their embryonic and fetal stages which results in deficient kidney essence after birth which leads to an inability to support the splenic functions of transforming and transporting water and grains, thus causing an insufficient production of acquired essence. Such congenital insufficiency causes a deficient postnatal constitution which ultimately leads to undernourishment of the five viscera (*zang*) and six bowels (*fu*).

Kidney Essence Deficiency

The fetus is formed by the development of a fertilized ovum. The origin of life comes from the essence inherited from the parents, and only parents with strong physical attributes and adequate kidney essence will then produce the harmony of yin and yang required for producing a normal embryo.

Factors which can impair parental health such as delivery at a young age, old age, copious births, or anemia can adversely affect the formation and quality of the embryo, causing fetal feebleness. Parents who are too young and with insufficient kidney qi, or too old with declining kidney qi, or women who have had copious births (which can deplete qi, blood and kidney essence), these parents may produce constitutionally weak infants.

In addition, apart from the endowment of parental congenital essence, the healthy development of the fetus's kidney essence depends on the mother for continual nourishment. This in turn depends on the functions of the maternal spleen and stomach to effectively absorb and transform water and grains into nutrients. Any nutritional imbalance or disorder of the spleen and stomach in the mother can also be an important cause in the pathogenesis of fetal feebleness.

Spleen and Kidney Deficiency

TCM theory holds that congenital essence is the source of life and the basis for growth and development. Congenital essence needs to be nourished continuously by acquired essence, which in turn depends on the streaming of congenital essence to help in its transportation and transformation. In cases of fetal feebleness, these infants have insufficient congenital kidney essence, a weakened spleen and stomach, and insufficient qi and blood before birth. After birth, the innate deficiency of kidney essence cannot effectively support the spleen and stomach, which then become functionally ineffective for

generating, transporting and transforming water and grain.

Therefore, with insufficiency of both prenatal and postnatal constitutions, the infant's spleen and kidney are also deficient, leading to undernourishment of the whole body with deficient natural endowment and ultimately, impairment of the five *zang* organs.

For example, when the lung is impaired, the resultant lung qi deficiency leads to weakening of the skin surface, aversion to cold, and an inability to grow hair.

Heart qi deficiency can lead to a pale and lackluster complexion. Spleen qi deficiency can lead to muscle wasting and thin limbs.

Liver qi deficiency can lead to tendons failing to control bone and consequently poor coordination.

Kidney qi deficiency can lead to joint weakness that affects walking and movement.



Fig. 40-1 Etiology and Pathomechanism of Fetal Feebleness

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

(1) There are various etiological factors causing the infant's weak constitution including premature birth, multiple births, pregnancy with weakness and sickness, inappropriate fetal nourishment with chronic intrauterine malnutrition, and abnormalities of the placenta and umbilical cord.

(2) Diagnostic features of fetal feebleness include thin and small neonates, muscle wasting, a pale and lusterless complexion, languor, a weak low crying voice, weak suckling, and flaccid tendons with weak limbs. The average birth weight is below 2500 g with body length being less than the expected 46 cm.

► Differential Diagnosis

The majority of infants with fetal feebleness are low-birth weight (LBW) infants; this is especially common among premature births and infants born with small gestational age. The differences between prematurely born infants and small gestational age infants are shown in Table 40-1.

Very low birth weight infants have a high mortality rate and high incidence of sequelae. Before these infants are born, the obstetrician and pediatrician should collaborate to formulate the appropriate and best delivery time and mode, as well as the most appropriate management during labor and delivery. They should be prepared for cardiopulmonary resuscitation and further treatment in NICU.

Table 40-1 Differential Diagnosis of Premature Birth Infants and Small Gestational Age Infants

Essentials of Diagnosis	Prematurely Born Infants	Infants with Small Gestational Age
Gestational Age	Less than 37 weeks	37-42 weeks
Skin	Thin translucent skin, or edema, with lanugo & vernix caseosa	Thin dry skin, decortication, no lanugo, little vernix caseosa
Hair	Hair disordered like floss	Thin fine hair that can be clearly counted
Auricles	Soft auricles, immature ear cartilage, unformed fossa helix	Mature ear cartilage, formed fossa helix
Nails	Nails do not reach tip of each digit	Nails reach tip of each digit

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Clinically, fetal feebleness may be divided into either severe or mild conditions, while a complete differentiation is based on the *zang-fu* organ principles. Various patterns can be differentiated and treated according to the deficiency present in any one or more of the five *zang*.

Patients with lung deficiency present with shortness of breath, a low voice, thin tender skin, and thin soft lanugo.

Patients with heart deficiency present with mental lassitude, a pale complexion, pale lips and nails, and rapid palpitations of the heart apex.

Patients with liver deficiency present with flaccid tendons and weak limbs, spiritless eyes, and frequent convulsions.

Patients with spleen deficiency present with thin flaccid muscles, a lack of strength, a poor ability to suckle sufficient quantities of milk, frequent choking, lactorrhea, loose stools, and yellowing of the skin and eyes.

Patients with a kidney deficiency present with a small thin body stature, cool body temperature, soft auricles, soft short nails, weak bones and soft limbs and undescended testicles in males.

Fetal feebleness can be either mild or severe. In severe cases, manifestations can include unconsciousness and convulsions, cold extremities, a weak pulse, breathing with a gaping mouth and raised shoulders, flaring nostrils, shortness of breath, cyanotic lips, and a possible cessation of respiration.

► Treatment Principles

In general, fetal feebleness is treated according to the principles of *zang-fu* pattern differentiation. As the foundation of congenital and acquired constitution, the spleen and kidney are the key organs involved in the pathogenesis of fetal feebleness, so the basic treatment principle is to nourish the kidney in order to replenish original qi.

Clinically, the two main patterns of this disease are kidney essence deficiency and deficiency of both spleen and kidney, while the treatment principles are nourishing essence and marrow, supplementing kidney and warming yang, supplementing qi to nourish blood

and warming and supplementing spleen yang.

Depending on the differentiation, the key treatment method is supplementing both spleen and kidney and if necessary, to replenish the lung, heart and liver. It is important that the replenishment treatment includes medicinals to promote transportation and transformation in order to avoid sluggishness of the spleen. At the same time, intensive care should be provided to improve the TCM curative effect.

In the event of serious complications, an integrative treatment approach using TCM and Western medicine should be adopted. The procedure is to treat complications (i.e. the branch) first, or both root and branch simultaneously. Once the complications have been resolved, treatment is focused on the root cause.

► Classification of Patterns and Treatments

Kidney Essence Weakness

Signs and Symptoms

Thin small physique and stature, widened fontanelle and a relatively large head circumference, sparse lighter colored scalp hair, soft thin auricles, unclearly defined fossae helices, low body temperature, low crying voice, languor and reluctance to move, soft short nails, weak bones and soft limbs; there may also be congenital defects and deformity, and faint fingerprints.

Pattern Differentiation

This is the most common pattern of fetal feebleness, usually seen in prematurely born infants, characterized by kidney deficiency and weak intrinsic essence. Since the kidney governs bones, opens to the ears and manifests outwardly in the hair, the pattern of weak kidney essence presents with obvious signs of impaired development of the physique, bones, auricle and hair.

Treatment Principles

Boost essence and replenish marrow, nourish kidney and warm yang

Formula

Modified *Bǔ Shèn Dì Huáng Wán*—Kidney-Supplementing Rehmannia Pill

紫河车	<i>zǐ hé chē</i>	2 g	Placenta Hominis
熟地黄	<i>shú dì huáng</i>	5 g	Radix Rehmanniae preparata
茯苓	<i>fú líng</i>	5 g	Poria
杜仲	<i>dù zhòng</i>	5 g	Cortex Eucommiae
枸杞子	<i>gǒu qǐ zǐ</i>	5 g	Fructus Lycii
鹿角胶	<i>lù jiǎo jiāo</i>	2 g	Colla Cornus Cervi (melted)
肉苁蓉	<i>ròu cōng róng</i>	5 g	Herba Cistanches
山药	<i>shān yào</i>	6 g	Rhizoma Dioscoreae

Formula Analysis

Zǐ hé chē (Placenta Hominis), *shú dì huáng* (Radix Rehmanniae preparata), *fú líng* (Poria), *dù zhòng* (Cortex Eucommiae) and *gǒu qǐ zǐ* (Fructus Lycii) boost the kidney and nourish marrow.

Lù jiǎo jiāo (Colla Cornus Cervi) and *ròu cōng róng* (Herba Cistanthes) warm yang and nourish the kidney.

Fú líng (Poria) and *shān yào* (Rhizoma Dioscoreae) fortify the spleen and replenish qi.

Modifications

For poor appetite, add *mài yá* (Fructus Hordei Germinatus) 6 g, *gǔ yá* (Millet Sprout) 6 g and *shā rén* (Fructus Amomi) 2 g to nourish the spleen and assist digestion.

For qi deficiency, add *huáng qí* (Radix Astragali) 8 g and *dǎng shēn* (Radix codonopsis) 5 g to boost qi.

For cold extremities, add *fù zǐ* (Radix Aconiti Lateralis Preparata) 2 g and *guì zhī* (Ramulus Cinnamomi) 2 g to warm yang qi.

For cyanotic lips and nails, add *dān shēn* (Radix Salviae Miltiorrhiae) 5 g and *hóng huā* (Flos Carthami) 3 g to invigorate blood and remove stasis.

Chinese Patent Medicines

a. *Shēn Mài Zhù Shè Yè*—Ginseng and Ophiopogon Injection

Injection dosage: mix 3 ml of the patent medicine in 50 ml of 10% glucose injection solution and administer by intravenous drip, once daily. Suitable for infants with qi and yin deficiency or exhaustion.

b. *Shēn Fù Zhù Shè Yè*—Ginseng and Aconite Injection

Injection dosage: mix 3 ml of the patent medicine in 50 ml of 10% glucose injection solution and administer by intravenous drip, once daily. Suitable for infants with yang qi deficiency and debility.

Tui na

Points	Repetitions	Methods
<i>Shèn jīng</i> (肾经)	200-300	Supplementing
<i>Pí jīng</i> (脾经)	200-300	Supplementing

Supplement *shèn jīng* 200-300 times and *pí jīng* 200-300 times.

1-2 times daily for 15 days as one treatment course.

Moxibustion

BL 23 (<i>shèn shù</i>)	RN 4 (<i>guān yuán</i>)	RN 6 (<i>qì hǎi</i>)
---------------------------	---------------------------	------------------------

Apply moxibustion on the above points using a moxa stick.

1-2 times daily for 15 days as one treatment course.

Spleen and Kidney Deficiency

Signs and Symptoms

These manifest as muscle wasting, flaccid thin limbs, lacking strength, flaccid mouth with poor suckling ability leading to inadequate ingestion of milk, choking and lactorrhea, belching and retching, abdominal distention and diarrhea, even with swelling, slightly yellow skin and eyes, a weak crying voice, somnolence, reluctance to move, and faint fingerprints.

Pattern Differentiation

Common among infants of small gestational age, multiple birth infants, and infants delivered by older or weak mothers. Since the spleen governs transportation and

transformation and also governs the muscles and four limbs, infants with spleen and kidney deficiency present with obvious symptoms of muscle deficiency along with signs of spleen and stomach failing to transport and transform.

Treatment Principles

Supplement qi and nourish blood, warm and invigorate spleen yang

Formula

Modified *Bǎo Yuán Tāng*—Original-Qi-Preserving Decoction

黄芪	<i>huáng qí</i>	8 g	Radix Astragali
人参	<i>rén shēn</i>	3 g	Radix Ginseng
茯苓	<i>fú líng</i>	5 g	Poria
白术	<i>bái zhú</i>	5 g	Rhizoma Atractylodis Macrocephalae
肉桂	<i>ròu guì</i>	1 g	Cortex Cinnamomi
干姜	<i>gān jiāng</i>	2 g	Rhizoma Zingiberis
陈皮	<i>chén pí</i>	2 g	Pericarpium Citri Reticulatae
甘草	<i>gān cǎo</i>	2 g	Radix Glycyrrhizae

Formula Analysis

Huáng qí (Radix Astragali), *rén shēn* (Radix Ginseng), *fú líng* (Poria) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) boost qi and fortify the spleen.

Ròu guì (Cortex Cinnamomi) and *gān jiāng* (Rhizoma Zingiberis) warm yang and help transportation.

Chén pí (Pericarpium Citri Reticulatae) and *gān cǎo* (Radix Glycyrrhizae) regulate qi and harmonize the middle *jiao*.

Modifications

For vomiting, add *bàn xià* (Rhizoma Pinelliae) 2 g and *shēng jiāng* (Rhizoma Zingiberis Recens) 2 g to harmonize the middle *jiao* and stop vomiting.

For diarrhea, remove *chén pí* (Pericarpium Citri Reticulatae) and add *shān yào* (Radix Rhizoma Dioscoreae) 5 g and *cāng zhú* (Rhizoma Atractylodis) 2 g to fortify the spleen and dry dampness.

For abdominal distention, add *mù xiāng* (Radix Aucklandiae) 2 g and *zhǐ qiào* (Fructus Aurantii) 3 g to move qi to relieve distending pain.

For excess phlegm, add *bàn xià* (Rhizoma Pinelliae) 2 g and *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae) 3 g to resolve phlegm.

For lung qi deficiency, add *huáng jīng* (Rhizoma Polygonati) 5 g, *rén shēn* (Radix Ginseng) 10 g and *huáng qí* (Radix Astragali) 10 g to replenish qi and tonify the spleen.

For heart qi deficiency, add *dāng guī* (Radix Angelicae Sinensis) 3 g, *mài dōng* (Radix Ophiopogonis) 5 g and *lóng gǔ* (Fossilia Ovis Mastodi) 10 g to nourish the heart and calm the mind.

For liver qi deficiency, add *shú dì huáng* (Radix Rehmanniae preparata) 5 g, *bái sháo* (Radix Paeoniae Alba) 3 g and *gǒu qǐ zǐ* (Cortex Eucommiae) 5 g to nourish liver yin.

For kidney qi deficiency, add *dù zhòng* (Cortex Eucommiae) 3 g, *shú dì huáng* (Radix Rehmanniae preparata) 5 g and *ròu cōng róng* (Herba Cistanches) 5 g to invigorate

kidney qi.

Chinese Patent Medicines

Shēng Mài Zhù Shè Yè—Pulse Engendering Injection

Dosage: mix 3 ml of the patent medicine in 50 ml of 10% glucose injection solution and administer by intravenous drip, once daily.

Suitable for infants with qi and yin deficiency.

Point Injection Therapy

Dān Shēn Zhù Shè Yè—Salvia Injection

Dosage: 0.3 ml injected into ST 36 (*zú sān lǐ*) on alternate days for 20 days as one course of treatment.

Acupuncture

BL 23 (*shèn shù*)

BL 20 (*pí shù*)

ST 36 (*zú sān lǐ*)

Needle with drainage; retain needles for 5 minutes or with no needle retention. Moxibustion may also be applied after acupuncture, or apply moxibustion alone without acupuncture. 1-2 times daily for 15 days as one course of treatment.

[WESTERN MEDICINE THERAPIES]

1. CONVENTIONAL MANAGEMENT

a. Maintain Body Temperature

Careful attention needs to be applied to using various ways to maintain and stabilize the body temperature (rectal temperature), keeping it in a range of 36.5-37.5°C.

b. Oxygenation

Oxygen should be given if infants present with cyanotic lips and dyspnea. However, oxygen must not be given long-term and the oxygen concentration should be kept between 30% and 40%.

c. Feeding

Gastrointestinal feeding should commence as soon as possible. Breastfeeding is recommended. Formula milk powder may also be used if the mother has insufficient milk or is unable to breastfeed.

d. Nutritional Supplements

Vitamin K1 should be given within 3 days after birth to prevent bleeding. Vitamins B and C should also be supplemented. Cod-liver oil should also be provided on the 10th day after birth and also iron supplements one month after birth. Premature infants weighing less than 1500 g should be given vitamin E for 2 months. Low birth weight infants with difficulty in suckling can be fed by partial or total intravenous nutritional feeding.

2. TREATMENT OF COMPLICATIONS

a. Hypoglycemia

Administer an intravenous infusion of 50% glucose injection as soon as possible; feed the infant every 3-4 hours.

b. Hypocalcemia

A diluted 10% calcium gluconate solution should be given intravenously and infused



slowly.

c. Infections

Carefully disinfect the baby's personal supplies; with any sign of bacterial infection, administer antibiotics immediately.

d. Other Treatments

Aminophylline should be administered to infants with apnea. Pulmonary surfactants can be used for infants with respiratory distress and if necessary, mechanical ventilation may also be used. Phototherapy can be used for infants with hyperbilirubinemia. For infants with polycythemia (high blood viscosity syndrome), exchange transfusions may be carried out.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) Routine prenatal check-ups are advised to monitor possible delayed intrauterine fetal growth. The diagnosis of intrauterine growth retardation, which in Chinese medicine is called "delayed fetal development", can usually be made before birth by accessing the history and physical growth of the fetus. Chinese medicine may be used to treat the pregnant mother to promote intrauterine development of a fetus found to have delayed growth.

(2) Serious adverse reactions during pregnancy must be actively treated. Gestational hypertension syndrome should also be prevented and controlled.

(3) The pregnant mother requires an adequate nutritional diet and needs to avoid infections. Work and rest should be appropriately balanced.

(4) The age of the parents should not be too old or too young.

2. NURSING CARE

(1) Infants with fetal feebleness are deficient in yang qi. Therefore, care must be taken to keep them warm. Various warming measures can be taken depending on the different conditions.

(2) Calculate the calorie requirements according to the infant's weight and age (by the number of days). Adopt breast feeding as much as possible and gradually increase their milk intake. Infants with swallowing dysfunctions should be fed by a gastric tube or by intravenous infusion of a nutritional formula.

(3) Maintain air freshness in the room, keep incubators and the baby's personal supplies aseptic.

[CASE STUDIES]

► Case #1

Male infant, 1 day old, gestational age 38 weeks. Born on 10/21/92.

The infant presented with an emaciated body, lethargy and a reluctance to move, low crying voice, poor suckling, and frequent vomiting of milk. On physical examination his weight was 2450 g, length 49 cm, his eyeballs had no agility, he had thin yellow hair, profuse lanugo, soft auricles, soft and short nails, his four limbs were not warm enough,

and there was a thin tongue coating.

The diagnosis was fetal feebleness and the pattern was insufficient natural endowment with kidney and spleen deficiency. The treatment principle was to fortify the spleen and supplement the kidney.

Formula

鹿角片	<i>lù jiǎo piàn</i>	20 g	Cornu Cervi
肉苁蓉	<i>ròu cōng róng</i>	20 g	Herba Cistanches
紫河车	<i>zǐ hé chē</i>	30 g	Placenta Hominis
人参	<i>rén shēn</i>	5 g	Radix Ginseng
麦芽	<i>mài yá</i>	30 g	Fructus Hordei Germinatus
砂仁	<i>shā rén</i>	5 g	Fructs Amomi

Boiled down and concentrated to 45 ml and kept refrigerated.

1.5 ml three times daily, to be taken warm.

On the second visit, after taking the Chinese medicinals for 1 month there were no adverse effects or complications. The patient had obviously improved in appetite, spirit, physical activities and physique with body weight increased to 3.8 kg and length to 50 cm. Thereafter, medication was discontinued and the patient was followed up over the next two and a half months until 2/2/93 when the infant reached a weight of 7.5 Kg (above the average for normal infants of the same age). The patient was in high spirits and had a good appetite with normal urination and bowel movements. All abnormalities had disappeared and he recovered fully.

Analysis

The etiology of fetal feebleness is congenital deficiency, and the pathomechanism is due to deficiency of the five *zang* organs, innate insufficiency, and deficiency of both kidney and spleen. Since the kidney is the root of the five organs and spleen is the foundation of acquired constitution, supplementing the spleen and kidney will enrich the source of qi and blood to ultimately improve the chances of normal development in infants with fetal feebleness.

In the formula, *rén shēn* (Radix Ginseng) powerfully nourishes original qi, fortifies the spleen, boosts qi, and consolidates the foundation of the acquired constitution.

Lù jiǎo piàn (Cornu Cervi) warms and supplements kidney yang and promotes *mìng mén* fire.

Zǐ hé chē (Placenta Hominis) nourishes essence and marrow.

Ròu cōng róng (Herba Cistanches) warms yang and strengthens qi.

Mài yá (Fructus Hordei Germinatus) and *shā rén* (Fructs Amomi) move the spleen and promote the appetite while decreasing the greasy and cloying properties of the other medicinals.

Source: Wang SC. An Explorative Analysis of Pattern Differentiation and Treatment of Fetal Feebleness. Journal of Nanjing University of Traditional Chinese Medicine [J]; 1994; (4):15

► Case #2

Male infant, 15 days old.

The infant presented with emaciation and a yellow complexion, weakness, languor, poor appetite, and a low crying voice. The diagnosis was fetal feebleness and the pattern was insufficient natural endowment with kidney and spleen deficiency. The treatment principle was to boost qi, fortify the spleen and supplement the kidney.

Formula

党参	<i>dǎng shēn</i>	5 g	Radix Codonopsis
茯苓	<i>fú líng</i>	3 g	Poria
桂枝	<i>guì zhī</i>	2 g	Ramulus Cinnamomi
附子	<i>fù zǐ</i>	1.5 g	Radix Aconiti Lateralis Preparata
枸杞子	<i>gǒu qǐ zǐ</i>	3 g	Radix Aconiti Lateralis Preparata

Boiled down to 45 ml and kept refrigerated.

1.5 ml three times daily, taken warm.

On the second visit, the patient's symptoms were visibly improved. A second dose was provided, at the end of which his appetite had greatly increased with sufficient qi and blood.

Analysis

This patient not only had prenatal insufficiency but there was also improper postnatal feeding. Due to insufficiency of congenital kidney essence, the spleen was not adequately nourished, leading to impaired functions of transportation and transformation and consequent under-nourishment of the five *zang* and six *fu*.

The pathogenesis in this case was mainly deficiency of both kidney and spleen. According to *The Complete Works of [Zhang] Jing-yue—on Pediatrics*, because it is extremely difficult to replenish congenital kidney essence after birth, the treatment principle for fetal feebleness should focus on nourishing the spleen and kidney. Therefore, in this case, replenishing the acquired constitution was the main method of treatment.

In the formula, *dǎng shēn* (Radix Codonopsis) boosts qi and invigorates the spleen.

Fú líng (Poria) fortifies the spleen and promotes appetite.

Guì zhī (Ramulus Cinnamomi) warms yang and unblocks the collaterals.

Fù zǐ (Radix Aconiti Lateralis Preparata) warms spleen and kidney yang.

Gǒu qǐ zǐ (Radix Aconiti Lateralis Preparata) supplements the kidney, nourishes yin, and counteracts the excess pungent and warm properties of the other medicinals.

The theme of this formula is through warming and nourishing of the spleen and kidney yang qi, it is possible to achieve the objectives of replenishing the acquired constitution while at the same time supplementing the prenatal insufficiency.

Source: Zhai ZT, Editor. Clinical Cases from the Elders of Huyue Village [M]. Zhengzhou: Henan Science and Technology Press; 1984: 75

[QUESTIONS]

1. A 12-hour-old prematurely born infant, 34 week gestational age, weight 2 Kg. The symptoms include: widened fontanelle and a relatively large head circumference, thin and soft ear auricles, body temperature too low, a low crying voice, and soft short nails. The tongue is red with a white coating and there are faint fingerprints.

What is the main *zang fu* organ involved in the pathogenesis?

- A. Heart B. Liver C. Spleen D. Lung E. Kidney

2. A 1-day-old male, prematurely born infant with a 32 week gestational age and weight of 1.8 Kg. He presents with a weak crying voice, languor, reluctance to move, sleepiness, cold and weak limbs, thin and soft ear auricles, sparse yellow hair, loose scrotum and undescended testicles. He had a pale tongue with thin coating.

What is the most appropriate treatment formula is?

- A. *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder
 B. *Fù Zǐ Lǐ Zhōng Wán*—Aconite Center-Regulating Pill
 C. *Liù Wèi Dì Huáng Wán*—Six-Ingredient Rehmannia Pill
 D. *Bǔ Shèn Dì Huáng Wán*—Kidney-Supplementing Rehmannia
 E. *Rén Shēn Yǎng Róng Tāng*—Ginseng Supporting and Nourishing Decoction

3. A 5-day-old child, gestational age of 39 weeks, one of twins, weight 2.1 Kg, 43 cm in length. There is poor suckling, choking and vomiting milk, difficult feeding, abdominal distension, light yellow skin and eyes, frequent sleeping, a reluctance to move, and faint fingerprints.

What is the most appropriate treatment formula?

- A. *Yì Gōng Sǎn*—Special Achievement Powder
 B. *Bǎo Yuán Tāng*—Original-Qi-Preserving Decoction
 C. *Zuǒ Guī Wán*—Left-Restoring Pill
 D. *Jì Shēng Shèn Qì Wán*—Life-Saving Kidney Qi Pill
 E. *Shí Quán Dà Bǔ Tāng*—Perfect Major Supplementation Decoction

[REFERENCES]

- [1] Lin-LM, Liu-LY, Zhang-XL, et al. Incidence of Low Birth Weight Infants in China in 1998: Distribution and Influencing Factors. *Chinese Journal of Child Health Care*; 2001, 9(4):217-220.
 [2] Dorling J, D'Amore A, Salt A, et al. Data Collection from Very Low Birth Weight Infants in a Geographical Region: Methods, Costs and Trends in Mortality, Admission Rates and Resource Utilization over a Five Year Period. *EARLY HUM. DEV*, 2006: 82(2):117-124.
 [3] Wang-SC, Yao-HL, Wang-MM. Clinical Research in Treatment of Fetal Feebleness by Fortifying Spleen and Supplementing Kidney. *Journal of Nanjing University of Traditional Chinese Medicine*; 1999, 15(5):276-278.

Chapter 41

Sclerema Neonatorum

Sclerema neonatorum or neonatal scleredema (*yìng zhǒng zhèng*) is a serious condition that develops specifically during the neonatal period due to a variety of causes. The syndrome is clinically characterized by hardening and edema of the skin and subcutaneous adipose tissue, often accompanied by low body temperature and multiple organ dysfunctions. Where there is only skin hardening but no swelling, this is called neonatal sebum sclerosis. If only due to cold stress, it is called neonatal cold injury syndrome.

This problem is a common disorder in the neonatal period. The incidence of sclerema neonatorum in China is 6.8%, particularly high in colder regions.^[1] Chinese statistics show that sclerema neonatorum or neonatal scleredema accounts for 11.48% of neonatal inpatients as the third cause of newborns becoming hospitalized and the second most common cause of neonatal death.^[2-3]

Sclerema neonatorum is most common in the winter and spring seasons. A cold climate is one of the etiological factors, so higher incidence is found in frigid and temperate zones. It can also occur in summer in compromised premature infants or in those with a severe illness. Epidemiological studies indicate that premature birth, low birth weight, cold, infections and asphyxia are the leading causes of sclerema neonatorum. Depending on which season it occurs, neonatal scleredema can present with different clinical syndromes. The prognosis of sclerema neonatorum is relatively poor as the developing condition can be complicated by pneumonia and sepsis; severe cases can have pulmonary hemorrhaging, which can be fatal.

Integrated traditional Chinese and Western Medicine methods have obtained good clinical results in treating sclerema neonatorum in recent years through a variety treatment methods including oral, topical and intravenous administration. The main TCM treatment principles involve boosting qi, warming yang, dissipating cold, invigorating blood, dissolving stasis and unblocking the collaterals.

In 20 infants with sclerema neonatorum, Chen Kuan-hou et al. applied *Wēn Jīng Huó Xuè Tāng*—Warm Channels Invigorate Blood Decoction, consisting of *dāng guī* (Radix Angelicae Sinensis), *dān shēn* (Radix Salviae Miltiorrhizae), *hóng huā* (Flos Carthami), *guì zhī* (Ramulus Cinnamomi), *gān jiāng* (Rhizoma Zingiberis Officinalis), *wú zhū yú* (Evodia rutaecarpa Benth), *fú líng* (Poria), *rén shēn* (Radix Ginseng) and *huáng qí* (Radix Astragali). The control and test groups were both given re-warming, anti-infection and general support treatment. Results: the average hospital stay in the test group was 3.1 days, and 5.3 days in the control group.^[4]

Xie Si-huang applied *Guì Zhī Shēng Mài Wǔ Líng Sǎn*—Cinnamon Twig Pulse-Engendering Five Substances Powder With Poria in the treatment of 50 infants with sclerema neonatorum; results were compared with a control group of 50 cases. The formula contained *huáng qí* (Radix Astragali), *xī yáng shēn* (Panax Quinquefolium L.), *mài dōng* (Radix Ophiopogonis), *wǔ wèi zǐ* (Fructus Schizandrae Chinensis), *guì zhī* (Ramulus Cinnamomi), *bái zhú* (Rhizoma Atractylodes Macrocephalae), *zé xiè* (Rhizoma Alisma Orientalitis), *fú líng* (Poria), *zhì gān cǎo* (prepared Radix Glycyrrhizae), and *zhì fù zǐ* (Radix Aconiti).

Lateralis Preparata). Both groups were given standard re-warming, fluid replacement and symptomatic treatments. Results: For the number of days taken to dissipate the hardened and swollen skin, the treatment group time was markedly shorter than the control group ($P < 0.01$).

With reference to the occurrence of complications, the treatment group was obviously less than the control group ($P < 0.05$). This indicated that general re-warming, re-hydration and symptomatic treatment accompanied with *Guì Zhī Shēng Mài Wǔ Líng Sǎn* can shorten the course of sclerema neonatorum, and reduce the incidence of complications.^[5]

Mao Mei-xian applied *Wēn Jīng Huó Xuè Yóu Gāo*—Warm the Channels and Invigorate Blood Ointment, which included *dāng guī* (Radix Angelicae Sinensis), *chuān xiōng* (Rhizoma Chuanxiong), *chì sháo* (Radix Paeoniae Rubra), *tòu gǔ cǎo* (Caulis Impatiens), *dīng xiāng* (Flos Caryophylli), *zhì chuān wū* (Radix Aconiti Preparata), *mò yào* (Myrrha), *rǔ xiāng* (Olibanum), *ròu guì* (Cortex Cinnamomi) and Vaseline, also combined with intravenous drip *Dān Shēn Injection*—*Salvia Miltiorrhiza Injection* in the treatment of 48 cases of sclerema neonatorum. Both groups used re-warming, heat-support, liquid supply, and anti-infection therapy. Results: the duration of skin hardening and swelling dissipated in the treatment group in (3.95 ± 0.25) days, with (5.25 ± 0.38) days in the control group. The results of the two groups showed a statistical significance ($P < 0.01$).^[6]

[ETIOLOGY & PATHOMECHANISM]

Newborn infants have generally insufficient yang and yin qi, especially when born prematurely, with congenital deficiency or weak yang qi; poor nursing also causes greater susceptibility to cold pathogens. Cold is a yin pathogen that easily impairs yang qi. When newborn infants with congenital deficiency are affected by cold, the organs are attacked directly which leads to coagulation and cold obstruction with qi stagnation and blood stasis. Some infants may also be invaded by warm-heat pathogens. The pathological location is the spleen and kidney, while the main pathogenesis involves yang qi deficiency, cold coagulation and blood stasis.

Pathogenic Cold

When infants do not receive proper nursing to restore their body temperature after birth, they are easily affected by cold pathogens which impair spleen and kidney yang; other diseases can also impair yang qi and lead to coagulation and cold obstruction. Cold coagulation results in qi stagnation and blood stasis that manifests with dark purple hardened skin and cyanotic lips, nails and extremities.

Spleen yang deficiency causes transportation and transformation disorders with water-dampness retention that leads to visible edema.

As striae and interstices are invaded by cold pathogens, there is failure of lung qi to disperse with disharmony of muscle and skin which leads to skin hardening and swelling.

Kidney Yang Deficiency

Spleen and kidney yang qi can be impaired due to congenital deficiency with yang qi deficiency or failure, or direct attack on the organs by cold pathogens. Because of a kidney yang deficiency, the yang qi cannot warm the skin and muscles or nourish the extremities. Yang deficiency leads to internal cold, and cold leads to qi stagnation and blood stasis resulting in skin stiffness with a dark purple color and cyanosis of the lips, nails and

extremities.

In severe cases, there is blood stasis in the superficial venules and lymph vessels where blood fails to circulate in the vessels and extravasate as bleeding. Extreme yang qi deficiency with unresisting healthy qi can lead to symptoms of breathing weakness and coldness of the whole body. The pulse is so weak as to be almost imperceptible.

A minority of infants can be invaded by warm-heat pathogens which lead to toxic-heat accumulation with qi consumption and fluid damage which leads to insufficient blood supply in the vessels. Internal heat can scorch the blood which leads to impaired flow of qi and blood with skin and muscle malnourishment that causes skin hardening and swelling.

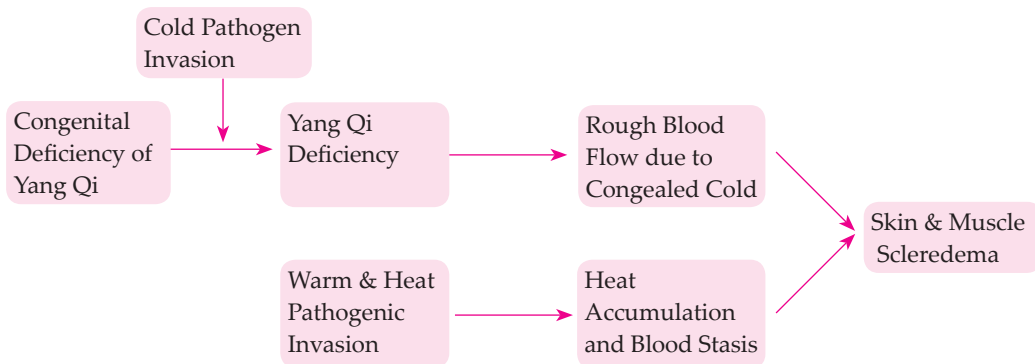


Fig. 41-1 Etiology and Pathomechanisms of Sclerema Neonatorum

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

a. History

Occurring mostly during the cold season, there can be a history of a very low environmental temperature or improper methods of keeping warm, or a history of illness with a severe infection. Affects premature or underdeveloped infants, as well as those with birth trauma, asphyxia, or inadequate nourishment.

b. Clinical Manifestations

At the early stage, the infants with neonatal scleredema may present with a failure to suckle, crying in a low voice, and poor reactions. As the disease progresses, the body temperature falls below 35°C, even lower than 30°C in severe cases. The temperature difference between the rectal and axillary temperatures (Tr-Ta Difference) changes from a negative value to positive value. As the newborn's body heat is generated by non-shivering thermogenesis and mainly involves from the brown adipose tissue, with adequate thermogenesis the axillary temperature is higher than the rectal temperature. With failure of thermogenesis, the axillary temperature will be lower than the rectal temperature. Low body temperature may not appear in the summertime nor in those infants with infection.

The skin hardening and swollen lesions begin on the buttocks, symmetrically progressing to the thighs, lower limbs, cheeks, upper limbs, back, abdomen and chest. The skin is characteristically smooth, cool, tense, and mottled; it cannot be pitted, pinched into folds, or lifted easily. In severe cases, the limbs become stiff and immovable. There can be rapid deterioration with multiple organ damage including shock, heart failure,

disseminated intravascular coagulation (DIC), pulmonary hemorrhage, and renal failure.

c. Laboratory Examinations

Blood neutrophils rise and platelets decrease (thrombocytopenia). Hypoxia and acidosis cause blood PH values to decrease; PaO₂ is lowered, and PCO₂ is elevated. Coagulation function may be abnormal, and ECG abnormalities can be found when there is cardiac damage.

d. Scale Divisions of Disease

See Table 41-1.

Table 41-1 Scale Divisions of Sclerema Neonatorum/Neonatal Scleredema

Degree	Lesion Involved Area	Body Temperature (°C)	Tr-Ta Differences	Organ Function Change
Mild	< 20%	≥ 34	Negative	No change or mild dysfunction
Moderate	20%-50%	< 34	0 or positive	Obvious functional impairment
Severe	> 50%	< 30	Positive	Functional failure, DIC, pneumonorrhagia

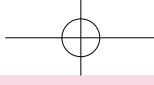
Note: Estimations for the lesion involved areas are: head and neck 20%, upper limbs 18%, anterior chest and abdomen 14%, back and lumbar-sacral areas 14%, buttocks 8%, and lower limbs 26%.

► Differential Diagnosis

Sclerema neonatorum/neonatal scleredema should be differentiated from edema neonatorum and subcutaneous gangrene in newborns. See Table 41-2.

Table 41-2 Differential Diagnoses of Sclerema Neonatorum, Edema Neonatorum and Subcutaneous Gangrene in Newborns

	Sclerema Neonatorum	Edema Neonatorum	Subcutaneous Gangrene in Newborns
Edema	Possible	Yes	No
Skin & Extremities	Symmetrical skin hardening & swelling progressively involving buttocks, lower limbs, cheeks, upper limbs, back, abdomen & chest. Limb stiffness & immovability in severe cases	Skin swelling without hardening	Prone to occur on pressured parts of the body. Affected skin area becomes hardened, red and swollen. Lesion center first hardens then softens, with necrosis and ulcers. Skin lesions become confluent into a large gangrenous area
Body Temperature	Normal or low	Normal in most cases	High
Season	Common in the cold season	No significant seasonal distribution	Common in the cold season



Continued

	Sclerema Neonatorum	Edema Neonatorum	Subcutaneous Gangrene in Newborns
Case History & Primary Disease	Improper nursing, cold environments, infection	Congenital heart disease, congenital malnutrition, congenital beriberi, neonatal hemolytic disease, etc.	Possible history of difficult labor or forceps delivery

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

The main point is to differentiate sclerema neonatorum according to patterns involving deficiency, excess, cold, and blood stasis. The severity may be differentiated according to the areas of swollen and hardened skin, body temperature, and Tr-Ta differences.

Deficiency mainly refers to weakness and deficiencies of spleen and kidney yang qi. Cold refers to invasion by yin-cold pathogens. Blood stasis refers to uneven movement of qi and blood. The natures of the deficiency, cold and blood stasis patterns are not fixed, and they often transform into each other.

A cold pattern is the most common clinical manifestation in infants with sclerema neonatorum; the pattern is characterized by a low body temperature, hard swollen skin, and lying still with a somewhat rigid body.

An excess pattern often involves invasion of cold pathogens with a history of cold exposure; the pattern is characterized by a slightly lower body temperature and a small area of lesions. Deficiency patterns often involve weak and deficient yang qi; the pattern is characterized by a low body temperature and larger lesions areas. Spleen and kidney yang qi deficiency pattern is a more severe pattern characterized by whole-body cold, lying still with a rigid body and a poor response to stimulus.

Blood stagnation due to congealing cold is usually a mild pattern characterized by normal general responses, slight cold of the whole body with cold extremities and mild hardening and swelling of the skin.

Some cases are caused by accumulation of abundant toxic-heat and consumption of body fluids and qi. If the infant develops a bluish complexion, convulsions, hardening of the epigastria and abdomen and bleeding from the mouth and nose, this is a critical life-threatening condition.

► Treatment Principles

The basic principle of treatment for sclerema neonatorum is to warm yang, dissipate cold, invigorate blood and dissolve stasis. Based on different clinical syndromes, patients with a yang deficiency should be treated by warming and supplementing the spleen and kidney. Recovery of spleen and kidney yang qi can prevent invasion by cold pathogens.

Patients with excessive cold should be treated by dissipating cold and unblocking yang; dispersing cold acts to unblock yang qi.

Patients with blood stasis should be treated by moving qi and invigorating blood;

moving qi and blood can remove the blood stasis.

Accumulated heat-toxin patterns should be treated by clearing heat, resolving toxins and removing blood stasis.

Treatment should be combined with re-warming therapy in conjunction with both internal and external treatments including external applications. In severe cases, combined treatments of traditional Chinese and Western medicine can reduce morbidity.

► Classification of Patterns and Treatments

Congeaed Cold and Blood Stagnation

Signs and Symptoms

Manifestations include a cool body and extremities where responses to the environment are normal; there is often crying in a low voice. There is edema with hardened skin and muscles, with skin that is difficult to pinch. The lesions are mostly limited to the buttocks, arms and cheeks, with dark red mottled skin or swellings like frostbite. The finger venules are red and stagnated.

Pattern Differentiation

This relatively mild pattern often occurs in winter in those with a congenitally weak constitution and yang qi deficiency, or those attacked by external cold. The main clinical manifestation is cold of the whole body, qi stagnation and blood stasis. The affected area is relatively circumscribed.

Treatment Principles

Warm the channels and dissipate cold, invigorate blood and unblock the collaterals

Formula

Modified *Dāng Guī Sì Nì Tāng*—Chinese Angelica Frigid Extremities Decoction

当归	<i>dāng guī</i>	3 g	Radix Angelicae Sinensis
桃仁	<i>táo rén</i>	2 g	Semen Persicae
红花	<i>hóng huā</i>	2 g	Flos Carthami
白芍	<i>bái sháo</i>	5 g	Radix Paeoniae Alba
桂枝	<i>guì zhī</i>	2 g	Ramulus Cinnamomi
细辛	<i>xì xīn</i>	0.5 g	Radix et Rhizoma Asari
川芎	<i>chuān xiōng</i>	3 g	Rhizoma Chuanxiong
丹参	<i>dān shēn</i>	5 g	Radix et Rhizoma Salviae Miltiorrhizae

Formula Analysis

Dāng guī (Radix Angelicae Sinensis), *táo rén* (Semen Persicae), *hóng huā* (Flos Carthami), *chuān xiōng* (Rhizoma Chuanxiong) and *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) invigorate blood and dissolve stasis.

Guì zhī (Ramulus Cinnamomi) and *xì xīn* (Radix et Rhizoma Asari) warm the channels, unblock yang and dissipate cold.

Bái sháo (Radix Paeoniae Alba) invigorates and harmonizes blood and prevents over-dispersion from other medicinals in the formula.

Modifications

For severe cold, add *zhì fù zǐ* (prepared Radix Aconiti Lateralis Praeparata) 2 g and *gān jiāng* (Zingiberis rhizoma) 2 g to disperse cold.

For severely taught and swollen scleredema, add *yù jīn* (Radix Curcumae) 5 g and *jī xuè téng* (Caulis Spatholobi) 5 g to invigorate blood and dissolve stasis.

For extreme deficiency, add *rén shēn* (Radix Ginseng) 5 g and *huáng qí* (Radix Astragali) 5 g to boost qi and supplement deficiency.

Chinese Patent Medicines

a. *Shēn Fù Zhù Shè Yè*—Radix Ginseng and Aconite Injection.

5 ml, diluted with 10% glucose injection 50 ml, administer by intravenous drip infusion, once daily. For infants with yang qi deficiency and weakness.

b. *Fù Fāng Dān Shēn Zhù Shè Yè*—Compound Danshen Injection.

5 ml, diluted with 10% glucose injection 50 ml, administer by intravenous drip infusion, once or twice daily. For all blood stasis patterns.

External Therapy

Use *shēng jiāng* (Rhizoma Zingiberis Recens) 30 g, *shēng cōng* (Allium Fistulosum, raw scallion) 30 g and *dàn dòu chǐ* (Semen Sojae Praeparata) 30 g. Mash, mix and stir-fry with wine; apply as a hot compress.

Tuī na

Use *Wàn Huā Yóu*—Thousand Flowers Oil consisting of *hóng huā* (Flos Carthami), *dú huó* (Radix Angelicae Pubescentis) and *sān léng* (Rhizoma Sparganii); apply with rubbing and effleurage.

Apply once or twice daily, with 5 days as one treatment course.

Moxibustion

Use mild warming moxibustion with a moxa stick on the affected regions once or twice daily. 5 days as one treatment course.

Yang Qi Deficiency and Weakness

Signs and Symptoms:

Manifestations include a cold body, lying still and rigid, lethargy, very poor reactions, extremely weak breathing, crying with a low forceless voice, difficult suckling, a pallid complexion, stiff skin and muscles with edema spreading to the whole body, dark red skin, oliguria or anuresis, pale tongue and lips, and light red indistinct finger venules.

Pattern Differentiation

Most cases with this pattern are in severe conditions, most prevalent in premature and low birth weight infants. There are large areas of swollen and hardened skin and severe general symptoms because of yang qi deficiency and weakness with wind-cold coagulation and stagnation. When yang qi fails to prevent pathogenic invasion, critical conditions can appear such as pneumonia; pneumonorrhagia can also result from yang qi deficiency cold with failure to contain blood within the vessels.

Treatment Principles

Boost qi and warm yang, harmonize qi and blood

Formula

Modified *Shēn Fù Tāng*—Ginseng and Aconite Decoction

人參	<i>rén shēn</i>	3 g	Radix Ginseng
黃芪	<i>huáng qí</i>	5 g	Radix Astragali

制附子	<i>zhì fù zǐ</i>	2 g	Radix Aconiti Lateralis Praeparata
巴戟天	<i>bā jǐ tiān</i>	3 g	Radix Morindae Officinalis
桂枝	<i>guì zhī</i>	2 g	Ramulus Cinnamomi
丹参	<i>dān shēn</i>	5 g	Radix et Rhizoma Salviae Miltiorrhiae
当归	<i>dāng guī</i>	3 g	Radix Angelicae Sinensis

Formula Analysis

Huáng qí (Radix Astragali) and *rén shēn* (Radix Ginseng) boost qi and supplement deficiency.

Zhì fù zǐ (Radix Aconiti Lateralis Praeparata) and *bā jǐ tiān* (Radix Morindae Officinalis) warm and supplement kidney yang.

Guì zhī (Ramulus Cinnamomi), *dān shēn* (Radix Salviae Miltiorrhiae) and *dāng guī* (Radix Angelicae Sinensis) warm the channels and invigorate blood.

Modifications

For frothy salivation and irregular breathing, add *jiāng cán* (Bombyx Batryticatus) 2 g, *shí chāng pú* (Rhizoma Acori Talarinowii) 5 g and *yù jīn* (Radix Curcumae) 5 g to dispel wind and dissolve phlegm.

For difficult urination, add *fú líng* (Poria) 5 g and *zhū líng* (Polyporus) 5 g.

For blood stasis, add *táo rén* (Semen Persicae) 2 g, *hóng huā* (Flos Carthami) 2 g and *chì sháo* (Radix Paeoniae Rubra) 5 g to invigorate blood and dissolve stasis.

Chinese Patent Medicines

a. *Shēng Mài Zhù Shè Yè*—Pulse-Activating Injection.

5 ml, diluted with 10% glucose injection 50 ml, administer by intravenous drip infusion, once daily. For patterns of qi and yin deficiency.

b. *Yán Suān Chuān Xiōng Qín Zhù Shè Yè*—Ligustrazine Hydrochloride Injection

Apply 2-4 mg/kg, diluted with 10% glucose injection 50 ml. Administer by intravenous drip infusion, once or twice daily. For all blood stasis patterns.

External Therapy

Wēn Jīng Huó Xuè Yóu Gāo—Warm Channels Invigorate Blood Ointment

当归	<i>dāng guī</i>	Radix Angelicae Sinensis
川芎	<i>chuān xiōng</i>	Rhizoma Chuanxiong
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
透骨草	<i>tòu gǔ cǎo</i>	Caulis Impatiensis
丁香	<i>dīng xiāng</i>	Flos Caryophylli
制川乌	<i>zhì chuān wū</i>	Radix Aconiti Praeparata
没药	<i>mò yào</i>	Myrrha
乳香	<i>rǔ xiāng</i>	Olibanum
肉桂	<i>ròu guì</i>	Cortex Cinnamomi
凡士林	<i>fán shì lín</i>	Vaseline



Warm the ointment, apply topically on the lesion area, and gently massage for 10-15 minutes. Apply once or twice daily; it must be heated before use, especially in winter.^[6]

[WESTERN MEDICINE THERAPIES]

1. ROUTINE TREATMENT

a. Re-warming Therapy: Re-warming is an important treatment measure that can be employed in many different ways. To help the temperature recover gradually, infants with mild conditions should be placed in a 26-28°C ambient temperature with hot water bottles. Infants with severe conditions should be placed in a 26-28°C ambient temperature first, then relocated to a 28°C incubator in which the temperature is increased by 1°C every hour until the body temperature reaches around 36.5°C; the temperature of the incubator is then maintained. The body temperature in mild or moderate cases should return to normal within 6-12 hours, and within 12-24 hours in severe cases.

b. Ensure sufficient nutrition and fluid supply which should be provided gradually during the body temperature restoration. Breast-feeding should also be started as soon as possible. Infants with suckling difficulty may be given glucose, amino acids and fat emulsion (Intralipid) by nasogastric feeding or intravenously. The caloric supply begins from 209 KJ (50 Kcal) /kg/day and quickly increases to 418-502 KJ (100-120 Kcal) /kg/day.

c. Because the disease is often accompanied by infection, antibiotics should be used as necessary.

2. TREATMENT OF COMPLICATIONS

a. Circulatory disturbance: For volume expansion therapy, use a 2:1 solution first, followed by fluids of 1/3 or 1/4 tonicity. To correct acidosis, use 5% sodium bicarbonate solution diluted as an isotonic solution by intravenous drip infusion. If necessary, vasoactive drugs such as dopamine, phentolamine and anisodamine (654-2) can be applied by intravenous infusion.

b. DIC (disseminated intravascular coagulation): When DIC and hypercoagulative states are confirmed, heparin should be applied immediately. Plasma and clotting factors can be infused if the clotting factors are severely depleted.

c. Acute renal failure: The fluid balance of the patient should be strictly controlled. Furosemide is used when there is oliguresis or anuresis. If the condition does not improve, dopamine or aminophylline may be administered by intravenous drip. Dialysis may be applied if necessary.

d. Pulmonary hemorrhage: After the diagnosis is confirmed, endotracheal intubation with positive pressure ventilation therapy should be applied as soon as possible.

[PREVENTION AND NURSING CARE]

1. PREVENTION

a. Observe maternal healthcare to help avoid premature birth and low birth weight infants; provide preventive measures and prompt treatment for birth trauma or asphyxia.

b. Keep the newborn infant warm during cold weather by maintaining the delivery room temperature at about 20°C.

c. The condition of the skin and subcutaneous fat should be checked within one week after birth. Strengthen disinfection and isolation to prevent neonatal infection.

2. NURSING CARE

a. Keep premature infants and congenitally weak infants warm. A sufficient nutritional supply can promote recovery; with impaired suckling use nasal feeding, tube-dropper feeding, or intravenous nutrition as necessary.

b. Pay attention to disinfection and isolation to prevent cross-infection.

c. Maintain soft dry clothing and diapers to prevent complications; change sleeping postures regularly.

[CASE STUDIES]

► Case #1

Male, age 13 days.

The patient presented with hardening of the skin on the lower limbs six days after birth. Although he had been treated for a few days with acupuncture and external medicinal washes, the symptom worsened. His temperature was 35°C. The skin on his cheeks, four limbs and buttocks was hard, bluish-purple and cool. He cried with a low forceless voice, with shallow and weak breathing. The tongue was pale, and the finger venules were blue. He was diagnosed with sclerema neonatorum due to kidney yang deficiency, cold coagulation and blood stasis. The treatment principle was to warm yang, supplement the kidney, invigorate blood and dissolve stasis.

Formula

熟附子	<i>shú fù zǐ</i>	6 g	Radix Aconiti Lateralis Praeparata
黄芪	<i>huáng qí</i>	6 g	Radix Astragali
桂枝	<i>guì zhī</i>	3 g	Ramulus Cinnamomi
当归	<i>dāng guī</i>	3 g	Radix Angelicae Sinensis
丹参	<i>dān shēn</i>	3 g	Radix Salviae Miltiorrhiae
熟地黄	<i>shú dì huáng</i>	5 g	Radix Rehmanniae preparata
巴戟天	<i>bā jǐ tiān</i>	5 g	Radix Morindae Officinalis
鹿茸	<i>lù róng</i>	0.3 g	Cornu Cervi Pantotrichum (ground to fine powder, mixed with water)
川芎	<i>chuān xiōng</i>	1.5 g	Rhizoma Chuanxiong

9 doses.

Decocted with water and given frequently in small amounts. Treatment also included re-warming therapy.

The condition was resolved by the second visit after taking 9 doses.

Analysis

The constitution of the child involved congenital deficiency and kidney yang insufficiency, and the pathogenesis involved cold-dampness aggregation, qi stagnation and blood stasis. For patterns of cold, deficiency and blood stasis, the treatment principle is to warm the kidney and fortify the spleen to treat the root, and to warm yang and invigorate the blood to treat the branch.

Shú fù zǐ (Radix Aconiti Lateralis Praeparata), *bā jǐ tiān* (Radix Morindae Officinalis) and *lù róng* (Cornu Cervi Pantotrichum) supplement the kidney and warm yang.

Huáng qí (Radix Astragali) supplements yang qi and improves blood circulation.

Guì zhī (Ramulus Cinnamomi), *dāng guī* (Radix Angelicae Sinensis), *dān shēn* (Radix Salviae Miltiorrhiae), and *chuān xiōng* (Rhizoma Chuanxiong) warm the channels, invigorate blood, and unblock the collaterals.

The formula effectively treated the root and branch simultaneously; the combined treatment with Chinese medicinals and re-warming therapy achieved a satisfactory therapeutic effect.

Source: Zheng QZ. Treatment of Sclerema Neonatorum Cases [J]. Zhejiang Journal of Traditional Chinese Medicine; 1980: 15 (10): 465

► Case #2

Female, age 11 days

The infant was born at term by caesarean section, and hospitalized due to a fever for one day with neonatal scleredema presenting with hardening and edema of the skin for 4 days. She was treated with antibiotics, re-warming therapy, nutritional supplementation, intravenous infusion of dipyrindamole, Compound Danshen Injection, and scopolamine. Although the infection was controlled, the signs of skin hardening and edema worsened significantly. Her body was cool, and she was crying with a forceless voice with shallow and weak breathing. There was a pale complexion, sputum in the throat, and the skin on the perineum, buttocks, and thighs was dark purple with hardening and swelling. Her tongue was pale; the finger venules were dark red.

The patient was diagnosed with sclerema neonatorum due to congenital deficiency and invasion by external pathogens resulting in stagnation of qi and blood. The treatment principle was to warm the channels, dissipate cold, invigorate blood, unblock the collaterals, and dissolve phlegm.

Formula

当归	<i>dāng guī</i>	10 g	Radix Angelicae Sinensis
桂枝	<i>guì zhī</i>	2 g	Ramulus Cinnamomi
赤芍	<i>chì sháo</i>	1 g	Radix Paeoniae Rubra
细辛	<i>xì xīn</i>	1 g	Herba Asari
川贝母	<i>chuān bèi mǔ</i>	3 g	Bulbus Fritillariae Cirrhosae
薏苡仁	<i>yì yǐ rén</i>	1 g	Semen Coicis
牛膝	<i>niú xī</i>	1 g	Radix Acanthopanax Bidentatae

丹参	<i>dān shēn</i>	1 g	Radix Salviae Miltiorrhiae
黄芪	<i>huáng qí</i>	1 g	Radix Astragali
炙甘草	<i>zhì gān cǎo</i>	3 g	prepared Radix Glycyrrhizae
白术	<i>bái zhú</i>	10 g	Rhizoma Atractylodis Macrocephalae
红枣	<i>hóng zǎo</i>	2 pieces	Fructus Jujubae

2 doses.

Decocted and concentrated to 30 ml, divided into 2 portions of 15 ml each.

After 2 doses, the signs and symptoms were improved at the second visit. After 8 doses, she was completely recovered and thus discharged.

Analysis

One feature of newborns is that yang qi and yin qi are both generally insufficient. Cold pathogens belong to yin and are thus apt to damage yang qi. Although the infection was controlled by antibiotic treatment and re-warming in this case, the hardened and swollen skin was exacerbated due to yang qi hypofunction. The selected formula was a modification of *Dāng Guī Sì Nì Tāng*—Chinese Angelica Frigid Extrimities Decoction.

Dāng guī (Radix Angelicae Sinensis), *dān shēn* (Radix Salviae Miltiorrhiae), *chì sháo* (Radix Paeoniae Rubra) and *niú xī* (Radix Acanthopanax Bidentatae) invigorate blood and dissolve stasis.

Guì zhī (Ramulus Cinnamomi) and *xì xīn* (Herba Asari) warm the channels and dissipate cold.

Huáng qí (Radix Astragali), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *zhì gān cǎo* (prepared Radix Glycyrrhizae) and *dà zǎo* (Fructus Jujubae) boost qi and fortify the spleen.

Chuān bèi mǔ (Bulbus Fritillariae Cirrhosae) and *yì yǐ rén* (Semen Coicis) fortify the spleen, dissolve phlegm and dry dampness.

Source: Xu LS. 2 Cases of Scleredema Neonatorum [J]. Jiangsu Journal of Traditional Chinese Medicine; 1988: 9(7):10

[QUESTIONS]

1. A 3-day-old infant presents with a cool body and extremities. There are normal responses, but there is crying with a weak voice. The skin is hard, swollen and is difficult to pinch and lift. The affected area is located on the buttocks and lower legs with a dark red and bluish-purple color. The finger venules are dark purple.

Which of the following treatment principles should be applied?

- Boost qi and warm yang, unblock the channels and invigorate blood.
- Warm channels and dissipate cold, invigorate blood and unblock the collaterals.
- Boost qi and warm yang, promote urination and alleviate edema.
- Fortify the spleen and boost qi, warm channels and unblock the collaterals.
- Fortify the spleen and boost qi, promote urination and relieve swelling.



2. Which of the following is the correct treatment principle for sclerema neonatorum or neonatal scleredema?

- A. Boost qi and warm yang, invigorate blood and unblock the collaterals.
- B. Invigorate blood and dissolve stasis, soften hardness and relieve swelling.
- C. Promote urination, alleviate edema, invigorate blood and unblock the collaterals.
- D. Fortify the spleen and kidney, promote urination, and alleviate edema.
- E. Scatter wind and promote urination, dissipate masses, and reduce swelling.

3. A 3-day-old infant has skin and subcutaneous tissue hardening and swelling with temperature of 33°C, no crying, poor responses, and poor feeding. Breathing rate: 52 times/min.

Which of the following is the most important nursing measure?

- A. Re-warming B. Solarization C. Ventilation D. Moxibustion E. Massage

[REFERENCES]

- [1] Ji XC, Zhu CS, Pang RY, et al. Epidemiological Survey of Sclerema Neonatorum. [J]. Chinese Journal of Pediatrics; 1992, 30 (6): 340-342.
- [2] Li XL, Fan YL, Zhang LX, et al. Related Factors in Alpine Region Study Effecting Incidence and Prognosis of Sclerema Neonatorum. [J]. Journal of Neonate; 1997, 12 (1): 28-31.
- [3] Song XQ, Cui QH. Survey of Morbidity and Causes in Newborns. Shaanxi Medical Journal; 2006, 35 (1): 123-124.
- [4] Chen KH, He AP. Observations of the Curative Effects of Wenjing Huoxue Decoction and Heparin Sodium Cream in the Treatment of Neonatal Scleredema. [J]. Chinese Journal of Rural Medicine and Pharmacy; 2005, 12 (8): 44.
- [5] Xie SH. Analysis of the Efficacy of Guizhi Shengmai Wuling Powder in Treatment of Severe Sclerema Neonatorum. [J]. Journal of Guangdong Medical College; 2007, 25 (1): 57-58.
- [6] Mao MX. Clinical Analysis of Wenjing Huoxue Ointment in Treating 48 Cases of Sclerema Neonatorum. [J]. Journal of Zhejiang University of Traditional Chinese Medicine; 2009, 33 (1): 97.



Chapter 42

Neonatal Jaundice (*Tāi Huáng*)

Neonatal jaundice is a disorder characterized by a yellow discoloration of the skin, mucous membranes and whites of the eyes (sclera) in a newborn infant. It is called *tāi huáng* (yellow fetus) or *tāi dǎn* (jaundiced fetus) in Chinese medicine, and is closely linked to the source of fetal endowment. Western medicine refers to this condition as icterus neonatorum or newborn jaundice. Neonatal jaundice is classified into two types: physiological jaundice and pathological jaundice, which encompasses a large variety of diseases and physiological variations involving the increased serum bilirubin in neonates.

Neonatal jaundice is the most common condition in infants during the neonatal period, rating about 50% in full-term infants and approximately 80% in premature infants.^[1] It is essential to distinguish between physiological and pathological conditions in neonatal jaundice.

Physiological jaundice is usually detectable with clinical icterus 2-3 days after birth. In full-term infants it may remain for up to 12 days and often disappears spontaneously within 10-14 days. In premature infants it remains for a longer duration and they may not achieve normal bilirubin until the second month of life. At the same time, although there is jaundice, the newborn infants' general condition, appetite, urination and bowel movements are normal.

The diagnosis of physiological jaundice may be considered in any newborn with mild unconjugated hyperbilirubinemia, but this is only established after excluding the known causes of neonatal jaundice.

Pathological jaundice is usually detectable as a clinical icterus during the first 24 hours of life and has a prolonged duration lasting over 2 to 3 weeks. It can also become apparent if the icterus is continually increasing with a deepening color, or the jaundice may disappear and recur again, or it may occur at one week after birth or up to several weeks after birth.

The newborn with pathological jaundice manifests with more severe clinical symptoms such as languor, poor appetite and in severe cases, convulsions and even coma, which can be a life-threatening condition.

Pathological jaundice is diagnosed when the concentration of the serum bilirubin exceeds 205.2 $\mu\text{mol/L}$ in full-term infants and 256.5 $\mu\text{mol/L}$ in premature infants. If the unconjugated serum bilirubin reaches above 307.8 $\mu\text{mol/L}$, it may cause bilirubin encephalopathy (nuclear jaundice) and impair the central nervous system, which may result in sequelae.

The combination of TCM and Western medicine achieves an effective clinical outcome in treating neonatal hemolytic disease and neonatal hepatitis syndrome.

Fang Fang et al. treated 136 cases of infants with neonatal jaundice by using *Yīn Zhī Huáng Chōng Jì*—Virgate Wormwood, Gardenia and Scutellaria Granules containing *yīn chén hāo* (Herba Artemisiae Scopariae), *zhī zǐ* (Fructus Gardeniae), *huáng qín* (Radix Scutellariae) and *jīn yín huā* (Flos Lonicerae Japonicae) in combination with *Jīn Shuāng Qí* (a preparation of Bifidobacterium, Lactobacillus and Streptococcus Thermophilus). 124 cases in the control group were treated with Phenobarbital. The results showed that the

regression time of jaundice was significantly shorter in the test group than in the control group ($P < 0.01$).^[2]

Li Fu-yin used a single herb *yīn chén hāo* (Herba Artemisiae Scopariae) 10 g [decocted in water, taken twice daily] combined with conventional blue light therapy. The results showed that the regression time of jaundice in the combined treatment group was significantly shorter than the group treated with blue light therapy alone ($P < 0.05$).^[3]

These studies suggest that *yīn chén hāo* and *Yīn Zhī Huáng Chōng Jì* can contribute significantly to reducing neonatal jaundice.

[ETIOLOGY & PATHOMECHANISM]

The causes of neonatal jaundice relate mainly to retention of dampness before birth, retention and steaming of damp-heat inside the body, and stagnation of cold-damp; the prolonged duration is linked to qi stagnation and blood stasis. The pregnant mother is invaded by dampness that accumulates and transforms into heat or cold, which is then transmitted to the fetus. Dampness may transform into cold-damp obstruction and stagnation that is passed on to the fetus, or damp-heat accumulation causes qi stagnation and blood stasis. The fetus/infant spleen and stomach are insufficient in transporting and transforming, which leads to irregular qi movement, retained dampness steaming the liver and gallbladder, and the liver failing to govern free coursing. This results in a leaking of gallbladder fluid that causes yellowing of the skin and eyes.

Damp-Heat Retention and Steaming

If the pregnant mother suffers from dampness or damp-heat accumulating internally, this can then transmit to the fetus; or the infant can be invaded by damp-heat during labor or after birth. The damp-heat is unable to be transported and transformed and thus accumulates especially in the liver and gallbladder; qi activities are obstructed and jaundice affects the skin, mucous membranes and eyes. When dampness transforms into heat predominating over dampness, the skin appears bright yellow. If heat-damp transforms into fire and pathogens invade the *jueyin* channel, this can lead to rapidly exacerbating icterus and a critical condition with possible convulsions or coma.

Cold-Damp Obstruction and Stagnation

The internal production of cold-dampness is due to spleen yang deficiency in congenitally deficient infants or damp invasion after birth. Dampness converts into cold, distressing spleen yang and leading to cold-dampness obstruction and stagnation, which impairs qi movement with the liver failing to govern the free flow of qi; the release of gallbladder fluid results in yellowing of the skin.

Jaundice due to Stasis and Accumulation

In some infants with congenital insufficiency, there is stasis and stagnation in the vessels and channels or there is damp-heat accumulation and constraint that is unable to disperse over a long period of time, also causing qi stagnation and blood stasis that result in jaundice. The clinical manifestations include a dark yellow appearance with abdominal distention and masses below the abdominal and costal regions.

Jaundice can also be caused by congenital and birth defects with bile duct abnormalities such as biliary atresia, inability to excrete bile because of bile duct obstruction.

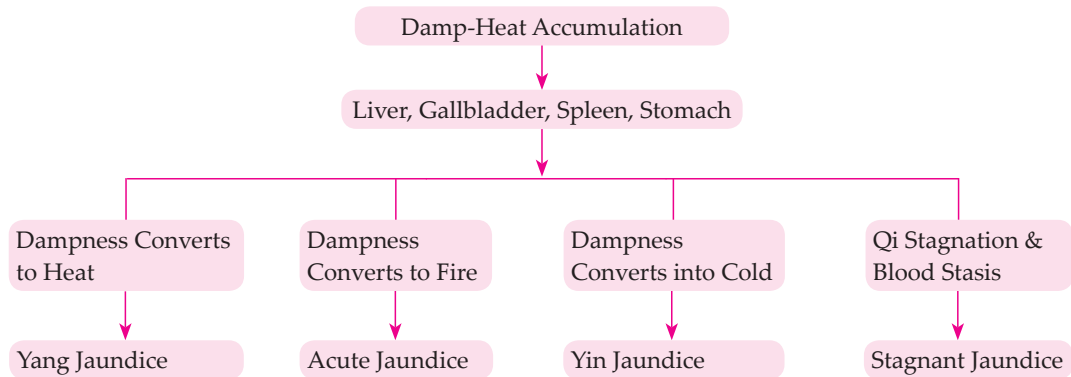


Fig.42-1 Etiology and Pathomechanism of Neonatal Jaundice

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

- Early clinical icterus (within the first 24 hours of life) develops rapidly, manifesting with a significant yellow color. It can disappear and recur, or the jaundice may appear late but remain persistent and increase day by day. The liver and spleen are often enlarged. Infants are usually fatigued with no desire to suckle and there may be pale gray stools.
- Significantly increased serum bilirubin and icteric indexes.
- Urine bilirubin positive, while urobilinogen may be positive or negative.
- To eliminate hemolytic jaundice caused by ABO hemolytic disease or Rh blood group incompatibility, the blood group of the mother and child should be determined.
- Liver function may be normal.
- Hepatitis-associated antigen and antibody testing should be performed to exclude hepatitis.

► Differential Diagnosis

Neonatal jaundice is classified into physiological jaundice and pathological jaundice. Differentiation is presented in Table 42-1.

Table 42-1 Differential Diagnosis of Physiological and Pathological Jaundice

Diagnosis Essentials	Physiological Jaundice	Pathological Jaundice
Emergence Time	2-3 days after birth	Within 24 hours after delivery, or disappearing & recurring again
Level of Jaundice (Bilirubin)	Full-term infant <205.2 $\mu\text{mol/L}$ Premature infant <256.5 $\mu\text{mol/L}$	Full-term infant $\geq 205.2 \mu\text{mol/L}$ Premature infant $\geq 256.5 \mu\text{mol/L}$
Rate of Elevated Bilirubin	Slow	Fast, exceeding 85.5 $\mu\text{mol/L}$ daily
Jaundice Duration	7-10 days	Prolonged, lasting 2-4 weeks or progressively increasing
Systemic Symptoms	Mild or asymptomatic	Severe, may be accompanied by vomiting &/or convulsions



In most cases physiological jaundice does not require special treatment. However, clinical causes for pathological jaundice should be investigated and treated vigorously.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

First, neonatal jaundice should be identified as either the physiological type or pathological type based on its time of emergence, level of jaundice, subsidence of jaundice and systemic symptoms. In general, the symptoms are mild in physiological jaundice and severe in pathological jaundice.

Second, differentiation between yin and yang patterns should be determined. A bright yellow color similar to an orange peel indicates yang jaundice, while a persistent dark yellow appearance with fullness or distention of the stomach and abdomen and abdominal masses below the costal region are all symptoms of yin jaundice.

Foul-smelling yellow stools are due to excess heat, loose yellow feces reflect a damp-heat pattern, loose light yellow feces are cold-dampness, and gray-white stools may point to a congenital condition of biliary atresia. An exhaustion pattern presents as rapidly worsening jaundice accompanied by cold limbs and a weak and almost imperceptible pulse. Significant icterus accompanied by screaming and opisthotonos is a stirring wind pattern of neonatal jaundice.

► Treatment Principles

Physiological jaundice can recede and spontaneously return to normal; the majority of cases do not require special treatment. The essential treatment principle for pathological jaundice is to drain dampness and resolve yellowing. According to the patterns of yin and yang jaundice, treatment involves resolving the yellowing while both clearing heat and draining dampness, or by warming the middle *jiao* and draining dampness, or by dissolving stasis and dispersing accumulation. The treatment for neonatal jaundice stirring wind pattern is to clear heat and extinguish wind, whereas the treatment principle for the exhaustion pattern is to rescue yang from collapse.

The spleen and stomach functions of the newborn are very weak, so to avoid injuring the stomach and damaging the healthy qi it is important not to use high doses of bitter-cold medicinals for prolonged periods. Both patterns of stirring wind and exhaustion in neonatal jaundice are very serious critical conditions. Treatment with integrated Chinese and Western medicines can reduce the incidence of mortality and sequelae.

► Classification of Patterns and Treatment

1. COMMON PATTERNS

Retention and Steaming of Damp-Heat

Signs and Symptoms

Manifestations include bright yellow skin, cheeks and eyes, crying loudly, inadequate suckling of milk, or fever, constipation and deep yellow urine. The tongue is red with a yellow and greasy coating.

Pattern Differentiation



This is a yang-jaundice pattern characterized by rapid onset and accumulation of damp-heat and is the most common clinical pattern in pathological jaundice. It is commonly seen in neonatal hemolytic and hepatocellular jaundices.

Treatment Principles

Clear heat, drain dampness, promote bile secretion to relieve jaundice.

Formula

Modified *Yīn Chén Hāo Tāng*—Virgate Wormwood Decoction

茵陈蒿	<i>yīn chén hāo</i>	8 g	Herba Artemisiae Scopariae
栀子	<i>zhī zǐ</i>	3 g	Fructus Gardeniae
大黄	<i>dà huáng</i>	3 g	Radix et Rhizoma Rhei
泽泻	<i>zé xiè</i>	5 g	Rhizoma Alismatis
车前子	<i>chē qián zǐ</i>	5 g	Semen Plantaginis
黄芩	<i>huáng qín</i>	5 g	Radix Scutellariae
金钱草	<i>jīn qián cǎo</i>	5 g	Herba Lysimachiae

Formula Analysis

Yīn chén hāo (Herba Artemisiae Scopariae), *zhī zǐ* (Fructus Gardeniae) and *dà huáng* (Radix et Rhizoma Rhei) clear heat, drain damp and resolve jaundice.

Zé xiè (Rhizoma Alismatis) and *chē qián zǐ* (Semen Plantaginis) alleviate water retention and resolve dampness.

Huáng qín (Radix Scutellariae) and *jīn qián cǎo* (Herba Lysimachiae) clear heat and resolve toxins.

Modifications

For vomiting, add *bàn xià* (Rhizoma Pinelliae) 2 g and *zhú rú* (Caulis Bambusae in Taenia) 3 g to normalize the stomach and check vomiting.

For abdominal distention, add *hòu pò* (Cortex Magnoliae Officinalis) 3 g and *zhǐ shí* (Fructus Aurantii Immaturus) 3 g to promote qi circulation and relieve flatulence.

For blood stasis, add *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) 5 g and *chì sháo* (Radix Paeoniae Rubra) 5 g to activate blood and dissolve stasis.

For damp preponderance, add *zhū líng* (Polyporus) 5 g and *fú líng* (Poria) 5 g to drain damp.

Chinese Patent Medicines

Yīn Zhī Huáng Zhù Shè Yè—Virgate Wormwood, Gardenia and Scutellaria Injection.

Dosage: mix 5 ml of *Yīn Zhī Huáng Zhù Shè Yè* with 50 ml of 10% glucose injection solution for intravenous drip, once daily.

External Treatments

Huáng bǎi (Cortex Phellodendri Chinensis) 30 g, decocted, with dregs removed by filtering. Bathe in the decoction and repeatedly scrub for 10 minutes, 1-2 times daily.

Cold-Damp Obstruction and Stagnation

Signs and Symptoms

Manifestations include dark, yellow skin and eyes, spiritless and lassitude, lack of warmth in the limbs, loose and pale gray stools and reduced urination. The tongue is pale

with a white and greasy coating.

Pattern Differentiation

This is a yin jaundice pattern characterized by obvious deficiency cold. This condition is usually due to the mother having chronic or frequent illness with qi and blood insufficiency and then giving birth to an infant with a weak constitution and spleen-yang insufficiency, leading to endogenous dampness, which may be transformed to coldness and consequently into jaundice. Cold-damp jaundice may also be caused by the transformation from the steaming of long-standing and unresolved damp-heat. The yin jaundice pattern is characterized by slow onset and a prolonged course of disease and has a relatively poor prognosis. Obstructive jaundice usually belongs to this pattern.

Treatment Principles

Warm the middle *jiao* and drain dampness.

Formula

Modified *Yīn Chén Lǐ Zhōng Tāng*—Virgate Wormwood Middle-Regulating Decoction

茵陈蒿	<i>yīn chén hāo</i>	8 g	Herba Artemisiae Scopariae
党参	<i>dǎng shēn</i>	5 g	Radix Codonopsis
茯苓	<i>fú líng</i>	5 g	Poria
薏苡仁	<i>yì yǐ rén</i>	8 g	Semen Coicis
干姜	<i>gān jiāng</i>	2 g	Rhizoma Zingiberis
白术	<i>bái zhú</i>	5 g	Rhizoma Atractylodis Macrocephalae
甘草	<i>gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Yīn chén hāo (Herba Artemisiae Scopariae) drains damp and resolves jaundice.

Dǎng shēn (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) boost qi and fortify the spleen.

Gān jiāng (Rhizoma Zingiberis) warms the center and dries dampness.

Yì yǐ rén (Semen Coicis) fortifies the spleen and resolves dampness.

Modifications

For hepatosplenomegaly, add *sān léng* (Rhizoma Sparganii) 2 g, *é zhú* (Rhizoma Curcumae) 2 g and *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) 5 g to activate blood and dissolve stasis.

For preponderant cold, add *fù zǐ* (Radix Aconiti Lateralis Praeparata) 2 g to warm yang.

For cold limbs, add *guì zhī* (Ramulus Cinnamomi) 2 g to warm yang and promote qi flow.

For loose stools, add *shān yào* (Rhizoma Dioscoreae) 5 g to fortify the spleen and drain dampness.

For poor appetite, add *shā rén* (Fructus Amomi) 2 g, *shén qū* (Massa Medicata Fermentata) 5 g and *chǎo mài yá* (dry-fried Fructus Hordei Germinatus) 5 g to fortify the spleen and promote appetite.

Chinese Patent Medicines

Shēn fù Zhù Shè Yè—Ginseng and Aconite Injection

Mix 5 ml of *Shēn Fù Zhù Shè Yè* with 50 ml of 10% glucose injection solution, give by intravenous drip, once daily. This injected solution is suitable for infants with deficient and weak yang-qi.

Jaundice due to Stasis and Accumulation

Signs and Symptoms

Manifestations include a gradually increasing dark yellow and lusterless skin and eyes, stiff abdominal mass below the costal region, abdominal distention with obvious blue veins or the presence of ecchymosis and non-traumatic hemorrhage, dark red lips and stasis spots on the tongue.

Pattern Differentiation

This is a yin jaundice pattern characterized by a prolonged course of disease and gradually increasing jaundice. The condition is usually caused by damp-heat impeding the qi flow, or by qi-stagnancy and blood stasis due to congenital defects of the bile ducts, or an obstruction such as biliary atresia. Besides the clinical dark-yellow skin, its presentations include the important pathological changes and clinical manifestation of structural stasis and accumulation.

Treatment Principles

Dissolve stasis and remove accumulation

Formula

Modified *Xuè Fǔ Zhú Yū Tāng*—Blood Mansion Stasis-Expelling Decoction

柴胡	<i>chái hú</i>	5 g	Radix Bupleuri
郁金	<i>yù jīn</i>	5 g	Radix Curcumae
枳壳	<i>zhǐ qiào</i>	5 g	Fructus Aurantii
桃仁	<i>táo rén</i>	3 g	Semen Persicae
当归	<i>dāng guī</i>	3 g	Radix Angelicae Sinensis
川芎	<i>chuān xiōng</i>	3 g	Rhizoma Chuanxiong
赤芍	<i>chì sháo</i>	3 g	Radix Paeoniae Rubra
生地黄	<i>shēng dì huáng</i>	5 g	Radix Rehmanniae
红花	<i>hóng huā</i>	3 g	Flos Carthami

Formula Analysis

Chái hú (Radix Bupleuri), *yù jīn* (Radix Curcumae) and *zhǐ qiào* (Fructus Aurantii) disperse the depressed liver and regulate the qi flow.

Táo rén (Semen Persicae), *dāng guī* (Radix Angelicae Sinensis), *chuān xiōng* (Rhizoma Chuanxiong), *chì sháo* (Radix Paeoniae Rubra) and *hóng huā* (Flos Carthami) invigorate blood flow and dissolve stasis.

Modifications

For oliguria with dark urine, dry and hard stools, add *yīn chén hāo* (Herba Artemisiae Scopariae) 5 g, *zhī zǐ* (Fructus Gardeniae) 3 g and *dà huáng* (Radix et Rhizoma Rhei) 3 g (decocted later) to resolve damp, clear heat and discharge the stools.

For ecchymosis, hemafecia and non-traumatic hemorrhage, add *mǔ dān pí* (Cortex Moutan) 5 g and *xiān hè cǎo* (Herba Agrimoniae) 5 g to cool the blood and dissolve stasis.

For poor appetite, add *jiāo shān zhā* (scorch-fried Fructus Crataegi) 5 g and *chǎo gǔ yá*

(dry-fried Fructus Setariae Germinatus) 8 g to fortify the spleen and promote appetite.

For abdominal distention, add *mù xiāng* (Radix Aucklandiae) and *xiāng yuán* (Fructus Citri) to promote qi flow and relieve flatulence.

Chinese Patent Medicines

a. *Yán Suān Chuān Xiōng Qín Zhù Shè Yè*—Ligustrazine Hydrochloride Injection

Dosage: administer 2-4 mg/kg in 50 ml of 10% glucose injection via intravenous drip, once daily.

b. *Fù Fāng Dān Shēn Zhù Shè Yè*—Compound Danshen Injection

Dosage mix 5 ml of the patent medicine with 50 ml of glucose injection for intravenous drip, once daily.

2. DETERIORATED PATTERNS

Neonatal Jaundice with Stirring Wind

Signs and Symptoms

Manifestations include rapidly increasing jaundice, lethargy, coma, screaming, convulsions, apastia, bulging anterior fontanelle and opisthotonus. The tongue is red with a yellow and greasy coating.

Pattern Differentiation

This is a pattern in very low birth weight infants caused by excessive heat in the liver and gallbladder entering the *jueyin* channel, and is characterized by acute onset, serious condition and frequent occurrence. It is termed bilirubin encephalopathy in Western medicine. Typical clinical symptoms include coma, convulsions and a deep yellow appearance.

Treatment Principles

Calm the liver and extinguish wind, drain dampness and relieve jaundice.

Formula

Modified *Líng Jiǎo Gōu Téng Tāng*—Antelope Horn and Uncaria Decoction

羚羊角粉	<i>líng yáng jiǎo fěn</i>	0.2 g	Cornu Saigae Tataricae (taken infused)
钩藤	<i>gōu téng</i>	3 g	Ramulus Uncariae Cum Uncis
天麻	<i>tiān má</i>	3 g	Rhizoma Gastrodiae
茵陈蒿	<i>yīn chén hāo</i>	8 g	Herba Artemisiae Scopariae
大黄	<i>dà huáng</i>	2 g	Radix et Rhizoma Rhei (decocted later)
车前子	<i>chē qián zǐ</i>	5 g	Semen Plantaginis (wrapped)
石决明	<i>shí jué míng</i>	8 g	Concha Haliotidis (decocted first)
牛膝	<i>niú xī</i>	5 g	Radix Achyranthis Bidentatae
僵蚕	<i>jiāng cán</i>	3 g	Bombyx Batryticatus
栀子	<i>zhī zǐ</i>	3 g	Fructus Gardeniae
黄芩	<i>huáng qín</i>	5 g	Radix Scutellariae

Formula Analysis

Líng yáng jiǎo fēn (Cornu Saigae Tataricae), *gōu téng* (Ramulus Uncariae Cum Uncis) and *tiān má* (Rhizoma Gastrodiae) calm the liver and extinguish wind.

Yīn chén hāo (Herba Artemisiae Scopariae), *dā huáng* (Radix et Rhizoma Rhei) and *chē qián zǐ* (Semen Plantaginis) drain dampness and relieve jaundice.

Shí jué míng (Concha Haliotidis) and *jiāng cán* (Bombyx Batryticatus) clear heat and extinguish wind.

Niú xī (Radix Achyranthis Bidentatae), *zhī zǐ* (Fructus Gardeniae) and *huáng qín* (Radix Scutellariae) clear heat and relieve jaundice.

Modifications

For blood deficiency, add *dāng guī* (Radix Angelicae Sinensis) 3 g, *chì sháo* (Radix Paeoniae Rubra) 5 g and *jī xuè téng* (Caulis Spatholobi) 5 g to enrich yin and nourish blood.

For vomiting, add *bàn xià* (Rhizoma Pinelliae) 2 g and *zhú rú* (Caulis Bambusae in Taenia) 3 g to descend qi and arrest vomiting.

For abdominal distention, add *hòu pò* (Cortex Magnoliae Officinalis) 3 g and *zhǐ shí* (Fructus Aurantii Immaturus) 3 g to promote flow of qi and relieve flatulence.

Chinese Patent Medicines

a. *Ān Gōng Niú Huáng Wán*—Peaceful Palace Bovine Bezoar Piu. Dosage: 1/8 pill, once daily.

b. *Zǐ Xuě Dān*—Purple Snow Elixir. Dosage: 0.15 g taken infused, once daily.

Acupuncture

Children with sequelae of bilirubin encephalopathy can be treated with acupuncture. Generally supplementation techniques are used, including twirling and lifting-thrusting methods without needle retention. Treat once daily for three months as one course of treatment.

a. Low Intelligence

DU 20 (<i>bǎi huì</i>)	GB 20 (<i>fēng chí</i>)	EX-NH1 (<i>sì shén cōng</i>)
HT 5 (<i>tōng lǐ</i>)		

b. Upper Limb Paralysis

LI 15 (<i>jiān yú</i>)	LI 11 (<i>qū chí</i>)	SJ 5 (<i>wài guān</i>)
LI 4 (<i>hé gǔ</i>)		

c. Lower Limb Paralysis

GB 30 (<i>huán tiào</i>)	ST 36 (<i>zú sān lǐ</i>)	ST 41 (<i>jiě xī</i>)
BL 60 (<i>kūn lún</i>)		

d. Speech Difficulties

DU 15 (<i>yǎ mén</i>)	RN 23 (<i>lián quán</i>)	KI 1 (<i>yǒng quán</i>)
HT 7 (<i>shén mén</i>)		

**e. Muscular Contraction of Elbow Joints**

LI 10 (<i>shǒu sān lǐ</i>)	SI 7 (<i>zhī zhèng</i>)
------------------------------	---------------------------

f. Difficult Articulations of Finger Joints

LI 4 (<i>hé gǔ</i>)	SI 3 (<i>hòu xī</i>)
-----------------------	------------------------

g. Four Limb Spasms

DU 14 (<i>dà zhuī</i>)	PC 5 (<i>jiàn shǐ</i>)	LI 10 (<i>shǒu sān lǐ</i>)
GB 34 (<i>yáng líng quán</i>)		

Tui na

Tui na can be applied to children with bilirubin encephalopathy sequelae, presenting with limb and body paralysis and muscle atrophy. Treat once daily or once every second day. Apply rolling manipulation back and forth on paralyzed limbs and body for 5-10 minutes, pressing and kneading the stiff joints for 3-5 minutes and twisting to warm the affected areas. Rolling and twisting manipulations can be carried out on related acupuncture points along both sides of the spine for 5-10 minutes.

Neonatal Jaundice with Exhaustion**Signs and Symptoms**

Manifestations include rapidly increasing jaundice, associated with a green yellow complexion, edema, shortness of breath, loss of consciousness, refusal to suckle, cold four limbs and feeling cold in the chest and abdomen. The tongue is pale with a white coating.

Pattern Differentiation

This pattern represents a critical condition because of the deficiency of healthy qi rather than excessive pathogenic qi. When yang qi is deficient and weak, it cannot conquer the pathogens, leading to sudden collapse of yang qi. This is a terminally ill syndrome with deficient yang qi desertion and may result in death without immediate treatment.

Treatment Principles

Powerful supplementation of original qi, warm yang to rescue from desertion

Formula

Modified *Shēn Fù Tāng*—Ginseng and Aconite Decoction with *Shēng Mài Sǎn*—Pulse-Engendering Powder

人參	<i>rén shēn</i>	3 g	Radix et Rhizoma Ginseng
附子	<i>fù zǐ</i>	1 g	Radix Aconiti Lateralis Praeparata
干姜	<i>gān jiāng</i>	2 g	Rhizoma Zingiberis
五味子	<i>wǔ wèi zǐ</i>	3 g	Fructus Schisandrae Chinensis
麦冬	<i>mài dōng</i>	5 g	Radix Ophiopogonis
茵陈蒿	<i>yīn chén hāo</i>	8 g	Herba Artemisiae Scopariae
金钱草	<i>jīn qián cǎo</i>	5 g	Herba Lysimachiae

**Formula Analysis**

Rén shēn (Radix et Rhizoma Ginseng) powerfully supplements original qi.

Fù zǐ (Radix Aconiti Lateralis Praeparata) and *gān jiāng* (Rhizoma Zingiberis) warm and supplement spleen and kidney.

Wǔ wèi zǐ (Fructus Schisandrae Chinensis) and *mài dōng* (Radix Ophiopogonis) astringe yin and rescue from desertion.

Yīn chén hāo (Herba Artemisiae Scopariae) and *jīn qián cǎo* (Herba Lysimachiae) drain dampness and resolve jaundice.

Modifications

For profuse sweating, add *duàn lóng gǔ* (calcined Os Draconis) 8 g and *duàn mǔ lì* (calcined Concha Ostreae) 8 g to astringe sweating.

If skin on the four limbs is colored like textured marble and the lips and nails are purple and blue, add *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) 5 g and *dāng guī* (Radix Angelicae Sinensis) to invigorate blood and dissolve stasis.

Chinese Patent Medicines

a. *Shēng Mài Zhù Shè Yè*—Pulse-Engendering Injection. Dosage: mix 5 ml of the patent injection with 50 ml of 10% glucose injection and administer via intravenous drip once daily; suitable for infant patients with both qi and yin deficiency.

b. *Shēn Mài Zhù Shè Yè*—Ginseng and Ophiopogon Injection. Dosage: mix 5 ml of the patent injection with 50 ml of 10% glucose injection and administer via intravenous drip once daily. Suitable for infant patients with exhaustion of both qi and yin.

Moxibustion

BL 23 (<i>shèn shù</i>)	RN 4 (<i>guān yuán</i>)	RN 6 (<i>qì hǎi</i>)
DU 20 (<i>bǎi huì</i>)		

Apply moxa stick on the above points, once daily.

[WESTERN MEDICINE]**1. ETIOLOGICAL TREATMENT**

Usually physiological jaundice does not require special treatment. However, the cause of pathological jaundice needs to be identified and actively treated. If the condition is complicated with bacterial infections, antibiotics must be administered. For hemolytic jaundice, the cause of hemolysis should be eliminated as soon as possible, employing phototherapy, hepatic enzyme inducer, albumin and even exchange transfusion if necessary. For hepatocellular jaundice, hepatoprotective drugs can be used. Surgery should be considered if biliary atresia exists.

2. OTHER THERAPIES

- Maintain water-electrolyte and acid-base balances.
- Administer fat-soluble vitamins A, D, E and K, if the jaundice lasts for a prolonged time.

[PREVENTION AND NURSING CARE]

1. PREVENTION

a. Pay attention to dietary hygiene during pregnancy. It is important to avoid drugs, alcohol, pungent and heat-natured foods, as well as avoiding cold foods that may impair the spleen.

b. Pregnant mothers who have a history of hepatitis or have previously delivered infants with pathological jaundice, should be examined carefully before delivery, including monitoring their changes in blood antibodies and taking appropriate preventive measures.

2. NURSING CARE

a. Pay close attention to detect the changes in skin color, and monitor the time of onset and decline in the newborn patient with jaundice.

b. Keep the newborn infant warm, commence breast feeding early, keep the skin and areas around the umbilicus and buttocks clean, and prevent infection from breakage of skin.

c. Pay close attention to systemic symptoms of infants with neonatal jaundice to detect the early critical signs and symptoms including: depressed spirit, apathy, drowsiness, suckling difficulties, anxiety, restlessness, anorthopia, muscular spasms, rigidity of four limbs and convulsions.

[CASE STUDIES]

► Case #1

A 30-day-old baby girl presented with gradually increasing yellow skin and eyes from 4 days after birth. She underwent treatment for this problem in another hospital, but after receiving 8 days of inpatient therapy, her jaundice had not subsided.

She presented with yellow eyes and appearance. She had deep yellow urine and tears, and increased secretions from the eyes. Her tongue was red with a thick white, greasy coating. She had bowel movements 3-4 times daily and the stools were pale yellow, with undigested milk. The physical examination showed a yellow sclera, face and skin of the whole body, as well as a distended abdomen.

The diagnosis and pattern differentiation was neonatal jaundice with damp-heat accumulation in the liver and gallbladder, leading to the abnormal flow of liver and gallbladder qi. The treatment principle was to clear heat and drain dampness in the liver and gallbladder.

Formula

茵陈蒿	<i>yīn chén hāo</i>	15 g	Herba Artemisiae Scopariae
炒栀子	<i>chǎo zhī zǐ</i>	3 g	Fructus Gardeniae
滑石	<i>huá shí</i>	12 g	Talcum
车前子	<i>chē qián zǐ</i>	10 g	Semen Plantaginis
猪苓	<i>zhū líng</i>	6 g	Polyporus

泽泻	<i>zé xiè</i>	6 g	Rhizoma Alismatis
厚朴	<i>hòu pò</i>	6 g	Cortex Magnoliae Officinalis

3 doses, decocted in water and taken as one daily dose.

On the second visit after three doses, the jaundiced appearance was reduced significantly, but the yellow urine and abdominal distention were unchanged. *Jiāo shān zhā* (scorch-fried Fructus Crataegi) 10 g, *jiāo shén qū* (scorch-fried Massa Medicata Fermentata) 10 g and *jiāo mài yá* (scorch-fried Fructus Hordei Germinatus) 10 g were added to the original formula to fortify the spleen and promote digestion. 3 doses were given.

On the third visit, the jaundice in the sclera had subsided and the jaundice in the face and body were significantly fading away. However, the stools were loose and the tongue coating was yellow, thick and greasy. Therefore, the following herbs, *huò xiāng* (Herba Agastachis) 6 g and *chǎo biǎn dòu* (dry-fried Semen Lablab Album) 12 g were added to drain damp and promote digestion. After 3 doses, the stools returned to normal and the jaundice was resolved.

Analysis

The pattern differentiation of this case was damp-heat accumulation in the liver and gallbladder, and the formula was a modified *Yīn Chén Hāo Tāng*—Virgate Wormwood Decoction, which was applied to clear heat and drain damp in the liver and gallbladder. Infants generally have constitutional spleen insufficiency, so retention of damp-heat can further impair the spleen. Therefore, infants with neonatal jaundice often present with symptoms of spleen deficiency including diarrhea, abdominal distention and refusal to eat.

Following the initial treatment of clearing heat and draining dampness, the jaundice was significantly decreased; however, the spleen deficiency signs and symptoms of abdominal distention and loose stools still remained.

At the second visit, the treatment principles were to clear heat and drain dampness while fortifying the spleen and promoting digestion.

At the third visit, *huò xiāng* (Herba Agastachis) and *chǎo biǎn dòu* (dry-fried Semen Lablab Album) were added to further enliven the spleen and resolve dampness. The modification of *Yīn Chén Hāo Tāng* was compatible with the pathogenesis and thus very effective.

Source: Bi Ke-Yin, editor. 小儿疑难病辨证治疗 [M] [Differential Treatment of Difficult Diseases in Children]. Jinan: Shandong Science and Technology Press; 1993: 182

► Case #2

A 2-month-old boy presented with dull yellow appearance and eyes, splenohepatomegaly, abdominal distention, vomiting of milk, dark yellow urine and pale gray-white stools. The tongue was pale with a moist coating and the pulses were soft and weak. The pattern differentiation was neonatal jaundice due to prolonged stagnation of cold-dampness; the treatment principle is to warm to unblock and dredge cold-dampness.

Formula

茵陈蒿	<i>yīn chén hāo</i>	9 g	Herba Artemisiae Scopariae
当归	<i>dāng guī</i>	3 g	Radix Angelicae Sinensis



赤芍	<i>chì sháo</i>	3 g	Radix Paeoniae Rubra
干姜	<i>gān jiāng</i>	2 g	Rhizoma Zingiberis
姜半夏	<i>jiāng bàn xià</i>	6 g	Rhizoma Pinelliae Praeparatum
赤茯苓	<i>chì fú líng</i>	9 g	Poria Rubra
青皮	<i>qīng pí</i>	3 g	Pericarpium Citri Reticulatae Viride
木香	<i>mù xiāng</i>	2 g	Radix Aucklandiae
甘草	<i>gān cǎo</i>	2 g	Radix et Rhizoma Glycyrrhizae

3 doses, decocted in water and taken as one dose daily.

On the second visit, the yellowing was reduced and the vomiting was relieved, but the urine, stools and abdominal distention remained unchanged. This suggested that cold-dampness stagnation was still preponderant. Therefore, the same treatment principle was continued to warm, unblock and dredge the cold-dampness.

Formula

陈皮	<i>chén pí</i>	3 g	Pericarpium Citri Reticulatae
焦白术	<i>jiāo bái zhú</i>	6 g	Rhizoma Atractylodis Macrocephalae (scorch-fried)
茯苓	<i>fú líng</i>	6 g	Poria
干姜	<i>gān jiāng</i>	2 g	Rhizoma Zingiberis
甘草	<i>gān cǎo</i>	1 g	Radix et Rhizoma Glycyrrhizae
煨木香	<i>wēi mù xiāng</i>	2 g	Radix Aucklandiae (roasted)
茵陈蒿	<i>yīn chén hāo</i>	6 g	Herba Artemisiae Scopariae
附子	<i>fù zǐ</i>	2 g	Radix Aconiti Lateralis Praeparata
青皮	<i>qīng pí</i>	3 g	Pericarpium Citri Reticulatae Viride
川楝子	<i>chuān liàn zǐ</i>	6 g	Fructus Toosendan

3 doses, decocted in water and taken as one dose daily.

On the third visit, the jaundice was further reduced, appetite was normal, and stools were yellow with undigested food. The abdomen was soft but full, the urine was profuse and dark, and the tongue was pale. This suggested splenic transportation failure, so the treatment principle was to warm yang and harmonize the middle *jiao*.

Formula

陈皮	<i>chén pí</i>	3 g	Pericarpium Citri Reticulatae
焦白术	<i>jiāo bái zhú</i>	6 g	Rhizoma Atractylodis Macrocephalae (scorch-fried)
茯苓	<i>fú líng</i>	6 g	Poria
甘草	<i>gān cǎo</i>	1 g	Radix et Rhizoma Glycyrrhizae
炮姜	<i>páo jiāng</i>	2 g	Rhizoma Zingiberis Praeparatum

煨木香	<i>wēi mù xiāng</i>	2 g	Radix Aucklandiae (roasted)
茵陈蒿	<i>yīn chén hāo</i>	9 g	Herba Artemisiae Scopariae
熟米仁	<i>shú mǐ rén</i>	9 g	Semen Coicis
附子	<i>fù zǐ</i>	2 g	Radix Aconiti Lateralis Praeparata

3 doses, decocted in water and taken as one dose daily.

On the fourth and final visit, the jaundice had subsided completely, the appetite became normal, stools were normal and urination was frequent and light yellow. The main approach at this stage was to support and nourish the spleen, so to consolidate the recovery. *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder was applied. After 7 doses, the patient recovered fully.

Analysis

The differentiation in this case was yin jaundice, so the principles of treatment were to supplement the spleen, warm yang and drain dampness to resolve jaundice.

A modification of *Yīn Chén Lǐ Zhōng Tāng*—Virgate Wormwood Middle-Regulating Decoction was chosen because:

Yīn chén hāo (Herba Artemisiae Scopariae) drains damp and resolves jaundice.

Gān jiāng (Rhizoma Zingiberis) warms the middle *jiao* and supports splenic transportation and transformation.

Jiāng bàn xià (Rhizoma Pinelliae Praeparatum) and *fú líng* (Poria) fortify the spleen to resolve dampness.

Qīng pí (Pericarpium Citri Reticulatae Viride), *mù xiāng* (Radix Aucklandiae), *dāng guī* (Radix Angelicae Sinensis) and *chì sháo* (Radix Paeoniae Rubra) regulate qi, invigorate blood circulation and unblock the collaterals.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of the formula medicinals.

After 3 doses, yellowing was reduced and the vomiting relieved, but the yellow urine, pale stools and abdominal distention were not improved; this indicated that cold-damp retention in the spleen was not yet resolved. Accordingly, *fù zǐ* (Radix Aconiti Lateralis Praeparata), *jiāo bái zhú* (scorch-fried Rhizoma Atractylodis Macrocephalae) and *chén pí* (Pericarpium Citri Reticulatae) were added on the second visit to warm the middle *jiao* and reinforce splenic transportation.

On the third visit, the patient still had diarrhea with undigested food and a pale tongue with a pale white coating. The treatment principle of warming the middle *jiao* and invigorating the spleen was continued with the addition of *shú mǐ rén* (ripe rice). Treatment was concluded by prescribing a modification of *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephalae Powder to further fortify the spleen and drain dampness.

Source: Wang XH, editor. [Anthology of Medical Records from Past Chinese Dynasties]. Nanjing: Jiangsu Science and Technology Press; 1993: 391

[QUESTIONS]

1. A 16-day-old premature newborn infant presents with a jaundiced appearance and yellowed eyes for two weeks. The jaundice has not increased. The infant is able to suckle milk without vomiting and has



loose yellow stools 2-3 times daily, yellow urine, and a thin tongue coating.

What is the most plausible diagnosis?

- | | |
|---|---------------------------------|
| A. Diarrhea due to spleen deficiency. | B. Stagnation of cold-dampness. |
| C. Retention and steaming of damp-heat. | D. Blood stasis jaundice. |
| E. Physiological jaundice. | |

2. A 5-day-old infant is seen with jaundice and bright yellow-orange eye sclera, red and yellow urine, constipation, poor appetite, abdominal distention and fullness, restlessness and a red tongue with a scanty coating.

What is the pattern?

- | | |
|---|--------------------------------|
| A. Excessive heat toxins. | B. Accumulation of stagnation. |
| C. Retention and steaming of damp-heat. | D. Static heat jaundice. |
| E. Obstruction and stagnation of cold-dampness. | |

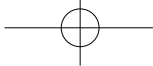
3. A 2-month-old infant developed jaundice three days after birth, which subsided after one week. The jaundice recurred 10 days later; the color gradually increased and became dark yellow without luster. Other signs and symptoms include an abdominal mass below the right hypochondriac region, gray-white stools, scanty yellow urine, poor appetite, and a yellow tongue coating.

What is the treatment principle?

- | | |
|---|---|
| A. Clear heat and drain dampness. | B. Cool blood and activate blood. |
| C. Regulate qi and invigorate the spleen. | D. Dissolve stasis to dissipate accumulation. |
| E. Fortify the spleen and drain dampness. | |

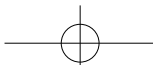
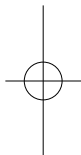
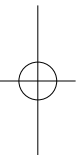
[REFERENCES]

- [1] Jin HZ, Huang DM, Guan XJ, editor. [Practical Neonatology]. Third edition. Beijing: People's Health Publishing House; 2003: 266.
- [2] Fang F, Xiao F, Luo ZF, et al. Integrated Traditional and Western Medicine Treatment of Neonatal Jaundice – An Observation of Clinical Curative Effects in 260 Cases. [J]. Chinese Journal of Integrated Traditional and Western Medicine on Liver Diseases; 2009, 19(3): 173.
- [3] Li FY. A Clinical Observation of the Effects of *Yīn Chén Hāo* (*Artemisiae Capillaris*) as an Adjunct Treatment for Neonatal Jaundice. [J]. Journal of Gannan Medical University; 2004, 24 (2): 199.



Part VIII

Other Diseases



Chapter 43

Anaphylactoid Purpura

Anaphylactoid purpura (*guò mǐn xìng zǐ diān*), also known as Henoch-Schonlein purpura (HSP), is a form of vasculitis in which the capillaries are mainly affected. It presents as a rash that may be associated with joint pain, joint effusion, abdominal pain, hemafecia, proteinuria and hematuria.

While the etiology of HSP is unknown, the most common preceding factors include infection and a genetic predisposition. The disease can occur in all stages of childhood; 90% of patients are under 10 years old, 75% under 8 years old, and the average age is 6 years, occurring more often in boys than in girls.^[1] The rate of HSP is increasing and affects around 10 out of 100,000 children annually.^[2]

Most of the early symptoms of HSP include a bilateral purpuric skin rash on the lower limbs and possible gastro-intestinal tract symptoms, but do not involve the kidney. The course of HSP is around four weeks and is usually self-limiting with a tendency of frequent recurrence. During relapse, one of the common symptoms involves kidney damage resulting in anaphylactoid purpura nephritis (Henoch-Schonlein purpura nephritis, HSPN). Most of these cases occur in those between 6-10 years of age and are more common in Europe and Asia.^[3]

Rostocker^[4] reported that Henoch-Schonlein purpura nephritis affects 20%-80% of patients suffering from the HSP. Yang Qi Yun^[5] reported that the incidence of Henoch-Schonlein purpura nephritis involved 25%-60% of patients and based on renal biopsy findings, 90% of these cases showed various degrees of kidney involvement. Basing on urease and microalbuminuria analysis, the incidence of kidney damage was 100%.^[6] The discrepancies in research findings are mainly due to the variances of laboratory norms and diagnostic standards from different areas and countries.

TCM shows a distinct advantage in the treatment of Henoch-Schonlein purpura and Henoch-Schonlein purpura nephritis.

Kong Fei et al. treated 30 cases of HSP nephritis with *Dān Sháo Kē Lì Èr Hào* (Danshao Granule II) and tripterygium wilfordii polyglycosidum tablets. *Dān Sháo Kē Lì Èr Hào* includes *shuǐ niú jiǎo* (Cornu Bubali) 1 g, *shēng dì* (Radix Rehmanniae) 3 g, *chì sháo* (Radix Paeoniae Rubra) 1.5 g, *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) 2 g, *jī xuè téng* (Caulis Spatholobi) 1 g, *xiǎo jì* (Herba Cirsii) 1 g, *chán tuì* (Periostracum Cicadae) 0.5 g and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) 0.5 g. Concurrently, a control group of 25 cases were treated with Prednisone and tripterygium wilfordii polyglycosidum tablets. After 2 months of treatment, the results showed that the complete remission rate was 46.7% in the treatment group and 28.0% in the control group. The difference was statistically significant ($P < 0.05$). Furthermore, the treatment group showed superior effect in reducing hematuria, proteinuria and NAG in the urine than the control group ($P < 0.05$).^[7]

Li Xiao-rong treated 30 cases of HSP using a modified *Zǐ Cǎo Sǎn*—Radix Arnebiae Powder. *Zǐ Cǎo Sǎn* is an empirical formula specifically used for treating HSP from the “Wang Pengfei Pediatric Clinical Experience Selections” and includes *qīng dài* (Indigo

Naturalis), *zǐ cǎo* (Radix Arnebiae), *bái zhī* (Radix Angelicae Dahuricae), *rǔ xiāng* (Olibanum) and *hán shuǐ shí* (Glauberitum). At the same time, a control group of 30 cases were treated with Western medicine (Vitamin C, Rutin tablets, Dipyridamole tablets and Cyproheptadine tablets). Those with obvious skin lesions were given antihistamines such as Chlorprophenpyridamine maleate or Diphenhydramine hydrochloride for a course of seven days. With occult blood in the stools, hematuria, or proteinuria, Prednisone 1-2 mg/kg/day was added for a course of seven days. The results showed a cure rate in the treatment group of 80% and 53% in the control group.^[8]

[ETIOLOGY & PATHOMECHANISM]

The exogenous causes of anaphylactoid purpura are invasion by seasonal wind-heat pathogenic factors and epidemic pathogenic factors; endogenous causes involve a general deficiency of healthy qi.

The pathological locations involve the heart, liver, spleen and kidney. If externally contracted wind-heat-seasonal toxin and epidemic pathogenic factors are accumulated in blood levels of the skin and muscles, and cause the blood to overflow into the skin, this is usually an excess pattern.

If caused by qi and blood insufficiency in the heart and spleen where kidney yin is impaired, with deficiency fire flaring up and blood failing to circulate inside the vessels causing bleeding, this is usually a deficiency pattern.

External Pathogenic Causes

Because yin and yang is underdeveloped in a child's body, qi and blood are insufficient and the exterior is insecure, the externally contracted seasonal pathogens and six pathogenic factors tend to transform into fire and become confined within the skin and muscles. Attack by epidemic factors can also activate latent heat inside the body.

When there is wind-heat and epidemic pathogenic factors contending with qi and blood, the heat can damage the blood vessels and may distress and cause abnormal blood circulation. Blood extravasates from the vessels causing bleeding under the skin causing purpura.

Severe pathogens may damage the yin collaterals resulting in hemafecia or hematuria. If the intestine collaterals are impaired by blood heat, resulting in bleeding, this will block the qi movement and lead to severe abdominal pain. If heat pathogens intermingle with dampness and invade and stagnate into the joints, there may be swollen, painful and limited movements.

Qi and Yin Depletion

When the child has an insufficient congenital constitution or prolonged disease, their qi and yin may be damaged, leading to qi deficiency and damaged yin; then the disease may convert from excess to deficiency, or become a complex deficiency-excess pattern. Deficient qi can fail to contain the blood inside the vessels. This can cause extravasated bleeding or yin deficiency with hyperactive fire (as the blood moves along with the deficient fire and exudes from the vessels), possibly resulting in recurrent purpura.

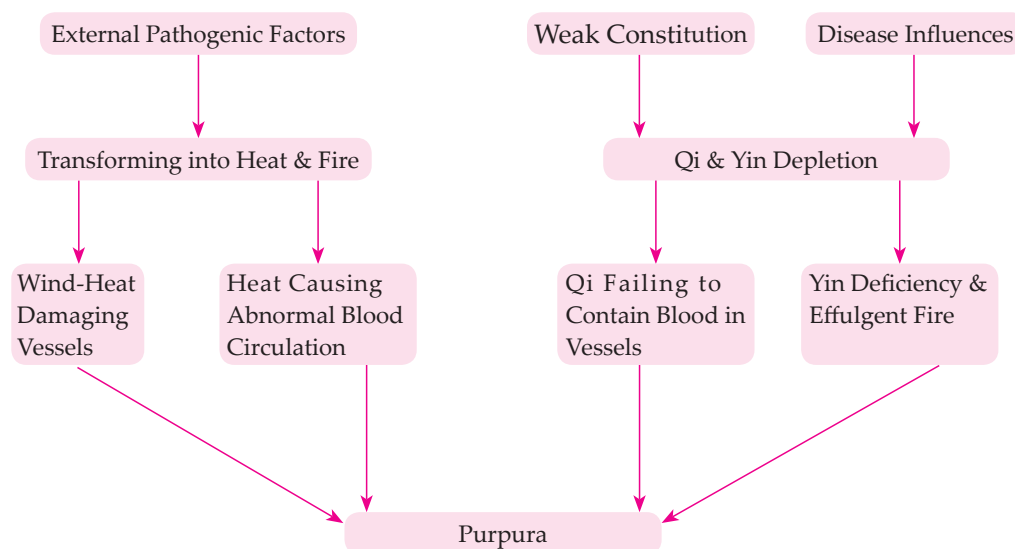


Fig. 43-1 Etiology and Pathomechanism of Anaphylactoid Purpura

[CLINICAL DIAGNOSIS]

► Essentials of Diagnosis

- Patients may have a history of bacterial, viral or parasite infections prior to this illness; or they have been exposed to sensitizers including foods, medicine or vaccinations.
- Purpuric lesions are most commonly found on the extensor surface of the lower limbs and buttocks. The rashes appear as palpable, bright red or crimson maculopapules of variable sizes. The skin lesions appear in batches and bilaterally and do not blanch on pressure.
- Associated symptoms may include abdominal pain, bloody stools, swollen and painful joints, hematuria, and albuminuria.
- There are normal blood platelet counts, bleeding times, coagulation times, platelet function and clot retraction times.

► Differential Diagnosis

Differentiation of Anaphylactoid Purpura from Idiopathic Thrombocytopenic Purpura

Table 43-1 Differential Diagnosis of Anaphylactoid Purpura and Idiopathic Thrombocytopenic Purpura

Differentiation Essentials	Allergic Purpura	Idiopathic Thrombocytopenic Purpura
Rash Characteristics	Various sizes, palpable, bilateral distribution, maybe associated with angioneurotic edema	Petechiae or ecchymosis, impalpable, uneven distribution
Location	Extensor surface of lower limbs & buttocks	Four limbs, head & face
Joint Swelling & Pain	Yes	No
Abdominal Pain	Yes	No
Platelet Count	Normal	Decreased

Treatment of Idiopathic Thrombocytopenic Purpura

The onset of this disease in children is usually acute. This disease can be treated by traditional Chinese or Western medicine. In severe cases (i.e. platelet count $< 20 \times 10^9/L$), it is necessary to use adrenal glucocorticoids (usually prednisone). Large doses of γ -globulin intravenous infusion are indicated for emergency treatment.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

a. Deficiency and Excess

Table 43-2 Differentiating Deficiency and Excess Patterns

Essentials	Excess Pattern	Deficiency Pattern
Onset	Acute	Chronic
Course	Short	Long
Skin Lesion Color	Bright	Dull
Pattern Classification	Wind-heat damaging collaterals, blood heat causing bleeding	Qi failing to control blood, yin deficiency & effulgent fire
Stages	Early	Late

b. Distinguishing Severity

The severity of this disease is determined by the amount of bleeding and whether it is associated with kidney damage. Those with a small amount of bleeding are mild cases; severe cases present with large amounts of bleeding (bloody stools, hematuria and evident proteinuria).

► Treatment Principles

The treatment principles for excess patterns are mainly to clear heat and cool blood. In deficiency patterns, the principles are primarily to boost qi, contain blood, nourish yin and reduce deficiency fire. Purpura is extravascular bleeding which belongs to blood stagnation. Therefore medicinal herbs that activate blood and resolve stasis are usually added to the formulas that treat this disease.

► Classification of Patterns and Treatment

MAIN PATTERNS

Wind-Heat Damaging the Collaterals

Signs and Symptoms

Patients with this pattern present with a relatively acute onset, beginning with a fever, cough and sore throat, followed by bright red purpuric skin lesions of various sizes mainly scattered on the lower limbs and buttocks with bilateral distribution often with itching. Patients may have swollen painful joints, abdominal pain, bloody stools and hematuria. The tongue is red with a yellow and thin coating. The pulse is floating and rapid.

Pattern Differentiation

This pattern is due to externally-contracted pathogenic wind-heat invading the blood vessels. It is characterized by a relatively acute onset, bright red skin purpura, and concurrent symptoms of wind-heat invading the exterior.

Treatment Principles

Disperse wind and expell pathogens, clear heat and cool blood

Formula

Modified *Lián Qiào BÀI Dú Sǎn*—Forsythia Toxin-Resolving Powder

荆芥	<i>jīng jiè</i>	Herba Schizonepetae
防风	<i>fáng fēng</i>	Radix Saposhnikoviae
薄荷	<i>bò he</i>	Herba Menthae
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
连翘	<i>lián qiào</i>	Fructus Forsythiae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
黄芩	<i>huáng qín</i>	Radix Scutellariae
升麻	<i>shēng má</i>	Rhizoma Cimicifugae
玄参	<i>xuán shēn</i>	Radix Scrophulariae
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
紫草	<i>zǐ cǎo</i>	Radix Arnebiae

Formula Analysis

Jīng jiè (Herba Schizonepetae), *fáng fēng* (Radix Saposhnikoviae), *bò he* (Herba Menthae) and *niú bàng zǐ* (Fructus Arctii) scatter wind and dispel pathogenic factors.

Lián qiào (Fructus Forsythiae), *zhī zǐ* (Fructus Gardeniae), *huáng qín* (Radix Scutellariae) and *shēng má* (Rhizoma Cimicifugae) clear heat and remove toxins.

Xuán shēn (Radix Scrophulariae) and *dāng guī* (Radix Angelicae Sinensis) nourish blood and dispel wind.

Chì sháo (Radix Paeoniae Rubra) and *zǐ cǎo* (Radix Arnebiae) clear heat and cool blood.

Modifications

For itchy skin, add *fú píng* (Herba Spirodela), *chán tuì* (Periostracum Cicadae) and *dì fū zǐ* (Fructus Kochiae) to calm wind and relieve itching.

For swollen and painful joints, add *sāng zhī* (Ramulus Mori), *qín jiāo* (Radix Gentianae Macrophyllae) and *niú xī* (Radix Achyranthis Bidentatae) to expel wind and dredge collaterals.

For abdominal pain, add *yán hú suǒ* (Rhizoma Corydalis), *bái sháo* (Radix Paeoniae Alba) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) to relax spasms and harmonize the spleen and stomach.

For hematuria, add *xiǎo jì* (Herba Cirsii), *bái máo gēn* (Rhizoma Imperatae) and *ǒu jié tàn* (Nodus Nelumbinis Rhizomatis Carbonisatum) to cool blood and check bleeding.

Chinese Patent Medicines

Yín Qiào Jiě Dú Kē Lì—Lonicera and Forsythia Detoxification Granules

15 g each bag. Under 3 years old, 1/3 bag. 3-6 years, 1/2 bag. Over 6 years, 1 bag. Three

times daily.

Chinese Medicinal Wash

鲜芦根	<i>lú gēn</i>	15-30 g	Rhizoma Phragmitis (fresh-picked)
鲜白茅根	<i>bái máo gēn</i>	15-30 g	Rhizoma Imperatae (fresh-picked)
鸡血藤	<i>jī xuè téng</i>	15 g	Caulis Spatholobi
忍冬藤	<i>rěn dōng téng</i>	15 g	Caulis Lonicerae Japonicae
牛膝	<i>niú xī</i>	10 g	Radix Achyranthis Bidentatae
茯苓皮	<i>fú líng pí</i>	10 g	Cutis Poriae
牡丹皮	<i>mǔ dān pí</i>	10 g	Cortex Moutan
白鲜皮	<i>bái xiān pí</i>	10 g	Cortex Dictamni
赤芍	<i>chì sháo</i>	10 g	Radix Paeoniae Rubra
丹参	<i>dān shēn</i>	10 g	Radix et Rhizoma Salviae Miltiorrhizae
赤小豆	<i>chì xiǎo dòu</i>	15 g	Semen Phaseoli

Decoct with water to 500 ml. Wash the affected areas and the painful swollen joints for 15-30 minutes, twice daily.

Bleeding due to Blood Heat

Signs and Symptoms

Patients with this pattern have a relatively acute onset and skin lesions with densely distributed ecchymoses, which may even be confluent as bright red petechiae. There may be spitting blood, bloody stools and hematuria. The blood is bright red or purplish-red. The patient may also have symptoms of vexation, thirst, constipation or associated abdominal pain and a fever. The tongue is red and the pulse is rapid and forceful.

Pattern Differentiation

This pattern is due to excessive congestion of heat toxin impairing the collaterals and causing blood to move frenetically with extravasation. The key points of differentiation are acute onset, bright red purpura and bleeding as well as the associated manifestations of internal exuberance of toxic heat and stagnated heat in the blood.

Treatment Principles

Clear heat and remove toxin, cool blood and stanch bleeding

Formula

Modified *Xī Jiǎo Dì Huáng Tāng*—Rhinoceros Horn and Rehmannia Decoction

水牛角	<i>shuǐ niú jiǎo</i>	Cornu Bubali
生地	<i>shēng dì</i>	Radix Rehmanniae
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
紫草	<i>zǐ cǎo</i>	Radix Arnebiae
玄参	<i>xuán shēn</i>	Radix Scrophulariae
黄芩	<i>huáng qín</i>	Radix Scutellariae
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Xī jiǎo is prohibited, usually replaced by *shuǐ niú jiǎo* (Cornu Bubali) to clear heart and cool blood.

Shēng dì (Radix Rehmanniae) cools blood and nourishes yin.

Mǔ dān pí (Cortex Moutan) and *chì sháo* (Radix Paeoniae Rubra) activate blood and resolve stasis.

Zǐ cǎo (Radix Arnebiae) and *xuán shēn* (Radix Scrophulariae) cool blood and check bleeding.

Huáng qín (Radix Scutellariae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) clear heat and remove toxins.

Modifications

For those associated with gum bleeding and nosebleed, add *jiāo zhī zǐ* (Fructus Gardeniae Praeparatus) and *bái máo gēn* (Rhizoma Imperatae) to cool blood and remove toxins.

For hematuria, add *dà jì* (Herba Cirsii Japonici) and *xiǎo jì* (Herba Cirsii) to cool blood and check bleeding.

For bloody stools, add *dì yú tàn* (Radix Sanguisorbae Carbonisatum) and *huái huā* (Flos Sophorae) to astringe and stanch blood.

For abdominal pain, add high doses of *bái sháo* (Radix Paeoniae Alba) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) to relax spasms and relieve pain.

For swollen and painful joints, add *mù guā* (Fructus Chaenomelis), *niú xī* (Radix Achyranthis Bidentatae) and *jī xuè téng* (Caulis Spatholobi) to unblock the collaterals and relieve pain.

If the patient has profuse bleeding and suddenly appears pale in complexion with reversal cold of the four limbs, sweating and a faint pulse (which indicates qi and yang on the verge of collapse), immediately use *Rén Shēn Tāng*—Ginseng Decoction or *Shēn Fù Tāng*—Ginseng and Monkshood Decoction to restore yang and rescue desertion.

Serious conditions of this disease must be hospitalized and treated with a combination of Chinese and Western medicine.

Chinese Patent Medicines

Yī Qīng Kē Lì—Yiqing Granules, 7.5 g each bag.

Under 3 years old, 1/3 bag. 3-6 years, 1/2 bag. Over 6 years, 1 bag. Mix with boiled water and take warm, three times daily.

Failure of Qi to Contain Blood

Signs and Symptoms

Patients with this pattern have a slow onset and prolonged disease course. They present with recurrent light-colored purpuric spots and petechiae, visual or microscopic hematuria, sallow complexion, mental fatigue, lack of strength, poor appetite, dizziness, and flusteredness. The tongue is pale with a thin coating. The pulse is thready and forceless.

Pattern Differentiation

Due to the prolonged course, there is a resulting heart and spleen deficiency. Deficient heart qi cannot generate blood and deficient spleen qi cannot control and contain blood; consequently, blood will extravasate from the vessels and cause bleeding. The key points of diagnosis are the prolonged course, light-colored purpuric lesions, recurrent attacks of purpura, and signs of qi and blood deficiency.

Treatment Principles

Fortify the spleen, nourish the heart, boost qi, and contain blood

Formula

Modified *Guī Pí Tāng*—Spleen-Restoring Decoction

党参	<i>dǎng shēn</i>	Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
黄芪	<i>huáng qí</i>	Radix Astragali
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
远志	<i>yuǎn zhì</i>	Radix Polygalae
酸枣仁	<i>suān zǎo rén</i>	Semen Ziziphi Spinosae
龙眼肉	<i>lóng yǎn ròu</i>	Arillus Longan
木香	<i>mù xiāng</i>	Radix Aucklandiae
生姜	<i>shēng jiāng</i>	Rhizoma Zingiberis Recens
大枣	<i>dà zǎo</i>	Fructus Jujubae

Formula Analysis

Dǎng shēn (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) fortify spleen and boost qi.

Huáng qí (Radix Astragali) and *dāng guī* (Radix Angelicae Sinensis) supplement qi and engender blood.

Yuǎn zhì (Radix Polygalae), *suān zǎo rén* (Semen Ziziphi Spinosae) and *lóng yǎn ròu* (Arillus Longan) nourish blood and calm the heart.

Mù xiāng (Radix Aucklandiae) awakens the spleen and regulates qi.

Shēng jiāng (Rhizoma Zingiberis Recens) and *dà zǎo* (Fructus Jujubae) harmonize the spleen and stomach.

With these balanced functions, this formula can supplement effectively without causing stagnation.

Modifications

For those with kidney yang deficiency manifesting with mental fatigue, weak cold limbs, aversion to cold and wind, weakness of lumbar and knee areas, and a pale complexion, add *lù róng* (Cornu Cervi Pantotrichum), *ròu cōng róng* (Herba Cistaanches) and *bā jǐ tiān* (Radix Morindae Officinalis) to warm the kidney and supplement yang.

For densely distributed dark-purple purpura and a dark tongue body with stasis spots, add *sān qī fěn* (powder of Radix et Rhizoma Notoginseng), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *chì sháo* (Radix Paeoniae Rubra) and *qiàn cǎo gēn* (Radix et Rhizoma Rubiae) to resolve stasis and staunch blood.

For abdominal pain, add *qīng pí* (Pericarpium Citri Reticulatae Viride), *yán hú suǒ* (Rhizoma Corydalis) and *mù xiāng* (Radix Aucklandiae) to move qi and relieve pain.

Chinese Patent Medicines

Rén Shēn Guī Pí Wán—Ginseng and Angelica Spleen-Restoring Pill

Water-honeyed pills, 0.1 g per pill.

Under 3 years old, 10 pills. 3-6 years, 20 pills. Over 6 years, 40 pills. Twice daily.

Wū Jī Bái Fèng Kǒu Fú Yè—Wuji Baifeng Oral Solution

5-10 ml, twice daily.

Hyperactive Fire due to Yin Deficiency

Signs and Symptoms

Patients with this pattern have an intermittent onset with dark-purple purpura, or the purpura disappears but microscopic hematuria is visible, low fever, night sweating, vexation, poor sleep, dry stools and yellow-red urine. The tongue is glossy-red with a scanty coating. The pulse is thready and rapid.

Pattern Differentiation

This pattern is due to blood vessels becoming damaged by effulgent fire resulting from yin deficiency. The key points for differential diagnosis are the intermittent onset of purpura associated with symptoms of effulgent fire due to yin deficiency.

Treatment Principles

Nourish yin and reduce fire, cool blood and stanch bleeding

Formula

Modified *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill

熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
山茱萸	<i>shān zhū yú</i>	Fructus Corni
山药	<i>shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
黄柏	<i>huáng bǎi</i>	Cortex Phellodendri Chinensis
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae

Formula Analysis

Shú dì huáng (Radix Rehmanniae Praeparata) and *shān zhū yú* (Fructus Corni) nourish kidney yin and liver yin.

Shān yào (Rhizoma Dioscoreae) and *fú líng* (Poria) fortify the spleen and dry dampness.

Zé xiè (Rhizoma Alismatis) and *mǔ dān pí* (Cortex Moutan) clear fire from the liver and kidney.

Huáng bǎi (Cortex Phellodendri Chinensis) and *zhī mǔ* (Rhizoma Anemarrhenae) nourish yin and reduce fire.

Modifications

For nose or gum bleeding, add *bái máo gēn* (Rhizoma Imperatae) and *jiāo zhī zǐ* (Fructus Gardeniae Praeparatus) to cool blood and stanch bleeding.

For those with low fever, add *yín chái hú* (Radix Stellariae), *dì gǔ pí* (Cortex Lycii) and *qīng hāo* (Herba Artemisiae Annuae) to clear deficiency heat.

For those with night sweats, add *duàn mǔ lì* (Concha Ostreae Praeparatum), *duàn lóng gǔ* (Fossilia Ovis Mastodi Praeparatum) and *fú xiǎo mài* (Fructus Triticis Levis) to astringe and check sweating.

Chinese Patent Medicines

Zhī Bǎi Dì Huáng Wán—Anemarrhena, Phellodendron and Rehmannia Pill, concentrated pills.

4-8 pills, 3 times daily.

Moxibustion

DU 3 (<i>yāo yáng guān</i>)	BL 31 (<i>shàng liáo</i>)	BL 32 (<i>cì liáo</i>)
BL 33 (<i>zhōng liáo</i>)	BL 34 (<i>xià liáo</i>)	

Apply ginger slice moxibustion with a moxa cone. 15-20 minutes each point once daily, 10 times as one treatment course.

[PREVENTION AND NURSING CARE]

1. PREVENTION

- The child needs to exercise regularly to strengthen the constitution and avoiding catching colds.
- Care is needed in order to prevent upper respiratory tract infections. Treat chronic infections such as tonsillitis, tooth decay, sinusitis, and parasites; also avoid allergens (food or medicine) based on the individual condition.

2. NURSING CARE

- During the acute stage, or with a large amount of bleeding, the patient should have bed rest and restricted daily movement.
- Patients need a light and nutritious diet, hematemesis or hematochezia requires a semi-fluid diet; generally avoid rough fibrous and spicy foods.

[CASE STUDIES]

► Case #1. Male age, 6. Initial Visit: 1/9/1999.

Patient presented with purpura on the lower limbs for one week. One week before, the skin lesions had appeared; there was a fever with cough and a sore throat. After taking flu capsules and panadol the fever had subsided, but the cough and sore throat persisted. Petechiae were distributed on the lower limbs with slightly itchy soybean-sized skin lesions. He also had joint pain, abdominal pain, and a poor appetite.

Physical examination showed a slightly red pharynx and clear lungs without rales. His abdomen was tender and there were soybean-sized petechiae densely distributed on the extensor surface of his lower limbs. His knee joints were painful. The tongue was red with a greasy yellow coating. His pulse was rapid.

Blood tests showed: platelet count $120 \times 10^9/L$, WBC $8 \times 10^9/L$, N% 0.52. Urine tests result showed urea nitrogen and serum creatinine normal. Ultrasound examination of both

kidneys was normal.

The pattern here is wind-heat invading blood, with frenetic blood movement with extravasation and bleeding. The treatment principle is to dispel wind and cool blood, clear heat, and unblock the collaterals.

Formula

水牛角	<i>shuǐ niú jiǎo</i>	15 g	Cornu Bubali (decocted first)
牡丹皮	<i>mǔ dān pí</i>	10 g	Cortex Moutan
赤芍	<i>chì sháo</i>	10 g	Radix Paeoniae Rubra
丹参	<i>dān shēn</i>	10 g	Radix et Rhizoma Salviae Miltiorrhizae
板蓝根	<i>bǎn lán gēn</i>	10 g	Radix Isatidis
炒防风	<i>chǎo fáng fēng</i>	10 g	Radix Saposhnikoviae (stir-fried)
紫草	<i>zǐ cǎo</i>	10 g	Radix Arnebiae
防己	<i>fáng jǐ</i>	10 g	Radix Stephaniae Tetrandrae
海桐皮	<i>hǎi tóng pí</i>	10 g	Cortex Erythrinae
甘草	<i>gān cǎo</i>	4 g	Radix et Rhizoma Glycyrrhizae

7 doses. One decocted dose each day, taken twice daily.

Second Visit

After taking medicinals, the purpura were faded and the joint and abdominal pains were alleviated. The cough and sore throat were also resolved.

The previous formula was modified with *bǎn lán gēn* (Radix Isatidis) and *chǎo fáng fēng* (stir-fried Radix Saposhnikoviae) removed and *jī xuè téng* (Caulis Spatholobi) and *qiàn cǎo* (Radix et Rhizoma Rubiae) added, 10 g each.

After 14 days the skin lesions disappeared and clinical examinations were normal, so medication was stopped. A 6-month follow-up showed no signs of relapse.

Analysis

The onset of acute stage anaphylactoid purpura is usually preceded by external contraction of wind-heat and is generally an excess pattern. The key problem at this stage is the exuberant pathogens.

This case is due to external pathogenic wind-heat transforming into heat-toxin confined internally, which stagnates and steams the skin and muscles, contends with qi and blood, impairs the collaterals and forces blood to extravasate from the vessels. This causes bleeding under the skin and purpura. This condition is also associated with skin and joint symptoms, and belongs to a pattern of wind-heat stirring the blood.

Modified *Xī Jiǎo Dì Huáng Tāng*—Rhinoceros Horn and Rehmannia Decoction is indicated. Because he had swollen and painful joints, *hǎi tóng pí* (Cortex Erythrinae), *jī xuè téng* (Caulis Spatholobi) and *qiàn cǎo* (Radix et Rhizoma Rubiae) were used to dispel wind, resolve dampness, activate blood, and unblock the collaterals.

Source: Jin ZD, Ju CH. Experiences of Prof. Wang Shouchuan in the Treatment Anaphylactoid Purpura [J]. Journal of Sichuan Traditional Chinese Medicine, 2000; 18(3):2-3

► Case #2. Male, age 9. Initial Visit: 7/8/2003.

The chief complaint was recurrent purpura for 3 months. Abnormal urine test results

were found two days previously. Three months ago the child presented with purpura on both lower limbs with no obvious predisposing causes. He was treated at a local hospital with antibodies, Vitamin C, Loratadine and TCM medicinals. The treatment was unsatisfactory due to the recurrent purpura. Two days previously his urine test showed microscopic hematuria and proteinuria (+).

His presenting symptoms showed sparse purpura distributed on both lower limbs. His pharynx was dark red, he sweated easily, preferred cold drinks, and had dry stools. His tongue was dark red with a yellow and white coating. His pulse was thready and rapid.

Kidney biopsy showed slight membranoproliferative glomerulonephritis. Urine tests displayed PRO (+), BLD (+++), microscopic RBC ++/HP. Blood test, kidney and liver functions and blood cholesterol were all normal.

This case was differentiated as a pattern of qi and yin deficiency combined with blood stasis. The treatment principle here is to boost qi, nourish yin, activate blood, and resolve stasis. Modifications of *Sì Jūn Zǐ Tāng*—Four Gentlemen Decoction and *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill were used.

Formula

黄芪	<i>huáng qí</i>	30 g	Radix Astragali
太子参	<i>tài zǐ shēn</i>	30 g	Radix Pseudostellariae
白术	<i>bái zhú</i>	15 g	Rhizoma Atractylodis Macrocephalae
生地	<i>shēng dì</i>	15 g	Radix Rehmanniae
知母	<i>zhī mǔ</i>	10 g	Rhizoma Anemarrhenae
山茱萸	<i>shān zhū yú</i>	10 g	Fructus Corni
牡丹皮	<i>mǔ dān pí</i>	10 g	Cortex Moutan
女贞子	<i>nǚ zhēn zǐ</i>	10 g	Fructus Ligustri Lucidi
旱莲草	<i>hàn lián cǎo</i>	15 g	Herba Ecliptae
丹参	<i>dān shēn</i>	15 g	Radix et Rhizoma Salviae Miltiorrhizae
益母草	<i>yì mǔ cǎo</i>	15 g	Herba Leonuri
连翘	<i>lián qiào</i>	15 g	Fructus Forsythiae
三七粉	<i>sān qī fěn</i>	3 g	Radix et Rhizoma Notoginseng

He was also administered 15 mg tripterygium wilfordii polyglycosidium tablet, three times daily.

After 7 doses his skin purpura faded completely and urine tests showed PRO (+), BLD (++), microscopic RBC ++/HP. After another 14 doses, all symptoms subsided; no purpura was apparent, the urine test was normal, and his physical status had recovered. Then the patient was given the following Chinese patent medicines to consolidate the treatment effect.

Chinese Patent Medicine

Xuè Niào Tíng Kē Lì—Stop Bloody Urine Medicinal Granules

This formula includes *shēng dì* (Radix Rehmanniae), *shuǐ niú jiǎo* (Cornu Bubali), *hàn lián cǎo* (Herba Ecliptae), *dāng guī* (Radix Angelicae Sinensis), *sān qī* (Radix et Rhizoma Notoginseng), *hǔ zhàng* (Rhizoma Polygoni Cuspidati) and *gān cǎo* (Radix et Rhizoma

Glycyrrhizae), etc. It was prescribed for two months along with tripterygium wilfordii polyglycosidium tablets for three months as an after treatment. Repeated urine tests showed normal results.

Analysis

This case of anaphylactoid purpura belongs to a qi and yin deficiency pattern. This pattern is characterized by a longer course and easily recurring infection with simultaneous proteinuria and hematuria. The clinical manifestations are light red skin purpura or subsided skin lesions, shortage of breath, lack of physical strength, and dry mouth or chronic pharyngodynia with a dark red pharynx and a hot feeling in the palms and soles. The tongue is a light red with a scanty coating, and the pulse is thready or weak.

The treatment principle here is to boost qi and nourish yin. Modified *Sì Jūn Zǐ Tāng*—Four Gentlemen Decoction and *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill were prescribed along with tripterygium wilfordii polyglycosidium tablets as a supporting role. With obvious hematuria, add *hǔ pò fěn* (powder of Succinum) and *sān qī fěn* (powder of Radix et Rhizoma Notoginseng) after mixing them with water.

Source: Wu LQ, Guan LJ. Essential Experiences of Prof. Ding Ying in the Treatment of Schönlein-Henoch Purpura Nephritis [J]. Study Journal of Traditional Chinese Medicine, 2004; 22(8):1390-1391

► Case #3. Female, age 6.

There was recurrent skin purpura with abnormal urine test results for half a year. In August 2000 after an upper respiratory tract infection, the patient developed purpura on the lower limbs with pain in both knees and ankles. The patient was hospitalized and diagnosed with Henoch-Schönlein purpura nephritis (HSPN). Kidney biopsy showed moderate mesangial proliferative HSPN (pathological change of level IIb).

The patient had scattered bright red purpuric lesions of uneven size on the lower limbs, a red pharynx, dry mouth, a hot feeling in the palms and soles, night sweats, dry stools, and dark yellow urine. Her tongue is red with a thin yellow coating, and the pulse is rapid and forceful.

Laboratory urine test results showed: PRO (+), BLD (+++), microscopic RBC (++)

This case belongs to a pattern of yin deficiency with internal heat associated with blood stasis. The treatment principles here are to nourish yin, clear heat, activate blood, and resolve stasis. The chosen formulas are a modifications of *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill and *Táo Hóng Sì Wù Tāng*—Peach Kernel and Carthamus Four Substances Decoction.

Formula

知母	zhī mǔ	10 g	Rhizoma Anemarrhenae
当归	dāng guī	10 g	Radix Angelicae Sinensis
川芎	chuān xiōng	10 g	Rhizoma Chuanxiong
赤芍	chì sháo	10 g	Radix Paeoniae Rubra
黄柏	huáng bǎi	12 g	Cortex Phellodendri Chinensis
牡丹皮	mǔ dān pí	12 g	Cortex Moutan

蒲黄	<i>pú huáng</i>	12 g	Pollen Typhae
生地	<i>shēng dì</i>	15 g	Radix Rehmanniae
桃仁	<i>táo rén</i>	10 g	Semen Persicae
红花	<i>hóng huā</i>	10 g	Flos Carthami
制大黄	<i>zhì dà huáng</i>	3 g	Radix et Rhizoma Rhei
徐长卿	<i>xú cháng qīng</i>	18 g	Radix et Rhizoma Cynanchi Paniculati
板蓝根	<i>bǎn lán gēn</i>	18 g	Radix Isatidis

7 doses. One dose daily, decocted in water. 10 mg tripterygium wilfordii polyglycosidium tablets twice daily, in coordination with heparin.

Qīng Kāi Líng Zhù Shè Yè (Qing Kai Ling Injection) and *Dān Shēn Zhù Shè Yè*—*Danshen* Injection were also administered intravenously.

After 7 doses the purpura faded completely and urine tests showed PRO (–), RBC (+). The above formula was modified slightly and she was prescribed 20 doses. Re-examination of urine showed PRO (–), BLD (–), microscopic RBC 0-3/HP. The former formulas were modified slightly and she was prescribed another 20 doses. Regular urine tests showed normal results.

On the basis of the above formula, *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder was added to the prescription as an after-treatment for 2 months. When followed up after one year, the patient's condition had remained stable with no recurrence of HSP; urine tests were normal.

Analysis

The characteristics of this case are a prolonged course of disease and recurrent attacks. This condition in HSP usually belongs to a deficiency pattern or deficiency-excess complex pattern. There are two types of deficiency patterns: qi failing to contain blood, and liver and kidney yin deficiency.

This case had skin purpura, a red pharynx and dry mouth, a hot feeling in the palms and soles, night sweats, dry stools, yellow urine, a red tongue and a rapid and forceful pulse, thus indicating patterns of liver and kidney yin deficiency with hyperactive deficiency fire.

Blood extravasating from the vessels stagnates and forms stasis. In clinical practice, although the heat toxin fades, patients with a main pathogenesis of deficiency may still have blood stasis because of yin deficiency, blood insufficiency with choppy pulse, or qi deficiency failing to govern blood causes the blood to stagnate within the vessels, or to extravasate from them.

Therefore, medicinal herbs that invigorate the blood circulation and dissolve stasis such as *táo rén* (Semen Persicae), *hóng huā* (Flos Carthami), *chuān xiōng* (Rhizoma Chuanxiong), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) and *chì sháo* (Radix Paeoniae Rubra) should be added to the basic formula to nourish yin and clear heat.

Source: Wu WX, Chen TY. Prof. Liu Xia's Experience in the Treatment of Schönlein-Henoch Purpura Nephritis in Children [J]. Journal of Sichuan Traditional Chinese Medicine, 2004; 22 (11): 3-4

[QUESTIONS]

1. A 12-year-old child presents with recurrent purpura for two years. There are scattered, purplish ecchymoses and petechiae distributed on the patient's lower limbs. The patient has a sallow complexion, poor appetite, dizziness and palpitations. The tongue is pale with a thin white coating and there is a thready and forceless pulse.

What is the designated pattern?

- A. Phlegm and blood-stasis obstructing the channels and collaterals
- B. Heart yang weakness
- C. Bleeding due to blood heat
- D. Failure of qi to contain blood
- E. Wind-heat attacking the channels and collaterals

2. A 9-year-old child presents with skin ecchymoses and petechiae for one day. The skin lesions mainly appear on the lower limbs in various sizes and are a bright red color which does not blanch on pressure. The patient also has a fever, vexation, thirst and constipation. The tongue is red with a yellow and thin coating. The pulse is rapid and forceful.

Which is the preferred formula?

- A. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder
- B. *Qīng Yíng Tāng*—Nutritive Level Clearing Decoction
- C. *Xī Jiǎo Dì Huáng Tāng*—Rhinoceros Horn and Rehmannia Decoction
- D. *Bái Hǔ Tāng*—White Tiger Decoction
- E. *Yù Nǚ Jiān*—Jade Lady Decoction

3. A 10-year-old child presented with fever and skin purpura for one month. The patient has a low grade fever and intermittent purpura which mainly appears on the lower limbs. The patient also has night sweats, a hot feeling in the palms and soles, a red tongue with a scanty coating and a thready rapid pulse.

Which is the preferred formula?

- A. *Yī Guàn Jiān*—Effective Integration Decoction
- B. *Zēng Yè Tāng*—Humor-Increasing Decoction
- C. *Dì Huáng Yīn Zǐ*—Rehmannia Drink
- D. *Ē Jiāo Jī Zǐ Huáng Tāng*—Donkey-Hide Gelatin and Egg Yolk Decoction,
- E. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill

4. A 10-year-old child presents with skin purpura for 3 days. The purpura mainly appears on the lower limbs and buttocks with bilateral distribution and is bright red. The patient also has a cough, sore throat, nasal congestion and discharge. The tongue is red with a thin yellow coating, and the pulse is floating and rapid.

Which is the preferred formula?

- A. *Guī Pí Wán*—Spleen-Restoring Pill
- B. *Yín Qiào Jiě Dú Kē Lì*—Lonicera and Forsythia Detoxification Granules,
- C. *Yī Qīng Capsules*—*Yī Qīng* Capsules
- D. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia.
- E. *Wū jī bái fēng Wán*—*Wū jī bái fēng* Pills

5. A 5-year-old child suffers from skin purpura on the lower limbs for one day. The patient has had a common cold, fever, cough, and a sore throat for 3 days. Currently there are, mildly itchy, bright red ecchymoses and petechiae of various size appearing on the lower limbs. The patient also has abdominal pain, a red tongue with thin yellow coating, and a floating and rapid pulse.

What is the treatment principle?

- A. Disperse wind and expel pathogens, clear heat and cool blood
- B. Clear heat and remove toxin, cool blood and stanch bleeding
- C. Nourish yin and reduce fire, cool blood and stanch bleeding
- D. Invigorate spleen, nourish the heart, boost qi and contain blood
- E. Release the exterior with pungent and cool medicinals, diffuse the lung and relieve coughing

[REFERENCES]

- [1] Trapani S, Micheli A, Grisolia F, et al. Henoch-Schonlein Purpura in Childhood: Epidemiological and Clinical Analysis of 150 Cases Over a 5 Year Period and Review of Literature [J]. *Semin Arthritis Rheum*, 2005, 35 (3):143-153.
- [2] Calvino MC, Llorca J, Garcia-Porrúa c, et al. Henoch-Schönlein Purpura in Children from Northwestern Spain: A 20 Year Epidemiological and Clinical Study [J]. *Medicine*, 2001, 80 (5): 190-279.
- [3] Rostoker G. Schönlein-Henoch Purpura in Children and Adults: Diagnosis, Pathophysiology and Management. *Bio Drugs*, 2001, 15 (2):99-138.
- [4] Avner ED, Harmon WE, Niaudet P. *Pediatric Nephrology*. Lippincott Williams and Wilkins, 2004. 851-864.
- [5] Yang JY, Bai KM. *Basic and Clinical Kidney Disease in Children* [M]. Beijing: The People's Medical Publishing House, 2003: 236-238.
- [6] He WX. Clinical Medicine and Pathology of Schönlein-Henoch Purpura Nephritis [J]. *Chinese Journal of Practical Pediatrics*, 2001; 16 (4): 196-198.
- [7] Kong F, Sun YQ, Fan ZM, et al. Clinical Observation on 30 Cases of Chönlein-Henoch Purpura Nephritis Treated by Danshao Granules [J]. *Journal of Traditional Chinese Medicine*, 2008, 49 (6):517-518.
- [8] Li XR. Treatment 30 Cases of Schönlein-Henoch Purpura in Children by Wang Pengfei Empirical Formula [J]. *Traditional Chinese Medicinal Research*, 2006, 19 (1):33-34.

Chapter 44

Mucocutaneous Lymph Node Syndrome (Kawasaki Disease)

Mucocutaneous lymph node syndrome (also known as Kawasaki disease) is an acute febrile eruptive disorder with systemic vasculitis as the main pathological change. The clinical manifestations include fever of unknown origin, a maculopapular rash with subsequent desquamation, erythema of the conjunctivae and mucous membranes, dominant lymphadenopathy of the cervical chain, indurative edema of the hands and feet, and a “strawberry-like” tongue.

Mucocutaneous lymph node syndrome (MLNS) was first reported in 1967 by Japanese physician Tomisaku Kawasaki. The etiology of MLNS is unknown, but it is common in children under 5 years of age, especially infants and toddlers with peak incidence at 18 months. The male to female ratio is approximately (1.5-1.8):1.^[1] The disease occurs worldwide in all ethnic groups; however there are certain geographical differences apparent in the occurrence of this disease, with the highest rate of incidence appearing in Asian countries.

Statistical reports of children under 5 years old reveal a descending scale of incidence; Japan reports approximately 151.2 per 100,000 children, Korea about 95.5/100,000, Taiwan about 66/100,000 and 39/100,000 in Hong Kong.^[2-5] There is also a notable racial variation. Chang et al^[6] reported that the incidence of MLNS was 15.3/100,000 children in California, America from 1995-1999. Among them, the occurrence was highest in Asian (35.3 per 100,000) followed by those of African descent at 24.6/100,000 and slightly lower for Caucasians at 14.7/100,000.

The course of MLNS usually runs for 6-8 weeks, and most patients can be cured with active treatment. In recent years, there has been a significant reduction in the fatality rate from MLNS due to early use of high dose intravenous drip γ -immunoglobulin and improved comprehensive treatments. During the 1990's in Japan, fatality rates dropped to about 0.1%.^[7]

In mainland China there are significant regional differences in fatality rates ranging from 0.2%-1.0%.^[1] The causes of death are usually related to cardiac involvement such as myocarditis, aneurysm rupture, and myocardial infarction. Cardiovascular signs and symptoms in some children may last from several months to several years.

There are no records of Kawasaki disease in the Chinese medical classics. However, with the disease characteristics of acute onset, fever and other clinical manifestations, MLNS can be attributed to the TCM category of warm disease, and therapeutic efficacy appears improved with proper use of *wei-qi-ying*-blood pattern identification. In recent years, early use of the traditional Chinese medicine principles of activating blood and resolving stasis have further improved the clinical therapeutic effects and reducing complications.

Cao GM^[8] treated 36 cases of MLNS in children by using routine Western medicine (intravenous drip infusion of γ -immunoglobulin and aspirin by oral administration) plus a modification of *Qīng Yīng Tāng*—*Yīng* Level Clearing Decoction; the formula



composed of *shuǐ niú jiǎo fēn* (Cornu Bubali), *shēng dì* (Radix Rehmanniae), *xuán shēn* (Radix Scrophulariae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *mǔ dān pí* (Cortex Moutan), *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *shēng shí gāo* (Gypsum Fibrosum), *chì sháo* (Radix Paeoniae Rubra), *zhī mǔ* (Rhizoma Anemarrhenae) and *huáng qín* (Radix Scutellariae). After treatment for 7-10 days, 25 cases recovered fully accounting for 69.4%, 8 cases improved and 3 cases were ineffective. The overall effective rate was 91.7%.

Liao RS et al ^[9] treated 48 cases of MLNS children with routine Western medicine (intravenous drip infusion of γ -immunoglobulin and aspirin by oral administration), while also employing Chinese medicinals.

For cases with fever, a modification of *Qīng Yíng Tāng*—*Yíng* Level Clearing Decoction was used; the formula composed of *shuǐ niú jiǎo fēn* (Cornu Bubali), *shēng dì* (Radix Rehmanniae), *xuán shēn* (Radix Scrophulariae), *zhú yè* (Folium Phyllostachydis Henonis), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *mǔ dān pí* (Cortex Moutan), *chì sháo* (Radix Paeoniae Rubra) and *shēng gān cǎo* (Radix et Rhizoma Glycyrrhizae).

After the fever subsided, a modification of *Zhú Yè Shí Gāo Tāng* (Lophatherum and Gypsum Decoction) was applied; the formula composed of *dān zhú yè* (Herba Lophatheri), *shí gāo* (Gypsum Fibrosum), *mài dōng* (Radix Ophiopogonis), *tài zǐ shēn* (Radix Pseudostellariae), *shí hú* (Caulis Dendrobii), *lú gēn* (Rhizoma Phragmitis), *xuán shēn* (Radix Scrophulariae), *chì sháo* (Radix Paeoniae Rubra), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), and *shēng gān cǎo* (Radix et Rhizoma Glycyrrhizae). The treatment course was 4 weeks.

The results showed an incidence of coronary artery lesions at 8% in the treatment group using combined Western and Chinese medicine, and 21.7% in the control group using Western medicine alone. The differences between the two groups were a significant ($P<0.05$).

[ETIOLOGY & PATHOMECHANISM]

This disease mainly involves warm-heat pathogenic toxins, usually entering the body through the mouth and nose, first invading the lung and *wei*-defense level and then moving to the *qi* level to accumulate in the lung and stomach; eventually the internal heat-toxin damages the *ying* and blood levels. This represents a transmission through the four levels of *wei*-*qi*-*ying*-blood. The involved organs are mainly the lung and stomach, but the heart, liver and kidney may also be affected over time.

Wei and Qi Levels Affected

The exogenous warm-heat toxin invades the lung-*wei* and stagnates in the muscles, striae and interstices where *wei* qi obstruction manifest with fever. Heat transmits rapidly, leading to internal fire with excessive yang-heat accumulating in the lung and stomach; there is a red pharynx, coughing, red palms and soles, and skin rashes.

Qi and Ying Blazing

The disease progresses from the *wei* qi level to the *ying* level where exuberant heat-toxin steams the *ying* and blood levels. Intense qi level heat manifests with a high fever and polydipsia, and intense *ying* level heat produces maculae and rashes. Intense heat in the blood level causes blood to stagnate. Steaming heat and phlegm stagnation can cause lymph node swelling.

Qi and Yin Damage

Yin-fluids will be obviously damaged because heat-toxins are abundant; in the later stages both qi and yin become deficient.

In cases of lung yin damage, there is a dry throat and cracked lips with fissures, and desquamation of the extremities of the fingers and toes appear.

In cases of stomach yin damage, there is thirst with a desire to drink and a red tongue with a scanty coating.

In cases of qi deficiency and blood stasis, there is lassitude and a lack of strength or palpitations and chest distress.

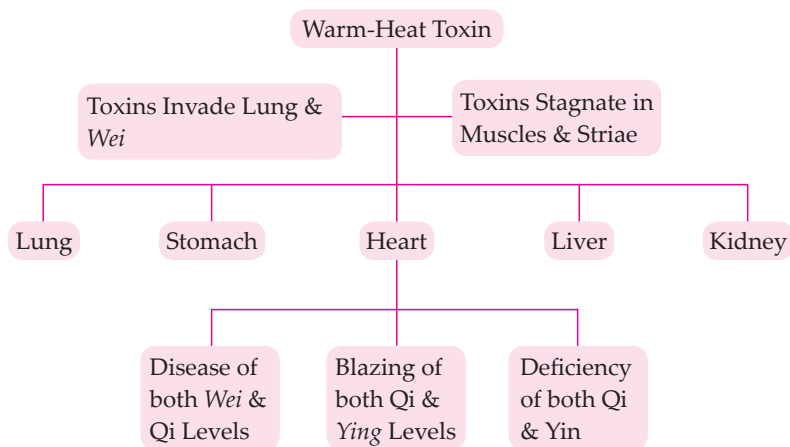


Fig. 44-1 Etiology and Pathomechanism of Mucocutaneous Lymph Node Syndrome

[DIAGNOSIS]

► Essentials of Diagnosis

- Fever persists for 5 or more days with temperatures above 39°C; no response to antibiotic medications.
- Bilateral conjunctiva congestion, dry red and cracked lips, a strawberry-like tongue, palmar and foot erythema, and pitting edema of hands and feet. In the recovery phase there is subsequent desquamation, usually beginning in the extremities and progressing centrally.
- Acute temporary non-purulent cervical lymphadenectasis.
- After 2-4 days of fever, a truncal rash appears varying from an erythematous maculopapular lesion to scarlatiniform, with the highest distribution on the trunk area.
- Laboratory findings: WBC usually elevated with leukocytosis and neutrophilia. Mild anemia may be present. Platelets may be normal early in the disease with thrombocytosis appearing from the second or third week of the disease. There is significant increase in the erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) and serum transaminase levels are elevated.

Electrocardiogram (ECG) reveals diverse variations such as S-T segment, T-wave abnormalities and cardiac rhythm disorder (arrhythmia). Ultrasonic echocardiogram can detect a variety of cardiovascular diseases in about half of patients including pericardial effusion, left ventricular enlargement, mitral insufficiency, coronary artery ectasia,

aneurysm of the cardiovascular system, etc.

► Differential Diagnosis

Table 44-1 Differentiation between Mucocutaneous Lymph Node Syndrome and Scarlet Fever

Key Points	Mucocutaneous Lymph Node Syndrome	Scarlet Fever
Pathogen	Unknown	Group A β -hemolytic streptococcus
Fever	Persistent high fever	Fever lasting for 3-4 days
Rash	Yes	Yes
Strawberry Tongue	Yes	Yes
Erythema of Mucous Membranes	Yes	No
Cervical Chain Lymphadenectasis	Yes	No
Pitting Edema of the Hands & Feet	Yes	No

Table 44-2 Differentiation between Mucocutaneous Lymph Node Syndrome and Infectious Mononucleosis

Key Points	Mucocutaneous Lymph Node Syndrome	Infectious Mononucleosis
Pathogen	Unknown	Epstein-Barr virus (EBV)
Fever, Pharyngalgia	Yes	Yes
Rash	Yes	Yes
Strawberry Tongue	Yes	No
Erythema of the Mucous Membranes	Yes	No
Lymphadenectasis	Cervical chain	Cervical & generalized
Desquamation on Extremities of Fingers & Toes	Yes	No
Atypical Lymphocytes in Peripheral Blood	No	>10%

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

Pattern differentiation for this disease should follow the four levels of *wei*-*qi*-*ying* and blood. During onset or an early acute febrile stage, stagnation of pathogenic factors in the lung-*wei* level are usually temporary but cause fever and a slight aversion to wind with a reddened throat. Pathogens then rapidly transform into internal heat or in conjunction with heat blazing in the *qi* level, resulting in persistent high fever, thirst with a desire to drink and the appearance of skin rashes. Subsequently, heat enters *ying*-blood causing crimson maculae on the skin, a strawberry-like tongue, irritability or somnolence.

The disease resolves during the later stages resulting in *qi* and *ying* damage causing

lassitude, profuse sweating and desquamation on the extremities of the fingers and toes. This disease easily results in blood stasis with purple-colored maculae and papules, and hardened edema of the hands and feet; the tongue is crimson, and there are purple stagnant finger venules. If blood stasis obstructs the collaterals, other symptoms include heart palpitations and right rib-side masses.

► Treatment Principles

The treatment principles here mainly involve clearing heat, removing toxins, activating blood and resolving stasis. In early stages, the principle is to disperse wind, clear heat and remove toxins with pungent-cool medicinals. In cases of blazing heat-toxin, the principle is to clear the qi level, cool the *ying* level and remove toxins; bitter-cold medicinals are mainly selected for this purpose.

In later stages with qi and yin damage, the principle is boost qi, nourish yin and remove toxins with sweet-cold and cool-moistening medicinals. Because this disease commonly involves blood stasis, it is also important to add medicinals to activate blood and resolve stasis at all disease stages. Heat-toxin can easily transform into fire and subsequently damage yin; therefore, treatment should also act to nourish stomach yin and protect heart yin.

► Classification of Patterns and Treatments

Concurrent Wei and Qi Disorder

Signs and Symptoms

Manifestations include acute disease onset, a persistent high fever, slight aversion to wind, thirst with a desire to drink, red eyes and throat, red palms and feet, rash distribution on the trunk, cervical lymphadenectasis, and possible cough. The tongue is red with a thin coating; there is a floating and rapid pulse.

Pattern Differentiation

This pattern is characterized by an acute onset. After the temporary manifestations of a *wei*-defense pattern, the qi level is rapidly invaded causing a persistent fever. Other manifestations include red eyes and throat, skin rash, red palms and feet, and cervical lymphadenectasis; these signs and symptoms belong to concurrent *wei* level and qi level condition with manifestations of warm febrile pathogenic toxins penetrating internally.

Treatment Principles

Vent the exterior with pungent-cool medicinals, clear heat and remove toxins

Formula

Modified *Yín Qiào Sǎn*—*Lonicera* and *Forsythia* Powder

金银花	<i>jīn yín huā</i>	Flos <i>Lonicerae Japonicae</i>
连翘	<i>lián qiào</i>	Fructus <i>Forsythiae</i>
青黛	<i>qīng dài</i>	Indigo <i>Naturalis</i>
薄荷	<i>bò he</i>	Herba <i>Menthae</i>
牛蒡子	<i>niú bàng zǐ</i>	Fructus <i>Arctii</i>
玄参	<i>xuán shēn</i>	Radix <i>Scrophulariae</i>
鲜芦根	<i>xiān lú gēn</i>	Rhizoma <i>Phragmitis</i>

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae) and *lián qiào* (Fructus Forsythiae) clear heat and remove toxins.

Pungent and cool *bò hé* (Herba Menthae) acts to vent the exterior.

Qīng dài (Indigo Naturalis) clears heat and removes toxins.

Niú bàng zǐ (Fructus Arctii) and *xuán shēn* (Radix Scrophulariae) remove toxins and relieve sore throat.

Xiān lú gēn (Rhizoma Phragmitis) nourishes yin and engenders fluids.

Modifications

For high fever, add *Bái Hǔ Tāng*—White Tiger Decoction to clear qi-level heat.

For lymphadenectasis of the cervical chain, add *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii), *jiāng cán* (Bombyx Batryticatus) and *xià kū cǎo* (Spica Prunellae) to resolve phlegm and dissipate masses.

For red palms and soles, add *shēng dì huáng* (Radix Rehmanniae), *huáng qín* (Radix Scutellariae) and *mǔ dān pí* (Cortex Moutan) to cool blood and resolve stasis.

For thirst, add *tiān huā fēn* (Radix Trichosanthis) and *mài dōng* (Radix Ophiopogonis) to clear heat and preserve fluids.

Chinese Patent Medicines

Yín Qiào Jiě Dú Kē Lì—Lonicera and Forsythia Detoxification Granules

15 g each bag. Children < 3 years old, take 1/3 bag; 3-6 years old, 1/2 bag; > 6 years, one bag. Take mixed with boiled water, 3 times daily.

Tuī na

Points	Repetitions	Methods
<i>Fèi jīng</i> (肺经)	100-200	Clearing
<i>Tiān hé shuǐ</i> (天河水)	100-200	Clearing
<i>Liù fǔ</i> (六腑)	100-200	Pushing
DU 14 (<i>dà zhuī</i>)	3-5	Lifting and Pinching

Clear *fèi jīng* 100-200 times and *tiān hé shuǐ* 100-200 times, push *liù fǔ* 100-200 times, lift and pinch DU 14 (*dà zhuī*) 3-5 times.

Treat once daily, with 3 times as one treatment course.

Both Qi and Ying Blazing Pattern**Signs and Symptoms**

Manifestations include a persistent high fever intensified at night and lessened in daytime with red eyes and throat, dry red cracked lips, irritability or sleepiness, maculae on the skin or swelling and pain of the cervical lymph nodes, hardness and swelling of hands and feet, and subsequent desquamation on the extremities of the fingers and toes. The tongue can be crimson-red with a strawberry-like body and a thin and yellow coating; the pulse is rapid and forceful.

Pattern Differentiation

This pattern is usually seen in the most severe stages as well as in the subacute stage of the disease in some cases; the acute febrile stage results from the blazing of both qi and ying levels and heat blazing in the *sanjiao*.

A predominant *qi* level pattern manifests with high fever, irritability, thirst and a surging pulse.

A predominant *ying* level pattern manifests with crimson maculae in the skin, “strawberry” tongue, irritability and sleepiness.

Heat congealing and blood stagnation manifests with purple maculae, pitting edema of the hands and feet, and a red and crimson tongue.

Treatment Principles

Clear *qi* and cool *ying* levels, remove toxins and resolve stasis

Formula

Modified *Qīng Wēn Bài Dú Yǐn*—Epidemic-Clearing Toxin-Resolving Beverage

水牛角	<i>shuǐ niú jiǎo</i>	Cornu Bubali
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra
生石膏	<i>shēng shí gāo</i>	Gypsum Fibrosum
知母	<i>zhī mǔ</i>	Rhizoma Anemarrhenae
黄芩	<i>huáng qín</i>	Radix Scutellariae
栀子	<i>zhī zǐ</i>	Fructus Gardeniae
玄参	<i>xuán shēn</i>	Radix Scrophulariae
生地	<i>shēng dì</i>	Radix Rehmanniae

Formula Analysis

Shuǐ niú jiǎo (Cornu Bubali), *mǔ dān pí* (Cortex Moutan) and *chì sháo* (Radix Paeoniae Rubra) clear toxins from the *ying* level, cool blood, and resolve stasis.

Shēng shí gāo (Gypsum Fibrosum) and *zhī mǔ* (Rhizoma Anemarrhenae) clear heat from the *qi* level.

Huáng qín (Radix Scutellariae) and *zhī zǐ* (Fructus Gardeniae) purge fire.

Xuán shēn (Radix Scrophulariae) and *shēng dì* (Radix Rehmanniae) clear heat and nourish yin.

Modifications

For constipation, add *dà huáng* (Radix et Rhizoma Rhei) to purge and unblock the bowels to rescue yin.

For severe heat damaging yin, add *mài dōng* (Radix Ophiopogonis), *shí hú* (Caulis Dendrobii) and *tiān huā fēn* (Radix Trichosanthis) to clear heat, promote fluid production and nourish yin.

For abdominal pain and diarrhea, add *huáng lián* (Rhizoma Coptidis), *mù xiāng* (Radix Aucklandiae), *cāng zhú* (Rhizoma Atractylodis) and *shān zhā* (Fructus Crataegi) to clear the intestines and dry dampness.

For increased cervical lymph nodes, add *xià kū cǎo* (Spica Prunellae) and *pú gōng yīng* (Herba Taraxaci) to clear heat, dispel stasis and soften hard masses.

Chinese Patent Medicines

Wǔ Fú Huà Dú Wán—Five-Fu Dissipate Toxin Pill

Water-honeyed pills, 10 g/100 pills. Take 10-20 pills, 3 times daily.

Dān Shēn Dī Wán—Salvia Drop Pill

Take 1-3 pills, 3 times daily.

Indicated for mucocutaneous lymph node syndrome with blood stasis.

Damage to Both Qi and Yin

Signs and Symptoms

Manifestations include abating fever, mental fatigue, lack of strength, spontaneous sweating, night sweats, dry throat, cracked lips, thirst with a desire to drink, desquamation of extremities of fingers and toes, palpitations, and poor appetite. The tongue is red with a scanty coating; the pulse is thready, weak and irregular.

Pattern Differentiation

This pattern is observed during recovery stages characterized by a gradual fever reduction.

For those with predominant qi deficiency, there is mental fatigue, lack of strength, spontaneous sweating, night sweats and a poor appetite.

For those with a predominant yin deficiency, there is a dry throat, cracked lips, thirst with a desire to drink, and desquamation of the extremities of the fingers and toes.

Treatment Principles

Boost qi, nourish yin and clear heat

Formula

Modified *Shā Shēn Mài Dōng Tāng*—Glehnia and Ophiopogon Decoction

北沙参	<i>běi shā shēn</i>	Radix Glehniae
麦冬	<i>mài dōng</i>	Radix Ophiopogonis
玉竹	<i>yù zhú</i>	Rhizoma Polygonati Odorati
天花粉	<i>tiān huā fěn</i>	Radix Trichosanthis
生地黄	<i>shēng dì huáng</i>	Radix Rehmanniae
玄参	<i>xuán shēn</i>	Radix Scrophulariae
太子参	<i>tài zǐ shēn</i>	Radix Pseudostellariae
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
扁豆	<i>biǎn dòu</i>	Semen Lablab Album

Formula Analysis

Běi shā shēn (Radix Glehniae), *mài dōng* (Radix Ophiopogonis) and *yù zhú* (Rhizoma Polygonati Odorati) clear heat, moisten dryness and engender fluids.

Tiān huā fěn (Radix Trichosanthis) promotes fluid production to relieve thirst.

Shēng dì huáng (Radix Rehmanniae) and *xuán shēn* (Radix Scrophulariae) clear heat and cool the blood.

Tài zǐ shēn (Radix Pseudostellariae) supplements both qi and yin.

Bái zhú (Rhizoma Atractylodis Macrocephalae) and *biǎn dòu* (Semen Lablab Album) boost qi and harmonize the stomach.

Modifications

For a poor appetite, add *fú líng* (Poria), *shān zhā* (Fructus Crataegi) and *shén qū* (Massa Medicata Fermentata) to fortify the spleen and harmonize the stomach.

For a persistent low fever, add *dì gǔ pí* (Cortex Lycii) and *yín chái hú* (Radix Stellariae) to clear deficiency heat.

For constipation, add *guā lóu rén* (Semen Trichosanthis) and *huǒ má rén* (Fructus Cannabis) to clear the intestines and moisten dryness.

For palpitations and arrhythmia, add *tài zǐ shēn* (Radix Pseudostellariae), *mài dōng* (Radix Ophiopogonis), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae) and *hóng huā* (Flos Carthami) to boost qi, nourish yin, activate blood and resolve stasis.

Chinese Patent Medicines

Shēng Mài Yīn—Pulse-Engendering Drink. Take 5-10 ml, 3 times daily.

[WESTERN MEDICINE THERAPIES]

MEDICATIONS

a. γ -immunoglobulin: patients with acute Kawasaki disease should be treated with intravenous γ -immunoglobulin (IVIG) as soon as possible after diagnosis and ideally within 10 days of disease onset. Early administration of IVIG may prevent the prevalence of coronary artery lesions.

b. Aspirin: 30-100 mg/kg/day, divided into 3-4 doses daily. After the patient has been afebrile for at least 3 days, the dose of aspirin is reduced gradually over a two week period to 3-5 mg/kg/day and then maintained for 6-8 weeks. With coronary artery lesions, the duration of medication needs to be prolonged.

c. If necessary, corticosteroids can be used for their strong anti-inflammatory action and ability to inhibit immune responses.

[PREVENTION AND NURSING]

1. PREVENTION

a. Balanced nutrition and appropriate outdoor activities are required to strengthen the constitution and improve general health.

b. Observe active prevention and treatment for all kinds of infectious diseases.

2. NURSING CARE

a. The diet should be light with fresh foods and sufficient water intake. Maintain oral hygiene and ensure appropriate bed rest.

b. Closely monitor the condition in order to detect and treat complications as soon as possible.

c. Follow-ups should be 6 months to one year. Patients with coronary artery dilatation should be followed-up long term including at least 1 echocardiography examination every 6 months until the coronary artery ectasia disappears.

[CASE STUDIES]**► Case #1****Female, age 11 months**

The patient was admitted to hospital with fever for 4 days. She had a persistent high fever that was aggravated at night and alleviated during the day along with irritability, restlessness, diffused flushed skin, red eyes and throat, hard swollen hands and feet and dry lips. She had a red tongue and rapid pulse.

Routine Blood Test: WBC $13.6 \times 10^9/L$, neutrophils 63.1%, platelets $351 \times 10^9/L$

Echocardiography: pericardial effusion

Diagnosis: Kawasaki disease

TCM pattern: heat entering *ying* blood levels, static blood obstructing the collaterals.

Treatment principle: clear heat, cool blood, resolve stasis and unblock the collaterals.

Formula

金银花	<i>jīn yín huā</i>	10 g	Flos Lonicerae Japonicae
连翘	<i>lián qiào</i>	10 g	Fructus Forsythiae
鲜茅根	<i>xiān máo gēn</i>	10 g	Rhizoma Imperatae
牡丹皮	<i>mǔ dān pí</i>	10 g	Cortex Moutan
生石膏	<i>shēng shí gāo</i>	10 g	Gypsum Fibrosum
玄参	<i>xuán shēn</i>	10 g	Radix Scrophulariae
赤芍	<i>chì sháo</i>	10 g	Radix Paeoniae Rubra
丹参	<i>dān shēn</i>	10 g	Radix et Rhizoma Salviae Miltiorrhizae
红花	<i>hóng huā</i>	10 g	Flos Carthami
川芎	<i>chuān xiōng</i>	10 g	Rhizoma Chuanxiong

One bag daily, decocted with water.

After 2 doses her fever had subsided, so the formula was modified and another 16 doses were taken after which the symptoms disappeared. A follow-up echocardiogram showed a small quantity of pericardial effusion with no coronary artery lesions.

Analysis

Pathogenesis: pathogenic heat enters the blood level leading to combined heat with qi stagnation and blood stasis. The original etiological factors are heat and toxin; secondary factors are blood stasis and qi stagnation. The treatment principle here is to treat both the branch and root simultaneously mainly by clearing heat and removing toxins while also activating blood and resolving stasis.

Source: Sun SF. Cases of Treating Childhood Vasculitis by Activating Blood and Resolving Stasis. Journal of Beijing University of Traditional Chinese Medicine, 2000, 23 (1): 32

► Case #2**Male, age 17 months. Initial Visit: 2/10/2000**

The child was hospitalized due to a high fever for 7 days with temperatures ranging from 39-40°C with a poor appetite and mental fatigue. There was a rash of maculopapules

distributed on the trunk, diffuse erythema disseminating on the palms and soles, and obvious conjunctival congestion. There were several bean-sized lymph nodes on the right side of the neck. He had a crimson-red tongue with a thin white coating and rapid slippery pulse. Chinese medicinals were administered to clear heat, remove toxins, cool blood and nourish yin along with simultaneous intravenous infusion of high dose γ -immunoglobulin.

Formula

水牛角	<i>shuǐ niú jiǎo</i>	15 g	Cornu Bubali (decocted first)
生地黄	<i>shēng dì huáng</i>	10 g	Radix Rehmanniae
玄参	<i>xuán shēn</i>	5 g	Radix Scrophulariae
牡丹皮	<i>mǔ dān pí</i>	5 g	Cortex Moutan
赤芍	<i>chì sháo</i>	5 g	Radix Paeoniae Rubra
黄芩	<i>huáng qín</i>	5 g	Radix Scutellariae
生石膏	<i>shēng shí gāo</i>	15 g	Gypsum Fibrosum
僵蚕	<i>jiāng cán</i>	5 g	Bombyx Batryticatus
生甘草	<i>shēng gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae

7 doses.

By the second visit the temperature had returned to normal, but he still presented with poor appetite, mental fatigue, desquamation of the hands and feet, red dry lips, a pale complexion and a low heart tone. His tongue was red; there was a fine and rapid pulse. Color echocardiography showed coronary artery dilation.

Formula

炙黄芪	<i>zhì huáng qí</i>	12 g	Radix Astragali Praeparata cum Melle
党参	<i>dǎng shēn</i>	10 g	Radix Codonopsis
玄参	<i>xuán shēn</i>	5 g	Radix Scrophulariae
北沙参	<i>běi shā shēn</i>	10 g	Radix Glehniae
山药	<i>shān yào</i>	12 g	Rhizoma Dioscoreae
陈皮	<i>chén pí</i>	3 g	Pericarpium Citri Reticulatae
石斛	<i>shí hú</i>	5 g	Caulis Dendrobii
炙甘草	<i>zhì gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae Praeparata cum Melle

7 doses.

On the third visit his appetite had increased and his spirit improved.

Dān shēn (Radix et Rhizoma Salviae Miltiorrhizae) 10 g and *dāng guī* (Radix Angelicae Sinensis) 5 g were added to the previous formula.

After 14 doses, the complexion improved and he exhibited normal heart sounds. He continued with the former formula and at a 2 month follow-up, color echocardiography showed a normal coronary artery with no sign of coronary artery dilatation.



Analysis

At the early stage, there was a blazing *qi* and *ying* level pattern. The heat-toxin was resolved by a modification of *Qīng Wēn Bāi Dú Yīn*—Epidemic-Clearing Toxin-Resolving Beverage.

In the later stage, there was *qi* and yin damage, so the treatment principle was to boost *qi* and nourish yin while clearing the remaining heat; *Shā Shēn Mài Dōng Tāng*—Glehnia and Ophiopogon Decoction was selected.

Because this case inclined to *qi* deficiency, *huáng qí* (Radix Astragali Praeparata cum Melle), *dǎng shēn* (Radix Codonopsis) and *shān yào* (Rhizoma Dioscoreae) were also added to boost *qi* and fortify the spleen.

Source: Wu DZ, Liu XC. 现代名中医儿科绝技 Modern Chinese Medicine Pediatric Skills [M]. Beijing: Scientific and Technical Documents Publishing House. 2003: 265.

[QUESTIONS]

1. A 3-year-old child suffered from a high fever for 5 days. Manifestations included a slight aversion to wind, cough, thirst with desire to drink, red eyes and throat, red palms and soles, skin rash distributed on the trunk, and cervical lymphadenectasis. There was a red tongue with thin coating; and a floating, rapid pulse.

Which of the following is the best choice of formula?

- A. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder
- B. *Bái Hǔ Tāng*—White Tiger Decoction
- C. *Qīng Yíng Tāng*—Ying Level Clearing Decoction
- D. *Zhú Yè Shí Gāo Tāng*—Lophatherum and Gypsum Decoction
- E. *Qīng Wēn Bāi Dú Yīn*—Epidemic-Clearing Toxin-Resolving Beverage

2. An 18-month-old child presented with a persistent high fever for 8 days. Symptoms and signs included red eyes and throat, red cracked lips, irritability, skin rash, maculae and papules, swollen painful cervical lymph nodes, and pitting edema on the hands and feet. There was a crimson tongue with a thin yellow coating and purple stagnant finger venules.

What is the best treatment principle in this case?

- A. Relieve exterior with pungent-cool medicinals, clear heat and remove toxins.
- B. Clear the lung, moisten dryness, and dissipate masses to relieve pain.
- C. Clear the *qi* aspect and cool the *ying* level, remove toxins and resolve stasis.
- D. Boost *qi* and nourish yin, clear remaining toxins.
- E. Clear the liver and drain fire, dissipate masses and subside swellings.

3. A 2-year-old child was diagnosed with mucocutaneous lymph node syndrome. The fever had subsided but there was lassitude and lack of strength, spontaneous sweating and night sweats, thirst with a desire to drink, desquamation on the extremities of fingers and toes, and a poor appetite. The child showed a slightly dry red tongue with a thin white coating and purple finger venules.

Which of the following patterns is most applicable in this case?

- A. Disease of both *wei* and *qi* levels
- B. Blazing of both *qi* and *ying* levels
- C. *Qi* stagnation and blood stasis
- D. Deficiency of both the heart and spleen
- E. Deficiency of both *qi* and yin

4. A 3-year-old child is seen with a persistent high fever for 5 days, skin maculae, erythema on the extremities of the fingers and toes, red eyes and throat and hardened edema on the hands and feet. The child presented with a crimson strawberry-like tongue and a thready rapid pulse.

Which of the following is the first choice of formula?

- A. *Yín Qiào Sǎn*—Lonicera and Forsythia Powder
- B. *Bái Hǔ Tāng*—White Tiger Decoction
- C. *Qīng Wēn Bài Dú Yīn*—Epidemic-Clearing Toxin-Resolving Beverage
- D. *Zhú Yè Shí Gāo Tāng*—Lophatherum and Gypsum Decoction
- E. *Shā Shēn Mài Dōng Tāng*—Glehnia and Ophiopogon Decoction

5. A 5-year-old child suffered from a high fever for 7 days. After treatment the fever had subsided, but the child still presented with a tight painful chest, cyanotic lips, red extremities of the fingers and toes, and hardness and swelling of the hands and feet. There was also a dark red tongue and an irregular and regularly intermittent pulse.

Which Chinese patent medicine should be applied first?

- A. *Yín Qiào Jiě Dú Kē Lì*—Lonicera and Forsythia Detoxification Granules
- B. *Dān Shēn Dī Wán*—Salvia Drop Pill
- C. *Shuāng Huáng Lián Kǒu Fú Yè*—Double-Coptis Liquid for Oral Administration
- D. *Wǔ Fú Huà Dú Wán*—Five Fu Dissipating Toxin Pill
- E. *Shēng Mài Yīn*—Pulse-Engendering Drink

[REFERENCES]

- [1] Huang GY. Epidemiological Characteristics of Kawasaki Disease. Chinese General Practice [J], 2007, 5 (10): 390-391.
- [2] Yanagawa H, Nakamura Y, Yashiro M, et al. Incidence Survey of Kawasaki Disease in 1997 and 1998 in Japan [J]. Pediatrics, 2001, 107 (30): E33.
- [3] Park YW, Han J W, Park IS, et al. Epidemiological Picture of Kawasaki Disease in Korea, 2000-2002 [J]. Pediatrics Int, 2005, 47 (4): 382-387.
- [4] Chang LY, Chang IS, Lu CY, et al. Epidemiologic Features of Kawasaki Disease in Taiwan, 1996-2002 [J]. Pediatrics 2004 Dec; 114 (6): e 678-682.
- [5] Ng YM, Sung RY, So LY, et al. Kawasaki Disease in Hong Kong 1994—2000. [J]. Hong Kong Med J, 2005, 11 (5): 331-335.
- [6] Chang RK. Epidemiologic Characteristics of Children Hospitalized for Kawasaki Disease in California [J]. Pediatrics Infectious Dis. J, 2002, 21: 1150-1155.
- [7] Du ZD. Kawasaki Disease. Science and Technology Documents Publishing House, 2009.11.
- [8] Cao GM. Modified *Qīng Yīng Tāng* in the Treatment of Mucocutaneous Lymph Node Syndrome in 36 Children's Cases. TCM Journal of Shanxi, 2008, 29 (11): 1483-1484.
- [9] Liao RS, Du SJ. Clearing Heat and Activating Blood Medicinals Effecting Platelet Parameters in Children with Kawasaki Disease. Journal of Guangzhou University of Traditional Chinese Medicine, 2008, 25 (6): 492-493.



Chapter 45

Vitamin D Deficiency Rickets

Vitamin D deficiency rickets, commonly known as rickets, is a chronic nutritional disease of childhood caused by a lack of Vitamin D, leading to a calcium and phosphorus metabolism disorder. The main characteristic of this disease is defective mineralization of the growing metaphyseal cartilage and bone, resulting in lesions of rickets in growing bone and osteomalacia. Often occurring in spring and winter, it is prevalent in children under 3 years old, especially in infants 6-12 months of age. The main causes of rickets are inadequate intake of Vitamin D and lack of sunshine exposure. Rickets is reported worldwide, especially among infants who are completely breastfeeding and have dark-colored skin. The incidence of rickets relates closely to exposure to sunlight, skin pigmentation, season, and latitude, all of which significantly affect pre-Vitamin D synthesis.

Rovner's studies of serum 25-hydroxy Vitamin D concentrations in American children proved that due to poor exposure to sunlight in winter, breastfeeding infants who did not receive Vitamin D supplementation were the most vulnerable to Vitamin D deficiency rickets.^[1]

Children with dark-pigmented skin are vulnerable to rickets because the melanin granules produced by melanocytes in the basal layer of the skin epidermis absorb ultraviolet light, thereby reducing its amount for synthesis of Vitamin D. Dark-colored skin has more melanin granules; therefore, for synthesis of the same amount of Vitamin D, these children need more sunlight.

In addition, the amount of ultraviolet radiation that reaches the Earth's surface and are needed for Vitamin D synthesis are affected by air pollution levels, cloud cover, and the solar zenith angle; short-wave energy is also filtered out by window glass and by the burning of the fossil fuels, coal, and oil. The farther away a place is from the Earth's equator, then the lesser the amount of ultraviolet radiation. Therefore, people in countries with high latitudes are more susceptible to rickets.

Vitamin D deficiency rickets is completely preventable in healthy populations as long as there is adequate intake of Vitamin D. In China, it is recommended that 14-day-old infants (including breastfeeding children) should start on a Vitamin D regimen of 400 units/day (10 µg/day) and continue until 2 years old.^[2]

The American Academy of Pediatrics in 2003 in the *Prevention of Vitamin D and Rickets: Vitamin D Intake Guide* recommended 200 units/day of Vitamin D for all children (from 2 months after birth) and adolescents.

In 2008, The American Academy of Pediatrics in *Infants, Children and Adolescent Vitamin D Deficiency and Prevention of Rickets* issued a new recommended amount of 400 units/day for all infants (beginning a few days after birth), children, and adolescents.^[3]

In China, due to increased living standards and heightened medical knowledge, the occurrence of severe Vitamin D deficiency rickets has become rare, but there are still many cases of mild to moderate nutritional rickets.^[4] In mild cases, proper treatment will have a good prognosis; in severe cases, mistreatment or delayed treatment can easily lead to skeletal deformities with after-effects of sequelae that affect normal growth and

development.

In TCM, the disease belongs to the categories of night terrors, sweating syndrome, and the five kinds of retardation. In the past decade, Chinese physicians have achieved good results through treatment based on the spleen and kidney syndrome differentiation, and especially by adjusting digestive absorption functions while improving clinical symptoms.

Chen Yan-ping treated 42 cases of rickets. For those with spleen-kidney deficiency, give oral administration of "Rickets Formula #1", comprised of the following: *huáng qí* (Radix Astragali), *tù sī zǐ* (Semen Cuscutae) and *bǔ gǔ zhī* (Fructus Psoraleae) each 20 g, and *mǔ lì* (Concha Ostreae) and *mài yá* (Fructus Hordei Germinatus) each 12 g.

"Rickets Formula #2" was used for those with spleen-kidney deficiency accompanied by dampness [based on "Rickets Formula #1", with added *cāng zhú* (Rhizoma Atractylodis) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) each 10 g].

After taking the medication for one month, the results of medicinal treatment were compared with 20 cases who received the treatment at the same period with 3 consecutive injections of Vitamin D 300,000 units. An effective rate of 100% was reached in the 42 cases treated with Chinese medicine, while a rate of 80% was reached in the control group of 20 cases, with statistical significance ($P < 0.05$).

[ETIOLOGY & PATHOMECHANISM]

The main causes of rickets are congenital constitutional insufficiency and improper postnatal nursing and feeding leading to poor bone and vessel nourishment due to spleen-kidney deficiency and essence and blood insufficiency.

1. Congenital constitutional insufficiency: This can result from the improper living habits of the pregnant mother such as lack of sunlight exposure, an imbalanced diet, malnutrition, or other illnesses in pregnant women that cause poor maternal nourishment. Premature birth or multiple births with congenital constitutional insufficiency and kidney qi deficiency also can be a factor.

2. Improper postnatal care, improper nutrition, late introduction to solid foods or a lack of outdoor activities which leads to insufficient sunlight exposure, or weakened bodies due to illness can result in spleen-stomach weakness and a lack of nourishment with impaired production of qi and blood.

The pathogenesis of rickets is mainly spleen and kidney deficiency which may subsequently affect the heart, lung, and liver. In TCM, the kidney is the congenital foundation, stores the essence, also controlling the production of bone and marrow with teeth being the terminal of bone and dependent on nutrition derived from marrow. Hair growth depends on blood and the kidney. Kidney qi communicates with the *du mai* which rules the spine. Therefore, if there is a deficiency of congenital kidney qi and in turn insufficient bone marrow, bone development is stunted, also giving rise to a soft skull, late closure of the anterior fontanelle, and delayed dentition; in serious cases, there are bone deformities.

In TCM it is believed that children have bodies of pure yang characterized by rapid growth and development, where a lack of original qi and spleen-stomach weakness will hinder growth.

The spleen is the root of the acquired constitution and the source of qi and blood

engendering and transformation. With irregular dietary habits, water and food essence fails to nourish and distribute through the body causing insufficient defensive-*wei* qi and a disharmony of nutrient-*ying* and defense-*wei* qi that results in profuse sweating; heart qi insufficiency results in restlessness of the heart-spirit; spleen deficiency and hyperactivity of liver-Wood with symptoms of night crying and restlessness; lung qi deficiency results in susceptibility to external contraction; spleen qi deficiency results in liver fire hyperactivity internally. In any event, it is clear that spleen-kidney insufficiency is the main cause of this disease.

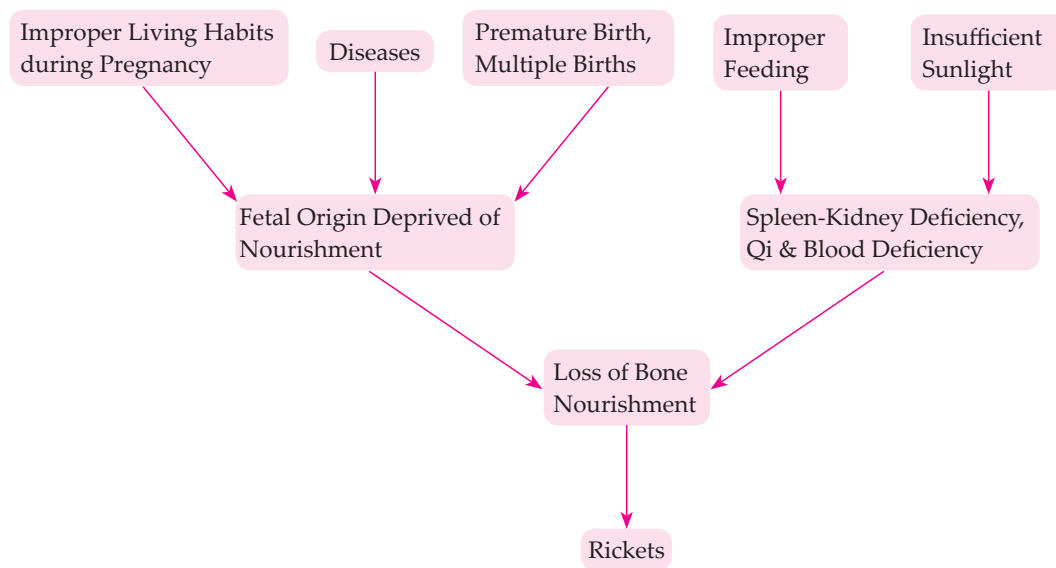


Fig. 45-1 Etiology and Pathomechanism of Vitamin D Deficiency Rickets

[DIAGNOSIS]

► Essentials of Diagnosis

- (1) History of lack of Vitamin D intake or insufficient sunlight exposure.
- (2) Common in infants and young children, prevails in winter and spring.
- (3) The disease can be divided into four stages:
 - a. Early stages: neuropsychiatric symptoms which include profuse sweating, night terrors, restlessness, or sparse hair with occipital alopecia. Blood biochemical analysis shows mild changes, or appears normal.
 - b. Advanced stage: in addition to the above clinical manifestations, the characteristics of this stage are lesions with changes in cartilage and bone. The majority of bone changes are mild to moderate. X-ray radiographies show lesions with blurred provisional mineralization zones and widening metaphyseal ends of the long bones with a brush-shaped edge. Serum calcium and phosphorus concentrations are reduced, and there is an increase of serum alkaline phosphatase activity levels.
 - c. Recovery stage: signs and symptoms are improved and blood biochemistry is normal. X-ray shows a reappearance of provisional mineralization zones, yet some bone deformities may remain.
 - d. At the sequelae stage, children with severe conditions may retain different degrees



of skeletal deformities with the majority occurring in those 2 years or older. Otherwise, no other clinical symptoms are present, with blood biochemistry normal.

► Differential Diagnosis

The disease needs to be differentiated from un-united skull/hydrocephalus and cretinism (congenital hypothyroidism).

Table 45-1 Differentiations of Rickets and Un-united Skull (Hydrocephalus)

Differentiation Essentials	Rickets	Un-united Skull
Onset Time	Older than 6 months	After birth
Skull	Soft, thickening or square skull	Progressively increasing in size
Anterior Fontanelle	Delayed closure	Delayed closure, bulging & tense fontanelle with suture separation
Sparse Hair, Occipital Alopecia	Yes	No
Setting-Sun Eye Sign	No	Yes
Skeletal Deformities	Yes	No
Calcium & Phosphorus Metabolism	Abnormal	Normal

Table 45-2 Differentiations of Rickets and Cretinism (Congenital Hypothyroidism)

Essential Differences	Rickets	Cretinism
Growth & Development	Basically normal	Delayed
Delayed Closure of Anterior Fontanelle	Yes	Yes
Delayed Dentition	Yes	Yes
Expression of Slack	No	Yes
Intellectual Development	Normal	Stunted
Skeletal Deformities	Yes	No
Levels of TSH (Thyroid-stimulating Hormone)、 T_4	Normal	Low

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

In TCM *zang-fu* pattern differentiation, rickets belongs to spleen and kidney deficiency; the first step is to ascertain whether spleen or kidney deficiency predominates. If the spleen is the key organ, other than the common symptoms of rickets, other manifestations include a lusterless complexion, poor appetite, loose stools, and recurrent respiratory infections. If the kidney is the key location, there will be significant skeletal changes.

Secondly, we have to differentiate the severity. Mild conditions are marked by neuropsychiatric symptoms only with little or no skeletal lesions. Severe conditions are marked by profuse sweating, sparse hair, muscular flaccidity, and significant skeletal

changes.

► Treatment Principles

The main treatment principle for rickets is to fortify the spleen and supplement the kidney. At early stages or in mild condition, the main treatment principle is to fortify the spleen and boost qi.

During advance stages or in severe conditions, the main treatment principle is to supplement the kidney and essence while fortifying the spleen. By observing accompanying signs and symptoms, we can supplement the lung and boost qi to consolidate the exterior, soothe the liver, and clear heart to calm the mind.

► Classification of Patterns and Treatment

Lung-Spleen Qi Deficiency

Signs and Symptoms

Profuse sweating, susceptibility to fright, restless sleep, sparse hair, occipital baldness, enlarged fontanelle, or puffiness, muscular flaccidity, poor appetite, loose stools, and recurrence respiratory infections. There is a light red tongue with a thin white coating, and a soft weak pulse.

Pattern Differentiation

This syndrome is found in the early stages of rickets. If lung qi is deficient, exterior *wei*-defense is weakened which leads to profuse sweating and repeated attacks of the common cold. If spleen qi is deficient, transportation and transformation is impaired with muscle flaccidity, poor appetite, and loose stools. As spleen deficiency affects the heart, the child feels agitated with susceptibility to fright, night crying, and disturbed sleep.

Treatment Principles

Fortify the spleen and boost qi, supplement the lung to consolidate the exterior

Formula

Modified *Rén Shēn Wǔ Wèi Zǐ Tāng*—Ginseng and Chinese Magnoliavine Fruit Decoction

党参	<i>dǎng shēn</i>	Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
酸枣仁	<i>suān zǎo rén</i>	Semen Ziziphi Spinosae
煅牡蛎	<i>duàn mǔ lì</i>	Concha Ostreae
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
神曲	<i>shén qū</i>	Massa Medicata Fermentata

Formula Analysis

Dǎng shēn (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) fortify the spleen and boost qi.

Wǔ wèi zǐ (Fructus Schisandrae Chinensis), *suān zǎo rén* (Semen Ziziphi Spinosae) and *duàn mǔ lì* (Concha Ostreae) astringe the exterior, arrest sweating and calm the mind.

Chén pí (Pericarpium Citri Reticulatae) and *shén qū* (Massa Medicata Fermentata) regulate the spleen and promote transportation.

Modifications

With a thick greasy tongue coating and a puffy physique, replace *bái zhú* (Rhizoma Atractylodis Macrocephalae) with *cāng zhú* (Rhizoma Atractylodis) to dry dampness and improve digestion.

For those with profuse sweating, add *huáng qí* (Radix Astragali), *fú xiǎo mài* (Fructus Triticis Levis) and *nuò dào gēn* (Radix Oryzae Glutinosae) to boost qì, consolidate the exterior and arrest sweating.

For cases with susceptibility to fright at night and sleep disturbance, add *duàn lóng gǔ* (Os Draconis; Fossilia Ovis Mastodi), *hé huān pí* (Cortex Albiziae) and *yè jiāo téng* (Caulis Polygoni Multiflori) to suppress fright and calm the mind.

For cases with loose stools, add *shān yào* (Rhizoma Dioscoreae) and *biǎn dòu* (Semen Lablab Album) to fortify the spleen and promote transportation.

Chinese Patent Medicines

Yù Fēng Kē Lì—Jade Wind-Barrier Granules

0.5-1 bag, 3 times daily.

Tuī na

Points	Repetitions	Methods
<i>Pí jīng</i> (脾经)	200-300	Supplementing
BL 13 (<i>fèi shù</i>)	100	Kneading
BL 20 (<i>pí shù</i>)	100	Kneading
ST 36 (<i>zú sān lǐ</i>)	100	Kneading
<i>Jǐ</i> (Spine, 脊)	6 or 5-8	Pinching

Supplement *pí jīng* 200-300 times, knead *fèi shù*, *pí shù* and *zú sān lǐ* 100 times, and pinch the spine 6 times.

Treat once daily, with 5 days as one treatment course.

Spleen Deficiency and Liver Hyperactivity

Signs and Symptoms

There is profuse sweating especially on the head, sparse hair, occipital baldness, delayed fontanelle closure, delayed dentition, weakness when sitting, standing or walking, night crying and restlessness, susceptibility to fright, possible tics, convulsions, and poor appetite. The tongue is pale with a thin white coating; the pulse is thin and wiry.

Pattern Differentiation

This pattern is found in the advanced stage, caused by spleen qì deficiency and liver yang hyperactivity. Deficient spleen qì with poor absorption and generation of nutrients leads to profuse sweating, sparse hair, poor appetite and a lack of strength. Hyperactivity of liver wind stirring leads to wind symptoms with night crying and susceptibility to fright, or even convulsions. If the disease is prolonged without treatment, spleen deficiency can affect the kidney, which leads to kidney essence insufficiency and loss of bone nutrients; therefore, symptoms such as delayed fontanelle closure, delayed dentition and feebleness in sitting, standing and walking will appear.

Treatment Principles

Fortify spleen and promote transportation, calm the liver and extinguish wind

Formula

Modified *Yì Pí Zhèn Jīng Sǎn*—**Boost Spleen Calm Fright Powder**

人参或党参	<i>rén shēn</i> or <i>dǎng shēn</i>	Radix et Rhizoma Ginseng or Radix Codonopsis
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
苍术	<i>cāng zhú</i>	Rhizoma Atractylodis
茯苓	<i>fú líng</i>	Poria
煅龙骨	<i>duàn lóng gǔ</i>	Os Draconis
灯心草	<i>dēng xīn cǎo</i>	Medulla Junci
煅牡蛎	<i>duàn mǔ lì</i>	Concha Ostreae
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Rén shēn (Radix et Rhizoma Ginseng) or *dǎng shēn* (Radix Codonopsis) supplements and boosts spleen qi.

Bái zhú (Rhizoma Atractylodis Macrocephalae), *cāng zhú* (Rhizoma Atractylodis) and *fú líng* (Poria) fortify the spleen and improve transportation.

Duàn lóng gǔ (Os Draconis) and *dēng xīn cǎo* (Medulla Junci) suppress fright and calm the mind.

Duàn mǔ lì (Concha Ostreae) and *gōu téng* (Ramulus Uncariae Cum Uncis) calm the liver and extinguish wind.

Gān cǎo (Radix et Rhizoma Glycyrrhizae) harmonizes the actions of all formula medicinals.

Modifications

For profuse sweating, add *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) and *fú xiǎo mài* (Fructus Triticis Levis) to astringe the exterior and arrest sweating.

For crying at night and sleep disturbances, add *chán tuì* (Periostracum Cicadae) and *zhú yè* (Folium Phyllostachydis Henonis) to clear the heart and subdue fire.

For susceptibility to fright and tics, add *zhēn zhū mǔ* (Concha Margaritiferae Usta) and *jiāng cán* (Bombyx Batryticatus) to extinguish wind and suppress fright.

For convulsions, add *quán xiē* (Scorpion) and *wú gōng* (Scolopendra) to extinguish wind and arrest convulsions.

Tui na

Points	Repetitions	Methods
<i>Pí jīng</i> (脾经)	200-300	Supplementing
<i>Gān jīng</i> (肝经)	200-300	Clearing
<i>Tiān hé shuǐ</i> (天河水)	100	Clearing
BL 20 (<i>pí shù</i>)	100	Kneading
ST 36 (<i>zú sān lǐ</i>)	100	Kneading
<i>Jǐ</i> (spine)	6	Pinching

Supplement *pí jīng* 200-300 times, clear *gān jīng* 200-300 times and *tiān hé shuǐ* 100 times, knead BL 20 (*pí shù*) and ST 36 (*zú sān lǐ*) 100 times respectively, and pinch the spine 6 times. Treat once daily, with 5 times as one treatment course.

Kidney Essence Deficiency

Signs and Symptoms

There are obvious skeletal deformities such as widening and squaring of the skull, widening of the costochondral junctions, widening of the epiphyses of the wrists and ankles, pigeon breast chest, kyphoscoliosis (kyphosis), and bowing and twisting of the lower limbs accompanied with a lusterless complexion, an agitated mind, profuse sweating and flaccid limbs. The tongue is pale with minimal coating; there is a thin forceless pulse.

Pattern Differentiation

This pattern is seen during the advanced to recovery phases and sequela periods due to spleen deficiency affecting the kidney that leads to deficient kidney essence with failure to nourish bone. Characterized by bone lesion changes.

Treatment Principles

Supplement kidney and enhance essence, fortify the spleen

Formula

Modified *Bǔ Shèn Dì Huáng Wán*—**Supplementing Kidney Rehmannia Pill**

紫河车	<i>zǐ hé chē</i>	Placenta Homini
熟地黄	<i>shú dì huáng</i>	Radix Rehmanniae Praeparata
山茱萸	<i>shān zhū yú</i>	Fructus Corni
枸杞子	<i>gǒu qǐ zǐ</i>	Fructus Lycii
山药	<i>shān yào</i>	Rhizoma Dioscoreae
茯苓	<i>fú líng</i>	Poria
肉苁蓉	<i>ròu cōng róng</i>	Herba Cistanches
巴戟天	<i>bā jǐ tiān</i>	Radix Morindae Officinalis
菟丝子	<i>tù sī zǐ</i>	Semen Cuscutae
远志	<i>yuǎn zhì</i>	Radix Polygalae

Formula Analysis

Zǐ hé chē (Placenta Homini) and *shú dì huáng* (Radix Rehmanniae Praeparata) supplement the kidney and engender essence.

Shān zhū yú (Fructus Corni) and *gǒu qǐ zǐ* (Fructus Lycii) soften the liver and supplement yin.

Shān yào (Rhizoma Dioscoreae) and *fú líng* (Poria) boost qi and fortify the spleen.

Ròu cōng róng (Herba Cistanches), *bā jǐ tiān* (Radix Morindae Officinalis) and *tù sī zǐ* (Semen Cuscutae) warm and supplement kidney yang.

Yuǎn zhì (Radix Polygalae) calms the heart and mind.

Modifications

For irritability and night frights, add *fú shén* (Sclerotium Poriae Paradicis) and *suān zǎo rén* (Semen Ziziphi Spinosae) to nourish the blood and calm the mind.

For profuse sweating, add *huáng qí* (Radix Astragali), *duàn lóng gǔ* (Os Draconis, Fossilia Ossa Mastodi) and *duàn mǔ lì* (Concha Ostreae) to boost qi and arrest sweating.

For qi deficiency and lack of strength, add *dǎng shēn* (Radix Codonopsis) and *bái zhú* (Rhizoma Atractylodis Macrocephalae) to fortify the spleen and boost qi.

For poor appetite and abdominal distention, add *cāng zhú* (Rhizoma Atractylodis), *fó shǒu* (Fructus Citri Sarcodactylis) and *shā rén* (Fructus Amomi) to regulate qi and regulate the spleen.

For lusterless complexion and pale lips, add *dāng guī* (Radix Angelicae Sinensis) and *bái sháo* (Radix Paeoniae Alba) to enrich yin and nourish blood.

Chinese Patent Medicines

Liù Wèi Dì Huáng Wán—Six Ingredients Rehmannia Pill

4-8 pills, 3 times daily.

Tuī na

Points	Repetitions	Methods
<i>Pí jīng</i> (脾经)	200-300	Supplementing
<i>Sān guān</i> (三关)	200-300	Pushing
BL 20 (<i>pí shù</i>)	100	Kneading
BL 23 (<i>shèn shù</i>)	100	Kneading
<i>Jī</i> (spine)	6	Pinching

Supplement *pí jīng* 200-300 times, push *sān guān* 200-300 times, knead *pí shù* 100 times and *shèn shù* 100 times, and pinch the spine 6 times.

Treat once daily, with 5 times as one treatment course.

[WESTERN MEDICINE THERAPIES]

1. VITAMIN D PREPARATIONS

In the early stages or with mild conditions, therapy requires daily administration of 1000-2000 units Vitamin D. After 2-4 weeks, according to the improvements in clinical manifestations as revealed by roentgenographic examinations and blood serum biochemical tests, Vitamin D can then be reduced to preventive dosages of 200-400 units/day. An intramuscular injection of Vitamin D3 200,000-300,000 units can be given once for severe rickets, or in those patients who are unable to take oral medication. Follow-up reviews are carried out a month later to ascertain recovery. If the results are favorable with the defect corrected, patients can continue with oral Vitamin D at preventive dosages.

2. CALCIUM

Calcium supplements should be included during the vitamin treatment.

[PREVENTION AND NURSING CARE]

1. PREVENTION

(1) To strengthen prenatal care during pregnancy, pregnant women are advised to spend regular time outdoors with sufficient exposure to sunlight. The diet should be rich in

nutrients, especially Vitamin D, calcium, phosphorus and protein.

(2) Supervision of infants and breastfeeding is recommended as well as early exposure to sunlight with an appropriately timed introduction to solid foods.

(3) Early supplementation of Vitamin D: Breastfeeding infants need to be given Vitamin D 400 units/day from the second week after birth. Premature infants, low-birth weight infants and multiple births infants should be given Vitamin D 800-1000 units/day from birth until 3 months old, after which the dosage of Vitamin D supplementation should be reduced to preventive doses of 400 units/day. 500 ml/day of formula milk or Vitamin D enhanced milk can meet the daily Vitamin D needs of formula-fed infants, children, and adolescents. Otherwise, a daily intake of Vitamin D 400 units/day should be required.

2. NURSING CARE

(1) To reduce the risk of skeletal deformities, sick children should avoid sitting or standing for long periods of time; suspender trousers or overalls are recommended, and the waist belt should not be too tight.

(2) Children should participate in daily outdoor activities and be exposed to direct sunlight while also taking care to prevent colds.

[CASE STUDIES]

► Case #1

A 5-month-old girl visited with symptoms of spontaneous sweating, night sweats, restlessness, and susceptibility to fright, sleep disturbances, poor appetite and loose stools for more than one month. Physical signs included sparse hair, a pale tongue with a thin coating, and pale superficial venules.

Diagnosis: Vitamin D deficiency rickets

TCM pattern: Lung-spleen qi deficiency

Formula

黄芪	<i>huáng qí</i>	12 g	Radix Astragali
白术	<i>bái zhú</i>	6 g	Rhizoma Atractylodis Macrocephalae
防风	<i>fáng fēng</i>	10 g	Radix Saposhnikoviae
龙骨	<i>lóng gǔ</i>	10 g	Os Draconis
牡蛎	<i>mǔ lì</i>	10 g	Concha Ostreae
陈皮	<i>chén pí</i>	5 g	Pericarpium Citri Reticulatae
当归	<i>dāng guī</i>	5 g	Radix Angelicae Sinensis

After 2 doses, less sweating and alleviated sleep disturbances were observed. Her appetite improved and stools became well-formed. After another 4 doses she had recovered from all her symptoms except for the sparse hair. A follow-up visit at 6 months showed no signs of relapse.

Analysis

This case belongs to a pattern of lung and spleen qi deficiency. The formula was a modification of *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder.

The chief medicinal is *huáng qí* (Radix Astragali), which is used in a large dosage to boost qi, consolidate the exterior and arrest sweating.

Bái zhú (Rhizoma Atractylodis Macrocephalae) acts as deputy to fortify the spleen, boost qi and supplement the lung.

Assistant medicinals include:

Fáng fēng (stir-fried Radix Saposhnikoviae) goes to the exterior and dispels wind.

Chén pí (Pericarpium Citri Reticulatae) regulates qi, fortifies the spleen, and improves transportation.

Mǔ lì (calcined Concha Ostreae) and *lóng gǔ* (calcined Os Draconis) pacifies the liver, suppresses fright, calms the mind, and arrests sweating.

Dāng guī (Radix Angelicae Sinensis) nourishes blood.

All formula medicinals work together to fortify the spleen, boost qi, supplement the lung and consolidate the exterior.

Source: Li AY. Experiences of Wang Chuan-ji in the Treatment of Pediatrics Disease using Modified *Yù Píng Fēng Tāng*. Shandong Journal of Traditional Chinese Medicine, 1994, 13 (7): 323

► Case # 2

Male, age 1 year 6 months. Initial Visit: 10/22/1984

Patient presented with a thin body, poor appetite, and profuse sweating for more than one year.

The physical signs included a weak and thin body, a lusterless complexion, spontaneous sweating, night sweats, susceptibility to fright and crying, poor appetite, loose stools, sleep disturbance, and sparse hair with occipital baldness. There were also repeated occurrences of the common cold. His teeth began to erupt at 11 months old and he commenced walking at 1 year 2 months. The bone deformities were a square skull, costal margin aversion, pigeon breast chest, and bowing of the legs. The tongue was pale with a thin white coating; there were pale superficial finger venules.

X-ray radiography showed a widening of metaphyseal ends. Serum calcium concentration was 1.25 mmol/L. He was diagnosed with rickets and a TCM pattern of spleen and kidney deficiency. The main treatment principles are to fortify the spleen, supplement the kidney, supplement essence, and replenish marrow.

Modified *Guī Lù Èr Xiān Gāo* — **Tortoise and Deer Two-Immortals Paste**

鹿角	<i>lù jiǎo</i>	900 g	Cornu Cervi
龟板	<i>guī bǎn</i>	450 g	Plastrum Testudinis
枸杞子	<i>gǒu qǐ zǐ</i>	200 g	Fructus Lycii
党参	<i>dǎng shēn</i>	200 g	Radix Codonopsis
熟地黄	<i>shú dì huáng</i>	90 g	Radix Rehmanniae Praeparata
怀山药	<i>huái shān yào</i>	100 g	Rhizoma Dioscoreae
山茱萸	<i>shān zhū yú</i>	70 g	Fructus Corni
茯苓	<i>fú líng</i>	50 g	Poria Rubra
甘草	<i>gān cǎo</i>	40 g	Radix et Rhizoma Glycyrrhizae



Above ingredients were decocted into soft extract paste for oral use, 3 g twice daily.

After taking the medication for 3 months, he showed an improved complexion, normal stools, increased appetite, reduced sweating, and he was sleeping soundly.

Analysis

Guī Lù Èr Xiān Gāo—Tortoise and Deer Two-Immortals Paste is the author's empirical formula.

Lù jiǎo (Cornu Cervi), *guī bǎn* (Plastrum Testudinis), *shú dì huáng* (Radix Rehmanniae Praeparata), *shān zhū yú* (Fructus Corni) and *gǒu qǐ zǐ* (Fructus Lycii) supplement the kidney, enrich essence, replenish marrow and strengthen bone.

Dǎng shēn (Radix Codonopsis), *huái shān yào* (Rhizoma Dioscoreae) and *fú líng* (Poria Rubra) fortify the spleen and boost qi to nourish the whole body while promoting the generation of blood and qi.

Source: Gong RA. Applications of *Tortoise and Deer Two-Immortals Paste* in Pediatric Diseases. *Zhejiang Journal of Traditional Chinese Medicine*, 2004, 39 (5): 215

[QUESTIONS]

1. A 10-month-old child is entirely breastfeeding without adding supplementary solid foods. In the previous 2 months the child presented with profuse sweating on the head, sparse hair, occipital baldness, primary teeth is not eruption, inability to sit or stand, crying at night, restlessness, susceptibility to fright, tics, and poor appetite. The tongue is pale with a thin white coating.

What pattern do these signs and symptoms designate?

- A. Lung-spleen qi deficiency
- B. Spleen deficiency and liver hyperactivity
- C. Fright and fear disrupting the mind
- D. Kidney essence insufficiency
- E. Liver-kidney yin deficiency

2. A 2-year-old child has a thin weak body, a lusterless complexion, a square skull, widening of the costochondral junctions, widening of the epiphyses of the wrists and ankles, pigeon breast chest, profuse sweating, flaccid limbs and a pale tongue with little coating.

What is the first choice of formula?

- A. *Yù Píng Fēng Sǎn*—Jade Wind-Barrier Powder
- B. *Yì Pí Zhèn Jīng Sǎn*—Replenishing Spleen and Calming Fright Powder
- C. *Féi Èr Wán*—Childhood-Malnutrition Rectifying Pill
- D. *Bǔ Shèn Dì Huáng Wán*—Supplementing Kidney Rehmannia Pill
- E. *Zhī Bǎi Dì Huáng Wán*—Anemarrhena, Phellodendron and Rehmannia Pill

3. An 8-month-old child has profuse sweating, susceptibility to fright, sleep disturbances, sparse hair, occipital baldness, widened fontanelle, repeated occurrences of the common cold, a pale tongue with thin white coating, and light finger venules.

What is the best choice of Chinese patent medicine?

- A. *Yù Píng Fēng Kē Lì*—Jade Wind-Barrier Granules
- B. *Jiàn Pí Bā Zhēn Gāo*—Fortifying Spleen Eight Valuable Cake
- C. *Guī Pí Wán*—Spleen-Restoring Pill
- D. *Bǎi Líng Jiāo Náng*—One Hundred Orders Capsule
- E. *Liù Wèi Dì Huáng Wán*—Six Ingredients Rehmannia Pill

4. A one- and a half year-old child has profuse sweating on the head, sparse hair, and occipital baldness with an unclosed anterior fontanelle. The patient has only 8 teeth and is still unable to walk by himself. Other symptoms include restlessness, crying easily, and a poor appetite. He has a pale tongue with a thin white coating.

What is the treatment principle?

- A. Fortify the spleen and boost qi, supplement the lung to consolidate the exterior.
- B. Harmonize nutrient-*ying* and defense-*wei* levels and supplement yin to secure the exterior and arrest sweating.
- C. Fortify the spleen and promote transportation, soothe the liver and extinguish wind.
- D. Fortify the spleen and nourish the heart, boost qi and generate blood.
- E. Nourish the kidney and supplement essence, fortify the spleen.

5. A 7-month-old child has a weak and obese body, muscular flaccidity, lusterless complexion, poor appetite, loose stools, sleep disturbances, profuse sweating on the head, sparse hair, occipital baldness, no teeth eruption, is unable to sit by himself, and there are repeated occurrences of the common cold. The tongue is pale with a thin white coating.

Which is the formula of choice?

- A. *Rén Shēn Wǔ Wèi Zǐ Tāng*—Ginseng and Chinese Magnoliavine Fruit Decoction
- B. *Yì Pí Zhèn Jīng Sǎn*—Replenishing Spleen and Calming Fright Powder
- C. *Féi Ēr Wán*—Childhood-Malnutrition Rectifying Pill
- D. *Zī Shēng Jiàn Pí Wán*—Life and Invigorate Spleen Pill
- E. *Bǔ Shèn Dì Huáng Wán*—Supplementing Kidney Rehmannia Pill

[REFERENCES]

- [1] Rovner AJ, O'Brien KO. Hypovitaminosis D among Healthy Children in the United States: A Review of the Current Evidence [J]. Arch Pediatr Adolesc Med, 2008; 162 (6): 513-519.
- [2] Chinese Journal of Pediatrics Editorial Board, etc. Vitamin D Deficiency Rickets Prevention and Treatment Recommendations. Chinese Journal of Pediatrics. 2008, 46 (3):190-191
- [3] Carol LW, Frank RG, the Section on Breastfeeding and Committee on Nutrition. Prevention of Rickets and Vitamin D Deficiency in Infants, Children and Adolescents [J]. Pediatrics. 2008; 122 (5): 1142-1152.
- [4] Lu QL. Progress in Clinical Treatment of Rickets. Guide to Chinese Medicine, 2008, 6 (5): 75-77.

Chapter 46

Infantile Eczema

Infantile eczema is one of the most common skin problems seen in early childhood. Lesions or areas of eczema are usually first seen on the cheeks, forehead and scalp, then spreading to the jaws, neck, shoulders and arms, sometimes extending to the abdomen, buttocks and limbs.

The clinical manifestations of eczematous skin changes can vary from erythema, papule formation, vesiculation to exudation, excoriation, crusting and scaling with itching and recurrent attacks as the main features.

It is common for children with infantile eczema to have a family history of allergies, especially with infants on formula milk. The usual age of onset is around 1-3 months. As infantile eczema only affects the epidermis, no scarring remains after the eczema disappears. This disease runs a long course, but will gradually reduce as the child matures.

In most children, eczematous symptoms will often disappear along with tolerance on any food allergies, which usually occurs around 2-3 years old; ^[1] the majority of mildly affected patients will recover spontaneously by the age of two.

Infantile eczema is known as “milk dermatitis” or “fetal sores” in TCM, and Chinese medicine has a great deal of experience in the management of this disease. Eczematous children clearly benefit from a combination of oral and external TCM therapies (washing or applied medicinals).

Liu Gui-Hua applied external Chinese medicinal washes with *mǎ chǐ xiàn* (Herba Portulacae), *kǔ shēn* (Radix Sophorae Flavescens), *dì yú* (Radix Sanguisorbae) and *huáng bǎi* (Cortex Phellodendri Chinensis) in 240 cases of infantile eczema; whilst at the same time, 30 cases of infantile eczema were treated with Vitamin B6 ointment and zinc oxide oil.

Results: In the treatment group, 209 cases were significantly effective and 24 cases were effective, with a total effective rate of 97.08%. In the control group, 6 cases were significantly effective and 13 cases were effective, with a total effective rate of 63.33%. ^[2]

[ETIOLOGY & PATHOMECHANISM]

The main cause of this disease is an internal accumulation of damp-heat with external wind-heat contraction. Wind, dampness and heat accumulate within the body and erupt through to the skin, forming eczema.

Genetic Damp-Heat Predisposition

If the child has an innate constitutional insufficiency, and the pregnant mother has a predilection for spicy and dry foods or is attacked by toxic damp-heat, maternal damp-heat and genetic toxins are transferred through to the child at birth. The damp-heat accumulates and erupts onto the child's skin, resulting in eczema.

As *Orthodox Lineage of External Medicine—Milk Dermatitis* (Wài Kē Zhèng Zōng—Nǚ Xuǎn) states: “The reason for milk dermatitis is that when the mother eats five types of pungent foods and the father eats roasts and barbecues while the fetus is forming inside the womb, heat is subsequently formed and passed onto the fetus. After birth,

it develops into milk dermatitis and appears on the child's head and face and/or the whole body. The child is obviously distressed with the itching suppurating areas that also disturb sleep."

Invasion of Pathogenic Wind, Dampness and Heat

A child's skin is relatively thin and tender and thus readily attacked by external pathogens. Wind is the primary cause of disease, often associated with damp-heat. Wind, dampness and heat accumulate to erupt in the skin and form eczema. By its nature, wind is mobile and changeable and dampness is sticky and stagnant; therefore, many forms of skin lesions exist including erythema, vesiculation, excoriation, suppuration, and itching epidermal lesions that are slow to heal.

Spleen Deficiency with Failure to Transport

A child's spleen is often insufficient, so the spleen and stomach can be damaged by incorrect feeding, and poor digestion will result. This leads to stagnation of milk and food, accumulation, and then internal dampness. Dampness then combines with external wind and attacks the skin, resulting in eczema. Weakness of the spleen and stomach can also cause failure to produce qi and blood. Blood deficiency then produces wind that affects the skin to cause eczema.

In short, external factors of this disease are mainly wind, dampness and heat; internal factors are maternal fetal-fire and damp-heat genetically transferred to the child. There is also spleen deficiency with dampness retention, and blood deficiency producing wind that affects the skin to cause eczema.

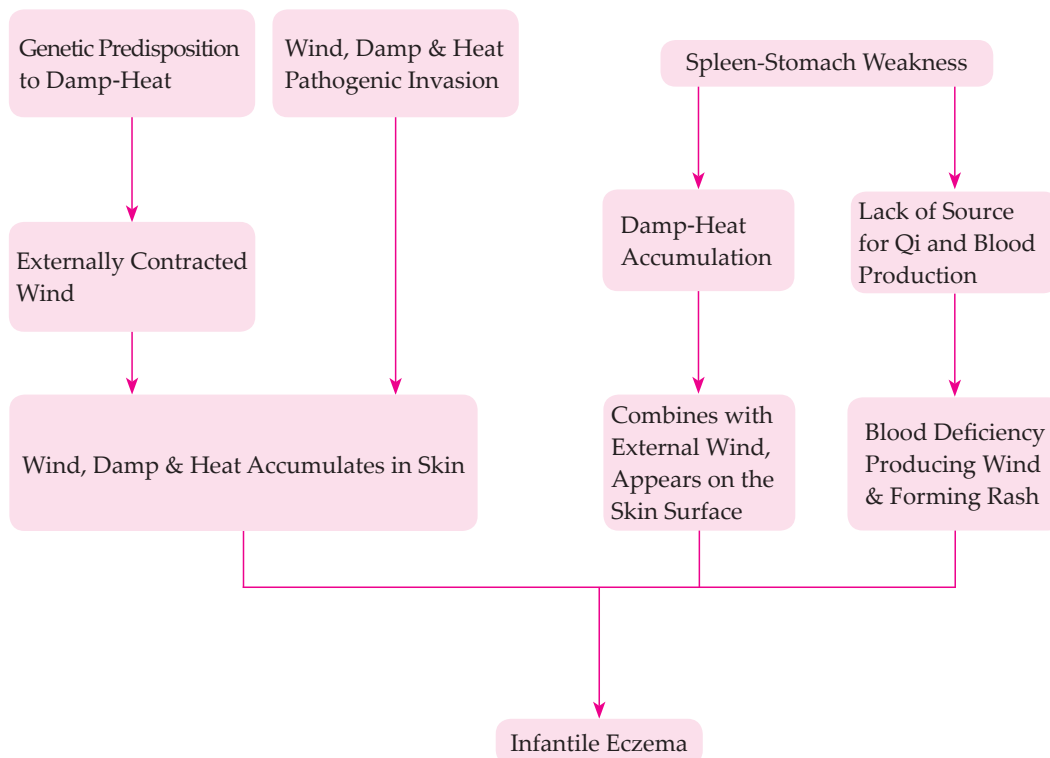


Fig. 46-1 Etiology and Pathomechanism of Infantile Eczema



[DIAGNOSIS]

► Essentials of Diagnosis

a. This disease is common in bottle-fed infants, with initial symptoms emerging from one month to one year old. Most cases are mild with typically persistent skin lesions that improve and worsen alternatively. The disorder may reduce gradually or even resolve spontaneously by around the age of two.

b. Eczematous skin lesions commonly occur on the face, usually beginning on the cheeks, possibly spreading gradually to the forehead, eyebrows and scalp. There is often severe itching and alternating periods of remission and relapse. In serious cases, the lesions can spread over the neck and even the whole body.

c. Eczematous skin lesions are divided into a wet type and a dry type. The wet type manifests with erythema, vesiculation, excoriation and suppuration as the main clinical features, and is more common in overweight infants aged one to three months. The dry type has dry red scaly skin lesions with no suppuration, and is more common in thin children over one year of age.

► Differential Diagnosis

Impetigo

Impetigo contagious condition is caused by summer damp-heat invasion with spotted skin lesions appearing on exposed areas, first as erythema and blisters, quickly developing into pustules surrounded by flushed skin. The pustules break easily, oozing yellow fluid and pus.

[PATTERN DIFFERENTIATION & TREATMENT]

► Essentials of Pattern Differentiation

For infantile eczema, the key point of pattern identification is to first distinguish its attributes. This disease is caused by wind, dampness and heat, and lesions can be divided into two types: dry and wet. The predominance of wind, dampness or heat can be determined by the characteristics of the lesions.

Dry-type eczema mainly manifests with dry scaly skin lesions, often occurring in thin or malnourished children; blood deficiency and wind-dryness pattern is most common.

Wet-type eczema mainly manifests with vesiculations, excoriation and suppurating skin lesions, usually occurring in overweight infants. This type is often with co-existence of wind, dampness and heat.

Wet eczema should be identified predominantly as dampness or heat.

Excessive dampness is usually caused by spleen deficiency, with clear fluids suppurating from the lesion areas.

Excess heat usually has an acute onset with severe erythema, vesiculations, and itching with turbid yellow exudates.

► Treatment Principles

In treating eczema, internal medicinals in combination with external therapy should be

utilized. The basic treatment methods are to dispel wind, clear heat and remove dampness.

For spleen deficiency, use methods to fortify the spleen and nourish blood.

For excessive heat, clear heat and remove toxins; mild conditions may only require external therapy.

► Classification of Clinical Patterns and Treatments

Exuberant Damp-Heat

Signs and Symptoms

Manifestations include flushed skin, erythema and vesiculations, excoriation and suppuration with yellow crusting, dry stools, and dark yellow urine. The tongue is red with a yellow and slightly greasy coating.

Pattern Differentiation

Characterized by flushed skin and erythema, vesiculations and excoriation lesions accompanied by a red tongue. If dampness is more predominant than heat, there are mainly vesiculations and suppuration, but with less skin lesions or no flushing.

Treatment Principles

Clear heat and drain dampness, disperse wind and relieve itching.

Formula

Modified *Xiāo Fēng Dǎo Chì Tāng*—Wind-Dispersing and Red Guiding Decoction

金银花	<i>jīn yín huā</i>	Flos Lonicerae Japonicae
薄荷	<i>bò he</i>	Herba Menthae
牛蒡子	<i>niú bàng zǐ</i>	Fructus Arctii
生地	<i>shēng dì</i>	Radix Rehmanniae
黄连	<i>huáng lián</i>	Rhizoma Coptidis
紫草	<i>zǐ cǎo</i>	Radix Arnebiae
赤茯苓	<i>chì fú líng</i>	Poria Rubra
白鲜皮	<i>bái xiān pí</i>	Cortex Dictamni
木通	<i>mù tōng</i>	Caulis Akebiae
灯心草	<i>dēng xīn cǎo</i>	Medulla Junci

Formula Analysis

Jīn yín huā (Flos Lonicerae Japonicae), *bò he* (Herba Menthae) and *niú bàng zǐ* (Fructus Arctii) disperse wind and clear heat.

Shēng dì (Radix Rehmanniae), *huáng lián* (Rhizoma Coptidis) and *zǐ cǎo* (Radix Arnebiae) cool blood and remove toxins.

Chì fú líng (Poria Rubra), *bái xiān pí* (Cortex Dictamni), *mù tōng* (Caulis Akebiae) and *dēng xīn cǎo* (Medulla Junci) dispel wind and drain dampness.

Modifications

For unbearable itching, add *chán tuì* (Periostracum Cicadae) and *dì fū zǐ* (Fructus

Kochiae) to expel wind and relieve itching.

For lesions with severe suppuration, add *chē qián zǐ* (Semen Plantaginis), *tǔ fú líng* (Rhizoma Smilacis Glabrae), *cāng zhú* (Rhizoma Atractylodis) and *huáng bǎi* (Cortex Phellodendri Chinensis) to clear heat and eliminate dampness.

For red eczematous areas which contribute to the excessive heat, add *shí gāo* (Gypsum Fibrosum), *chì sháo* (Radix Paeoniae Rubra) and *mǔ dān pí* (Cortex Moutan) to clear heat and cool blood.

Chinese Patent Medicines

a. *Bīng Huáng Fū Lè Ruǎn Gāo*—Cooling Yellow Comfort the Skin Ointment

b. *Chú Shī Zhǐ Yǎng Ruǎn Gāo*—Remove Dampness Eliminate Itching Ointment

For external use, apply an appropriate amount on the affected part, 2-3 times daily.

Chinese Medicinal Wet Dressings

苦参	<i>kǔ shēn</i>	20 g	Radix Sophorae Flavescentis
黄柏	<i>huáng bǎi</i>	10 g	Cortex Phellodendri Chinensis
蛇床子	<i>shé chuáng zǐ</i>	20 g	Fructus Cnidii
徐长卿	<i>xú cháng qīng</i>	20 g	Radix et Rhizoma Cynanchi Paniculati
地肤子	<i>dì fū zǐ</i>	20 g	Fructus Kochiae
金银花	<i>jīn yín huā</i>	10 g	Flos Lonicerae Japonicae
枯矾	<i>kū fán</i>	5 g	Alumen Dehydratum

Decoct to 300 ml, apply cold with wet gauze for 15 minutes, twice daily.

Zǐ Cǎo Yóu—Arnebiae Oil.

Zǐ cǎo (Radix Arnebiae) 50 g and *huáng bǎi* (Cortex Phellodendri Chinensis) 50 g; grind into powder and add to 150 ml of heated sesame oil. Mix the powder and oil evenly to make a ready-to-use ointment. Apply on the lesion areas twice daily.

Spleen Deficiency with Dampness Retention

Signs and Symptoms

Manifestations include a weak and overweight physique; the skin usually appears first as dark pale, and then develops patchy vesications with itching. The child often has a poor appetite and loose stools, or there is undigested food in the stools. The tongue is pale red with a white greasy coating.

Pattern Differentiation

This pattern commonly occurs in weak and overweight children. There are patchy vesications and skin lesions with associated signs of spleen deficiency failing to transport, without noticeable heat manifestations.

Treatment Principles

Fortify the spleen and drain dampness

Formula

Modified *Xiǎo Ér Huà Shī Tāng*—Children's Dampness-Resolving Decoction

茯苓	<i>fú líng</i>	Poria
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae
苍术	<i>cāng zhú</i>	Rhizoma Atractylodis
薏苡仁	<i>yì yǐ rén</i>	Semen Coicis
泽泻	<i>zé xiè</i>	Rhizoma Alismatis
六一散	<i>Liù Yī Sǎn</i>	Six-to-One Powder
炒麦芽	<i>chǎo mài yá</i>	Fructus Hordei Germinatus

Formula Analysis

Fú líng (Poria), *chén pí* (Pericarpium Citri Reticulatae) and *cāng zhú* (Rhizoma Atractylodis) fortify the spleen and dry dampness.

Yì yǐ rén (Semen Coicis), *zé xiè* (Rhizoma Alismatis) and *Liù Yī Sǎn*—Six-to-One Powder clear heat and drain dampness.

Chǎo mài yá (Fructus Hordei Germinatus) fortifies the spleen and assists transportation.

Modifications:

For poor appetite and loose stools, add *pèi lán* (Herba Eupatorii), *shā rén* (Fructus Amomi) and *jiāo shān zhā* (Fructus Crataegi) to resolve dampness and harmonize the middle.

For unbearable itching add *bái xiān pí* (Cortex Dictamni) and *cì jí lí* (Fructus Tribuli) to dispel wind and reduce itching.

For loose stools, add *shān yào* (Rhizoma Dioscoreae) to fortify the spleen and remove dampness.

Chinese Medicinal Wet Dressing

马齿苋	<i>mǎ chǐ xiàn</i>	20 g	Herba Portulacae
黄柏	<i>huáng bǎi</i>	10 g	Cortex Phellodendri Chinensis
苦参	<i>kǔ shēn</i>	20 g	Radix Sophorae Flavescentis
土茯苓	<i>tǔ fú líng</i>	20 g	Rhizoma Smilacis Glabrae
地榆	<i>dì yú</i>	20 g	Radix Sanguisorbae
艾叶	<i>ài yè</i>	10 g	Folium Artemisiae Argyi

Decoct to 300 ml, apply to the lesion areas with cold wet gauze for 15 minutes, twice daily.

Èr Miào Sǎn Yóu—Two Mysteries Powder Oil.

Combine *cāng zhú* (Rhizoma Atractylodis) and *huáng bǎi* (Cortex Phellodendri Chinensis) 50 g each. Grind into powder, and add to 150 ml of heated sesame oil. Mix the power and oil evenly into a ready-to-use ointment. Apply on the lesion areas, twice daily.

Blood Deficiency and Wind-Dryness

Signs and Symptoms

Manifestations include a tendency to emaciation; the skin lesions appear as dry, scaly and flaky with pigmentation, also severely itchy, and the lesion slightly suppurates when scratched. The tongue is light red with a scanty or partly peeled coating.

Pattern Differentiation

This pattern commonly occurs in thin children. Characterized by dry skin lesions with severe itching when scratched; accompanied by signs of yin-blood deficiency.

Treatment Principles

Fortify the spleen, nourish blood and expel wind

Formula

Modified *Guī Pí Tāng*—Spleen-Restoring Decoction

黄芪	<i>huáng qí</i>	Radix Astragali
白术	<i>bái zhú</i>	Rhizoma Atractylodis Macrocephalae
茯苓	<i>fú líng</i>	Poria
山药	<i>shān yào</i>	Rhizoma Dioscoreae
当归	<i>dāng guī</i>	Radix Angelicae Sinensis
生地	<i>shēng dì</i>	Radix Rehmanniae
五味子	<i>wǔ wèi zǐ</i>	Fructus Schisandrae Chinensis
酸枣仁	<i>suān zǎo rén</i>	Semen Ziziphi Spinosae
防风	<i>fáng fēng</i>	Radix Saposchnikoviae
土茯苓	<i>tǔ fú líng</i>	Rhizoma Smilacis Glabrae
蒲公英	<i>pú gōng yīng</i>	Herba Taraxaci
甘草	<i>gān cǎo</i>	Radix et Rhizoma Glycyrrhizae

Formula Analysis

Huáng qí (Radix Astragali), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria) and *shān yào* (Rhizoma Dioscoreae) boost qi and fortify the spleen.

Dāng guī (Radix Angelicae Sinensis), *shēng dì* (Radix Rehmanniae), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis) and *suān zǎo rén* (Semen Ziziphi Spinosae) nourish blood and yin.

Fáng fēng (Radix Saposchnikoviae), *tǔ fú líng* (Rhizoma Smilacis Glabrae), *pú gōng yīng* (Herba Taraxaci) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) dispel wind and clear heat.

Modifications

For dry skin lesions, add *tài zǐ shēn* (Radix Pseudostellariae), *mài dōng* (Radix Ophiopogonis), *huáng jīng* (Rhizoma Polygonati) and *zhì hé shǒu wū* (Radix Polygoni Multiflori Praeparata cum Succo Glycines Sotae) to boost qi and nourish yin.

Chinese Patent Medicines

Hēi Dòu Liú Yóu Ruǎn Gāo—Black Legume Nodule Oil Ointment

Apply an appropriate amount on the affected areas, once or twice daily.

Bathing and Acupressure

苦参	<i>kǔ shēn</i>	20 g	Radix Sophorae Flavescentis
土茯苓	<i>tǔ fú líng</i>	20 g	Rhizoma Smilacis Glabrae
蛇床子	<i>shé chuáng zǐ</i>	20 g	Fructus Cnidii
地肤子	<i>dì fū zǐ</i>	20 g	Fructus Kochiae
生地黄	<i>shēng dì huáng</i>	20 g	Radix Rehmanniae
白及	<i>bái jí</i>	20 g	Rhizoma Bletillae

Decoct to 2000-3000 ml, remove the dregs and pour into a sterile pot. When cooled to around 38-40°C, use a soft cloth and wash the affected areas with the liquid. As the child gets used to the washing, bathe the child while also pressing and kneading the following acupoints:

Points	Repetitions	Methods
DU 14 (<i>dà zhuī</i>)	15	kneading
LI 11 (<i>qū chí</i>)	15	kneading
SP 10 (<i>xuè hǎi</i>)	15	kneading
ST 36 (<i>zú sān lǐ</i>)	15	kneading
SP 6 (<i>sān yīn jiāo</i>)	15	kneading

Bathe for 15 minutes once daily, 3 days as one treatment course.

[WESTERN MEDICINE THERAPY]

1. SYSTEMIC TREATMENT (SELECTED CASES)

Oral antihistamines/anti-allergy medications such as chlorpheniramine, promethazine and cetirizine.

2. TOPICAL TREATMENTS

Zinc oxide ointment can be applied topically to the affected areas of acute stage erythema, papules, and associated itching. If there are skin lesions with severe weeping, use wet dressings on the areas with a 3% boric acid solution. Glucocorticoid cream alternating with zinc oxide ointment can be applied to skin lesions with less suppuration or crusting.

[PREVENTION AND NURSING CARE]

1. PREVENTION

- A breast-feeding mother should avoid overeating beef, lamb, spicy food, deep fried foods and seafood in her diet.
- Children need to avoid exposure to allergens and irritants, especially those in foods.

2. NURSING CARE

- Avoid hot water, shower creams, shampoos or soaps when washing affected areas. The thick crusted skin should be made wet first, moistened with sesame oil; then gently remove the crusting.
- In order to prevent children from scratching and rubbing the affected areas, put gauze or mittens on both hands. A soft cotton hat can be worn during sleep.
- Woolen and synthetic clothes can cause local irritation and need to be avoided. Direct strong sunlight also needs to be avoided.
- Children should avoid eating spicy foods, seafood and other stimulating foods that

may induce allergies.

[CASE STUDIES]

► Case #1. Female, age 3 months. Initial Visit: 15/7/2005.

Patient had a very widespread eczema involving the whole body, occurring from birth to the initial visit. It had become exacerbated in the last week. She presented with erythema, papules, vesiculation, patchy excoriation and crusting skin lesions on her face, trunk and limbs. She also defecated once every 3 days with dry hard stools. Her tongue was red with a peeled coating and a prickly tongue tip. Therefore, the treatment principle is to purge fire, cool blood, and calm the liver while also clearing heat and draining dampness.

Formula

羚羊角粉	<i>líng yáng jiǎo fěn</i>	0.2 g	Cornu Saigae Tataricae (powdered, infused)
生地	<i>shēng dì</i>	10 g	Radix Rehmanniae
黄连	<i>huáng lián</i>	3 g	Rhizoma Coptidis
木通	<i>mù tōng</i>	3 g	Caulis Akebiae
竹叶	<i>zhú yè</i>	6 g	Folium Phyllostachydis Henonis
生大黄	<i>shēng dà huáng</i>	3 g	Radix et Rhizoma Rhei
生甘草	<i>shēng gān cǎo</i>	3 g	Radix et Rhizoma Glycyrrhizae

Decoct into a thick liquid and take 5 ml, 3 times daily. The remaining liquid is used as a wet dressing for the affected areas; apply 2 times daily.

On the second visit after 7 days, she was having twice-daily bowel movements. Her general skin flushing began to gradually subside, and there was increased crusting and scaling. The child was also observed to have a sound sleep. Her tongue was red with a thin coating. The treatment results showed that although the fetal heat and fire-toxin were reduced, they were not removed completely. Therefore, the same formula was continued for another 7 doses.

On the third visit, most of the eczematous lesions had disappeared. Her appetite, bowel movements and urination returned to normal. After continued treatment with the same formula with the addition of *bái máo gēn* (Rhizoma Imperatae) 15 g by oral administration and external application of “Three Yellows Lotion”, her eczematous skin lesions resolved.

Analysis

This patient belongs to the pattern of blazing heart-liver fire with fetal toxin, and damp-heat accumulation in the skin. She was treated with a modification of *Dǎo Chì Sǎn*—Red Guiding Powder.

Shēng dì (Radix Rehmanniae) acts to clear heat, cool blood and nourish yin. *Mù tōng* (Caulis Akebiae) subdues fire, promotes urination and discharges heat. Both herbs act as chief medicinals.

Zhú yè (Folium Phyllostachydis Henonis) clears heart and promotes urination, removing



heat from the body through the urine; *líng yáng jiǎo* (Cornu Saigae Tataricae) clears liver-heat; *huáng lián* (Rhizoma Coptidis) clears heart-fire; *dà huáng* (Radix et Rhizoma Rhei) relaxes the bowels and discharges heat. These four herbs act as deputy medicinals within the formula.

Shēng gān cǎo (Radix et Rhizoma Glycyrrhizae) acts as an assistant and envoy medicinal to remove toxins and to harmonize the actions of all the other medicinals.

Because the pattern differentiation was accurate and the medication selection was appropriate, there was a significant treatment effect in this patient.

Source: Song Y, Ma SY, Li YM. Prof. Ma Shao-Yao's Clinical Experience in the Treatment of Infantile Eczema. Zhejiang Journal of Integrated Traditional Chinese and Western Medicine, 2008; 14 (4): 199-200

► Case # 2. Female, age 2. Initial Visit: 20/3/1986.

Itching skin and papules appeared throughout her body for more than one year. At first, there were small red papules on both legs and abdomen, which then became widespread with significant itching. The child also had a yellow lusterless facial complexion, a thin and weak body, poor appetite, and a pale tongue with a thin white coating. She was diagnosed with infantile eczema.

Formula

焦槟榔	<i>jiāo bīng láng</i>	10 g	Semen Arecae Praepareta
焦神曲	<i>jiāo shén qū</i>	10 g	Massa Medicata Fermentata
焦山楂	<i>jiāo shān zhā</i>	10 g	Fructus Crataegi
党参	<i>dǎng shēn</i>	10 g	Radix Codonopsis
茯苓	<i>fú líng</i>	6 g	Poria
泽泻	<i>zé xiè</i>	6 g	Rhizoma Alismatis
白鲜皮	<i>bái xiān pí</i>	6 g	Cortex Dictamni
刺蒺藜	<i>cì jí lí</i>	6 g	Fructus Tribuli
白芍	<i>bái sháo</i>	6 g	Radix Paeoniae Alba
甘草	<i>gān cǎo</i>	6 g	Radix et Rhizoma Glycyrrhizae

7 doses, decocted with water for oral administration.

The external treatment incorporated *Jiā Wèi Wǔ Shí Gāo*—Five-Stone Ointment containing (*gé jiè*, Gecko), *lú gān shí* (Calamina), *duàn shí gāo* (Gypsum Fibrosum Praeparatum), *huá shí fěn* (Pulvis Talci), *qīng dài* (Indigo Naturalis) and *huáng bǎi* (Cortex Phellodendri Chinensis). Sesame oil and Vaseline were used to make an ointment.

(Prescription from the China Academy of Chinese Medical Science Guang An Men Hospital).

On the second visit, most eczematous lesions had resolved and the itching was significantly reduced. Treatment was continued with the same formula for 12 more doses, while simultaneously changing the external treatment to “Itch Removing Skin Moistening

Cream" and Triamcinolone cream.

Itch Removing Skin Moistening Cream is composed of *zǐ cǎo* (Radix Arnebiae), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhiz) and *bīng piàn* (Borneolum Syntheticum). The ground medicinals were blended with water in an oil emulsion. Made at the China Academy of Chinese Medical Science Guang An Men Hospital.

On the third visit, her skin eczematous lesions had almost disappeared, leaving only dry rough skin on both hands. The treatment followed the same principle, so she was given the following medicinals for 7 more doses.

焦槟榔	<i>jiāo bīng láng</i>	10 g	Semen Arecae Praepareta
焦神曲	<i>jiāo shén qū</i>	10 g	Massa Medicata Fermentata
焦山楂	<i>jiāo shān zhā</i>	10 g	Fructus Crataegi
党参	<i>dǎng shēn</i>	10 g	Radix Codonopsis
茯苓	<i>fú líng</i>	6 g	Poria
泽泻	<i>zé xiè</i>	6 g	Rhizoma Alismatis
白鲜皮	<i>bái xiān pí</i>	10 g	Cortex Dictamni
淮山药	<i>huái shān yào</i>	6 g	Rhizoma Dioscoreae
白芍	<i>bái sháo</i>	6 g	Radix Paeoniae Alba
黄芩	<i>huáng qín</i>	6 g	Radix Scutellariae
陈皮	<i>chén pí</i>	6 g	Pericarpium Citri Reticulatae
厚朴	<i>hòu pò</i>	6 g	Cortex Magnoliae Officinalis
甘草	<i>gān cǎo</i>	6 g	Radix et Rhizoma Glycyrrhizae

7 doses decocted with water.

Analysis

The main clinical features of this case are its long course and systemic unhealed itchy rashes for over a year, also associated with a pattern of spleen qi deficiency. As an example, these cases can present with a lusterless yellow facial complexion, a weak body, poor appetite, and pale tongue. Therefore, the pattern identification of this disease is spleen deficiency with dampness, which is treated by fortifying the spleen and draining dampness.

The treatment used an empirical formula from Dr. Zhang Zuo-zhou.

In the first formula, *dǎng shēn* (Radix Codonopsis) and *fú líng* (Poria) fortify the spleen and boost qi.

Zé xiè (Rhizoma Alismatis) and *bái xiān pí* (Cortex Dictamni) clear heat and drain dampness.

jiāo bīng láng (Semen Arecae Praepareta), *jiāo shén qū* (Massa Medicata Fermentata) and *jiāo shān zhā* (Fructus Crataegi) promote digestion and remove food stagnation.

Bái sháo (Radix Paeoniae Alba) and *bái jí lí* (Fructus Tribuli) nourish blood and calm the liver, dispel wind and relieve itching.

Source: Liu LP. Experiences of Prof. Zhang Zuozhou in the Treatment of Skin Diseases



by Supplementing Qi and Regulating the Spleen [J]. New Journal of Traditional Chinese Medicine. 1988, 20 (9): 7.

[QUESTIONS]

1. An overweight 6-month-old child first showed scattered erythema on the face which later spread to the trunk, accompanied by small areas of papule formation, tiny vesiculations and small patches of suppuration. The child sometimes cried and was restless. He had dry stools and yellow urine. His tongue coating was yellow and greasy.

What is this pattern?

- A. Spleen deficiency with dampness retention
- B. Exuberant damp-heat
- C. Accumulated heat in the heart and spleen
- D. Wind-heat attacking the spleen
- E. Blood deficiency and wind-dryness

2. A 4-month-old child presented with scattered dark papules on the face which developed quickly into itchy and patchy vesiculations. The child sometimes scratched and ruptured the rash, which then formed a thin scab. He also had a poor appetite and his stools were loose. The tongue was pale red with a white coating.

Which is the first choice of formula?

- A. *Xiāo Fēng Dǎo Chì Tāng*—Wind-Dispersing and Red Guiding Decoction
- B. *Shēn Líng Bái Zhú Sǎn*—Ginseng, Poria and Atractylodes Macrocephal powder
- C. *Xiǎo Ér Huà Shī Tāng*—Children's Resolving Dampness Decoction
- D. *Liù Jūn Zǐ Tāng*—Six Gentlemen Decoction
- E. *Guī Pí Tāng*—Spleen-Restoring Decoction

3. A 10 month old child had repeated red papules on the face for more than five months. External application of Fluocinonide ointment became gradually ineffective. The red rashes on the head and face worsened when exposed to heat with a small amount of exudation formed yellow scabs with itching. The child had a thin yellow tongue coating and purple finger venules.

What is the first choice of treatment?

- A. Boric acid solution
- B. Betamethasone cream
- C. Dexamethasone cream
- D. *Èr Miào Sǎn Yóu*—Two Mysterious Powder Oil
- E. *Bīng Huáng Fū Lè Ruǎn Gāo*—Cool, Yellow and Comforting the Skin Ointment

4. A one and half year old child had skin rashes that first appeared shortly after birth. The rashes were recurrent, often interrupted by periods of relative remission and relapses. The child had a yellow facial complexion and a slightly thin body. The rashes appeared dry and with severe itching. After scratching there was a small amount of suppuration and pigmentation.

What is the correct nursing care?

- A. Scrub and wash the eczematous lesions area with baby bath liquid
- B. More exposure to sunlight and enhance the constitution
- C. Dress the child in woolen clothes to keep him warm
- D. Cover the child's hands with mittens to prevent scratching



E. Eat more fish and prawns to increase nutrition levels

5. An 8-month-old child with weak and overweight body presented with red rashes first on the face and head, followed by the appearance of patchy vesiculations with itching. The child also had a poor appetite and loose stools. The tongue was pale with a white greasy coating.

What is the correct treatment principle?

A. Disperse wind and clear heat

B. Boost qi and fortify the spleen

C. Clear heat and drain dampness

D. Fortify the spleen and drain dampness

E. Nourish blood and expel wind

[REFERENCES]

- [1] Host A. Cow's Milk Protein Allergy and Intolerance in Infancy. *Pediatric Allergy Immunol* [J]. 1994; 5 (5 Supplement): 1-36.
- [2] Li GH, Zhang L. Treatment 240 Cases of Infantile Eczema by External Washing with Traditional Chinese Medicine. *Chinese Journal of Dermatology*, 2004, 37 (4): 232.

Appendix I

Pediatric Medicinal Dosage Charts

The Chinese medicinal doses commonly used in pediatric practice are listed in the following charts. It provides a dosage range for each of the medicinals. The dosage is generally adjusted for the age of the child (for neonatal dosages refer to Part VII “Neonatal Diseases”), the severity of the patient’s condition, and the number of medicinals which comprise a prescription. For some special situations such as critical illness, one can choose to use an unusual dose that may be higher than normal. Chinese medicinals should not be used with a prior history of allergies.

Chinese Medicinal Names			Dosage (grams)
辛温解表药 Acrid-Warm Medicinals for Releasing the Exterior			
麻黄	má huáng	Herba Ephedrae	2-5
桂枝	guì zhī	Ramulus Cinnamomi	3-6
紫苏叶	zǐ sū yè	Folium Perillae	3-10
荆芥	jīng jiè	Herba Schizonepetae	3-10
防风	fáng fēng	Radix Saposhnikoviae	3-10
细辛	xì xīn	Herba Asari Caudigeri	1-3
羌活	qiāng huó	Rhizoma et Radix Notopterygii	3-10
白芷	bái zhǐ	Radix Angelicae Dahuricae	2-6
藁本	gǎo běn	Rhizoma Ligustici	3-10
香薷	xiāng rú	Herba Moslae	3-6
生姜	shēng jiāng	Rhizoma Zingiberis Recens	2-6
葱白	cōng bái	Bulbus Allii Fistulosi	2-6
辛夷	xīn yí	Flos Magnoliae	2-6
胡荽	hú suī	Herba Coriandri Sativi	3-10
辛凉解表药 Acrid-Cool Medicinals for Releasing the Exterior			
薄荷	bò he	Herba Menthae	2-6
牛蒡	niú bàng	Fructus Arctii	3-10
桑叶	sāng yè	Folium Mori	3-10
菊花	jú huā	Flos Chrysanthemi	10-15
蔓荆子	màn jīng zǐ	Fructus Viticis	5-10
葛根	gé gēn	Radix Puerariae Lobatae	5-10
升麻	shēng má	Rhizoma Cimicifugae	3-10
柴胡	chái hú	Radix Bupleuri	3-10
淡豆豉	dàn dòu chǐ	Semen Sojae Praeparatum	6-12
大豆黄卷	dà dòu huáng juǎn	Sojae Semen Germinatum	6-15
蝉蜕	chán tuì	Periostracum Cicadae	3-6
浮萍	fú píng	Herba Spirodelae	6-10
六月雪	liù yuè xuě	Serissa japonica	10-15

Continued

Chinese Medicinal Names			Dosage (grams)
清热泻火药 Medicinals for Clearing Heat and Draining Fire			
石膏	shí gāo	Gypsum Fibrosum	15-60
知母	zhī mǔ	Rhizoma Anemarrhenae	3-10
栀子	zhī zǐ	Fructus Gardeniae	3-10
芦根	lú gēn	Rhizoma Phragmitis	15-30
天花粉	tiān huā fěn	Radix Trichosanthis	6-10
竹叶	zhú yè	Folium Phyllostachydis Henonis	6-10
淡竹叶	dàn zhú yè	Herba Lophatheri	6-10
夏枯草	xià kū cǎo	Spica Prunellae	6-15
鸭跖草	yā zhí cǎo	Herba Commelinae	10-30
西瓜皮	xī guā pí	Exocarpium Citrulli	10-15
荷叶	hé yè	Folium Nelumbinis	3-10
莲子心	lián zǐ xīn	Plumula Nelumbinis	1-5
清热燥湿药 Medicinals for Clearing Heat and Drying Dampness			
黄连	huáng lián	Rhizoma Coptidis	1-6
黄芩	huáng qín	Radix Scutellariae	3-10
黄柏	huáng bǎi	Cortex Phellodendri Chinensis	3-10
胡黄连	hú huáng lián	Rhizoma Picrorhizae	3-10
龙胆	lóng dǎn	Radix et Rhizoma Gentianae	2-10
秦皮	qín pí	Cortex Fraxini	3-10
苦参	kǔ shēn	Radix Sophorae Flavescentis	3-10
白鲜皮	bái xiān pí	Cortex Dictamni	3-10
清热解毒药 Medicinals for Clearing Heat and Resolving Toxins			
金银花	jīn yín huā	Flos Lonicerae Japonicae	6-15
连翘	lián qiào	Fructus Forsythiae	6-15
蒲公英	pú gōng yīng	Herba Taraxaci	10-15
紫花地丁	zǐ huā dì dīng	Herba Violae	10-15
野菊花	yě jú huā	Flos Chrysanthemi Indici	10-15
鱼腥草	yú xīng cǎo	Herba Houttuyniae	10-15
败酱草	bài jiàng cǎo	Herba Patriniae	3-10
土茯苓	tǔ fú líng	Rhizoma Smilacis Glabrae	10-30
射干	shè gān	Rhizoma Belamcandae	3-10
山豆根	shān dòu gēn	Rhizoma Smilacis Glabrae	3-10
马勃	mǎ bó	Radix et Rhizoma Sophorae Tonkinensis	2-5
土牛膝	tǔ niú xī	Radix et Rhizome Achyranthes	10-30
白头翁	bái tóu wēng	Lasiosphaera seu Calvatia	10-15
马齿苋	mǎ chǐ xiàn	Herba Portulacae	10-30
鸦胆子	yā dǎn zǐ	Radix et Rhizome Achyranthes	0.5-2
重楼	chóng lóu	Portulacae Herba	10-15
半枝莲	bàn zhī lián	Fructus Bruceae	10-30

Continued

Chinese Medicinal Names			Dosage (grams)
白花蛇舌草	<i>bái huā shé shé cǎo</i>	Herba Hedyotis Diffusae	10-30
凤尾草	<i>fèng wěi cǎo</i>	Herba Petridis Multifidae	10-30
猪胆粉	<i>zhū dǎn fěn</i>	Pulvis Fellis Suis	10-15
金荞麦	<i>jīn qiáo mài</i>	Rhizoma Fagopyri Dibotryis	10-30
金沸草	<i>jīn fèi cǎo</i>	Herba Inulae	5-10
忍冬藤	<i>rěn dōng téng</i>	Caulis Lonicerae Japonicae	10-20
天葵子	<i>tiān kuí zǐ</i>	Radix Semiaquilegiae	10-15
一枝黄花	<i>yī zhī huáng huā</i>	Herba Solidaginis	10-20
绿豆	<i>lǜ dòu</i>	Semen Phaseoli Radiati	15-30
清热凉血药 Medicinals for Clearing Heat and Cooling Blood			
地黄	<i>dì huáng</i>	Radix Rehmanniae	10-30
紫草	<i>zǐ cǎo</i>	Radix Arnebiae	3-10
牛黄	<i>niú huáng</i>	Calculus Bovis	0.15-0.3
牡丹皮	<i>mǔ dān pí</i>	Cortex Moutan	3-10
赤芍	<i>chì sháo</i>	Radix Paeoniae Rubra	3-10
大青叶	<i>dà qīng yè</i>	Folium Isatidis	10-15
板蓝根	<i>bǎn lán gēn</i>	Radix Isatidis	10-15
青黛	<i>qīng dài</i>	Indigo Naturalis	1-3
玄参	<i>xuán shēn</i>	Radix Scrophulariae	10-15
水牛角	<i>shuǐ niú jiǎo</i>	Cornu Bubali	15-30
马鞭草	<i>mǎ biān cǎo</i>	Herba Verbenae	5-10
退虚热药 Medicinals for Eliminating Deficiency Heat			
银柴胡	<i>yín chái hú</i>	Radix Stellariae	3-10
地骨皮	<i>dì gǔ pí</i>	Cortex Lycii	10-15
青蒿	<i>qīng hāo</i>	Herba Artemisiae Annuae	3-10
白薇	<i>bái wēi</i>	Radix et Rhizoma Cynanchi Atrati	3-10
清肝明目药 Medicinals for Clearing Liver Heat and Improving Eyesight			
青箱子	<i>qīng xiāng zǐ</i>	Semen Celosiae	6-15
决明子	<i>jué míng zǐ</i>	Semen Cassiae	10-15
千里光	<i>qiān lǐ guāng</i>	Herba Senecionis Scandentis	10-30
温肺化痰药 Medicinals for Warming the Lung and Dissolving Phlegm			
半夏	<i>bàn xià</i>	Rhizoma Pinelliae	3-10
天南星	<i>tiān nán xīng</i>	Rhizoma Arisaematis	3-10
白附子	<i>bái fù zǐ</i>	Rhizoma Typhonii	3-5
皂荚	<i>zào jiá</i>	Fructus Gleditsiae	3-6
紫苏子	<i>zǐ sū zǐ</i>	Fructus Perillae	6-12
白芥子	<i>bái jiè zǐ</i>	Semen Sinapis	3-10
桔梗	<i>jié gěng</i>	Radix Platycodonis	3-6
旋覆花	<i>xuán fù huā</i>	Flos Inulae	3-10
白前	<i>bái qián</i>	Rhizoma et Radix Cynanchi Stauntonii	3-6

Continued

Chinese Medicinal Names			Dosage (grams)
清肺化痰药 Medicinals for Clearing the Lung and Dissolving Phlegm			
川贝母	<i>chuān bèi mǔ</i>	Bulbus Fritillariae Cirrhosae	3-10
浙贝母	<i>zhè bèi mǔ</i>	Bulbus Fritillariae Thunbergii	6-10
前胡	<i>qián hú</i>	Radix Peucedani	3-10
瓜蒌	<i>guā lóu</i>	Fructus Trichosanthis	6-12
竹茹	<i>zhú rú</i>	Caulis Bambusae in Taenia	3-10
竹沥	<i>zhú lì</i>	Succus Bambusae	10-30
天竺黄	<i>tiān zhú huáng</i>	Bambusae Concretio Silicea	3-10
胆南星	<i>dǎn nán xīng</i>	Arisaema cum Bile	3-10
猴枣	<i>hóu zǎo</i>	Calculus Macacae Mulattae	0.3-1
青礞石	<i>qīng méng shí</i>	Lapis Chloriti	10-15
海蛤壳	<i>hǎi gé qiào</i>	Concha Meretricis seu Cyclinae	10-15
海浮石	<i>hǎi fú shí</i>	Pumex	10-15
葶苈子	<i>tí lì zǐ</i>	Semen Lepidii; Semen Descurainiae	3-10
昆布	<i>kūn bù</i>	Thallus Laminariae; Thallus Eckloniae	6-10
海藻	<i>hǎi zǎo</i>	Sargassum	10-15
胖大海	<i>pàng dà hǎi</i>	Semen Sterculiae Lychnophorae	2-3 pieces
木蝴蝶	<i>mù hú dié</i>	Semen Oroxyli	1-3
止咳平喘药 Medicinals for Relieving Cough and Dyspnea			
苦杏仁	<i>kǔ xìng rén</i>	Armeniaca Semen Amarum	3-10
马兜铃	<i>mǎ dōu líng</i>	Fructus Aristolochiae	3-10
枇杷叶	<i>pí pá yè</i>	Folium Eriobotryae	3-10
款冬花	<i>kuǎn dōng huā</i>	Flos Farfarae	3-10
紫菀	<i>zǐ wǎn</i>	Radix et Rhizoma Asteris	3-10
百部	<i>bǎi bù</i>	Radix Stemonae	3-10
桑白皮	<i>sāng bái pí</i>	Cortex Mori	10-15
芳香燥湿药 Aromatic Medicinals for Drying Dampness			
藿香	<i>huò xiāng</i>	Herba Agastachis	3-10
佩兰	<i>pèi lán</i>	Herba Eupatorii	3-10
苍术	<i>cāng zhú</i>	Rhizoma Atractylodis	3-10
厚朴	<i>hòu pò</i>	Cortex Magnoliae Officinalis	3-10
砂仁	<i>shā rén</i>	Fructus Amomi	2-5
豆蔻	<i>dòu kòu</i>	Fructus Amomi Rotundus	2-5
草豆蔻	<i>cǎo dòu kòu</i>	Semen Alpiniae Katsumadai	3-6
利水渗湿药 Medicinals for Promoting Urination and Percolating Dampness			
茯苓	<i>fú líng</i>	Poria	10-15
猪苓	<i>zhū líng</i>	Polyporus	6-10
泽泻	<i>zé xiè</i>	Rhizoma Alismatis	6-10
车前子	<i>chē qián zǐ</i>	Semen Plantaginis	3-10

Continued

Chinese Medicinal Names			Dosage (grams)
木通	<i>mù tōng</i>	Caulis Akebiae	3-6
通草	<i>tōng cǎo</i>	Tetrapanacis Medulla	3-6
茵陈	<i>yīn chén</i>	Herba Artemisiae Scopariae	10-30
薏苡仁	<i>yì yǐ rén</i>	Semen Coicis	10-30
防己	<i>fáng jǐ</i>	Radix Stephaniae Tetrandrae	3-10
冬瓜皮	<i>dōng guā pí</i>	Exocarpium Benincasae	15-30
赤小豆	<i>chì xiǎo dòu</i>	Semen Phaseoli	10-30
椒目	<i>jiāo mù</i>	Semen Zanthoxyli	2-5
玉米须	<i>yù mǐ xū</i>	Stigma Maydis	10-30
地肤子	<i>dì fū zǐ</i>	Fructus Kochiae	5-15
篇蓄	<i>biǎn xù</i>	Herba Polygoni Avicularis	10-30
瞿麦	<i>qú mài</i>	Herba Dianthi	10-15
海金沙	<i>hǎi jīn shā</i>	Spora Lygodii	10-15
石韦	<i>shí wéi</i>	Folium Pyrrosiae	3-10
萆薢	<i>bì xiè</i>	Rhizoma Dioscoreae Hypoglaucae	10-15
滑石	<i>huá shí</i>	Talcum	10-15
泽漆	<i>zé qī</i>	Herba Euphorbiae Helioscopiae	10-15
半边莲	<i>bàn biān lián</i>	Herba Lobeliae Chinensis	10-15
灯心草	<i>dēng xīn cǎo</i>	Medulla Junci	1-3
葫芦	<i>hú lú</i>	Fructus Lagenariae	15-30
香加皮	<i>xiāng jiā pí</i>	Cortex Periplocae	3-6
祛风除湿药 Medicinals for Dispelling Wind and Removing Dampness			
独活	<i>dú huó</i>	Radix Angelicae Pubescentis	3-10
豨薟草	<i>xī xiān cǎo</i>	Herba Siegesbeckiae	10-15
苍耳子	<i>cāng ěr zǐ</i>	Fructus Xanthii	3-10
秦艽	<i>qín jiāo</i>	Radix Gentianae Macrophyllae	3-10
蚕砂	<i>cán shā</i>	Faeces Bombycis	3-10
老鹳草	<i>lǎo guàn cǎo</i>	Herba Erodii Stephiani	10-15
木瓜	<i>mù guā</i>	Fructus Chaenomelis	3-10
五加皮	<i>wǔ jiā pí</i>	Cortex Acanthopanax	3-10
鹿衔草	<i>lù xián cǎo</i>	Herba Pyrolae	9-30
威灵仙	<i>wēi líng xiān</i>	Radix et Rhizoma Clematidis	3-10
丝瓜络	<i>sī guā luò</i>	Retinervus Luffae Fructus	3-10
桑枝	<i>sāng zhī</i>	Ramulus Mori	10-15
徐长卿	<i>xú cháng qīng</i>	Radix et Rhizoma Cynanchi Paniculati	3-10
乌梢蛇	<i>wū shāo shé</i>	Zaocys	3-10
海桐皮	<i>hǎi tóng pí</i>	Cortex Erythrinae	5-15
透骨草	<i>tòu gǔ cǎo</i>	Phryma Leptostachya Linn	10-15
伸筋草	<i>shēn jīn cǎo</i>	Herba Lycopodii	3-12

Continued

Chinese Medicinal Names			Dosage (grams)
消积导滞药 Medicinals for Promoting Digestion by Removing Food Accumulation and Stagnation			
莱菔子	<i>lái fú zǐ</i>	Semen Raphani	10-15
山楂	<i>shān zhā</i>	Fructus Crataegi	10-15
六神曲	<i>liù shén qū</i>	Massa Medicata Fermentata	10-15
鸡内金	<i>jī nèi jīn</i>	Endothelium Corneum Gigeriae Galli	3-10
麦芽	<i>mài yá</i>	Fructus Hordei Germinatus	10-15
谷芽	<i>gǔ yá</i>	Fructus Setariae Germinatus	10-30
攻下逐水药 Medicinals for Expelling Water by Purgation			
大黄	<i>dà huáng</i>	Radix et Rhizoma Rhei	3-10
芒硝	<i>máng xiāo</i>	Natrii Sulfas	3-10
番泻叶	<i>fān xiè yè</i>	Folium Sennae	2-5
芦荟	<i>lú huì</i>	Aloe	1-3
牵牛子	<i>qiān niú zǐ</i>	Semen Pharbitidis	3-10
甘遂	<i>gān suì</i>	Radix Kansui	0.5-1.5
玄明粉	<i>xuán míng fěn</i>	Natrii Sulfas Exsiccatus	3-10
润下通府药 Medicinals for Moistening the Intestines and Unblocking the Bowels			
火麻仁	<i>huǒ má rén</i>	Fructus Cannabis	10-15
郁李仁	<i>yù lǐ rén</i>	Semen Pruni	3-10
蜂蜜	<i>fēng mì</i>	Mel	10-30
温里祛寒药 Medicinals for Warming the Interior and Dispelling Cold			
附子	<i>fù zǐ</i>	Radix Aconiti Lateralis Praeparata	3-10
肉桂	<i>ròu guì</i>	Cortex Cinnamomi	1-3
干姜	<i>gān jiāng</i>	Rhizoma Zingiberis	2-5
煨姜	<i>wēi jiāng</i>	Rhizoma Zingiberis Rosc.	2-5
炮姜	<i>páo jiāng</i>	Rhizoma Zingiberis Praeparatum	2-5
高良姜	<i>gāo liáng jiāng</i>	Rhizoma Alpiniae Officinarum	3-10
吴茱萸	<i>wú zhū yú</i>	Fructus Evodiae	2-5
华澄茄	<i>bì chéng qié</i>	Fructus Litseae	2-5
丁香	<i>dīng xiāng</i>	Flos Caryophylli	2-5
小茴香	<i>xiǎo huí xiāng</i>	Fructus Foeniculi	3-10
平肝熄风药 Medicinals for Calming the Liver and Extinguishing Wind			
羚羊角	<i>líng yáng jiǎo</i>	Cornu Saigae Tataricae	0.3-1
石决明	<i>shí jué míng</i>	Concha Haliotidis	15-30
珍珠母	<i>zhēn zhū mǔ</i>	Concha Margaritiferae Usta	15-30
天麻	<i>tiān má</i>	Rhizoma Gastrodiae	3-10
钩藤	<i>gōu téng</i>	Ramulus Uncariae Cum Uncis	10-15
蒺藜	<i>jí lí</i>	Fructus Tribuli	3-10
代赭石	<i>dài zhě shí</i>	Haematitum	10-30
地龙	<i>dì lóng</i>	Pheretima	3-10

Continued

Chinese Medicinal Names			Dosage (grams)
僵蚕	<i>jiāng cán</i>	Bombyx Batryticatus	3-10
全蝎	<i>quán xiē</i>	Scorpion	1-3
蜈蚣	<i>wú gōng</i>	Scolopendra	1-3
重镇安神药 Heavy Sedative Medicinals for Calming the Mind			
朱砂	<i>zhū shā</i>	Cinnabaris	0.1-0.5
磁石	<i>cí shí</i>	Magnetitum	15-30
龙骨	<i>lóng gǔ</i>	Os Draconis; Fossilia Ossis Mastodi	15-30
牡蛎	<i>mǔ lì</i>	Concha Ostreae	15-30
琥珀	<i>hǔ pò</i>	Succinum	1-2
养心安神药 Medicinals for Nourishing the Heart and Calming the Mind			
酸枣仁	<i>suān zǎo rén</i>	Semen Ziziphi Spinosae	10-15
柏子仁	<i>bǎi zǐ rén</i>	Semen Platycladi	10-15
远志	<i>yuǎn zhì</i>	Radix Polygalae	3-5
夜交藤	<i>yè jiāo téng</i>	Caulis Polygoni Multiflori	10-30
合欢皮	<i>hé huān pí</i>	Cortex Albiziae	10-15
小麦	<i>xiǎo mài</i>	Fructus Triticum	15-30
开窍药 Medicinals for Opening the Orifices			
麝香	<i>shè xiāng</i>	Moschus	0.03-0.15
冰片	<i>bīng piàn</i>	Borneolum Syntheticum	0.03-0.15
苏合香	<i>sū hé xiāng</i>	Styrax	0.3-1
石菖蒲	<i>shí chāng pú</i>	Rhizoma Acori Tatarinowii	3-10
理气药 Medicinals for Rectifying Qi			
陈皮	<i>chén pí</i>	Pericarpium Citri Reticulatae	3-10
青皮	<i>qīng pí</i>	Pericarpium Citri Reticulatae Viride	3-10
枳实	<i>zhǐ shí</i>	Fructus Aurantii Immaturus	3-10
枳壳	<i>zhǐ qiào</i>	Fructus Aurantii	3-10
木香	<i>mù xiāng</i>	Radix Aucklandiae	2-10
乌药	<i>wū yào</i>	Radix Linderae	3-10
薤白	<i>xiè bái</i>	Bulbus Allii Macrostemi	3-10
香附	<i>xiāng fù</i>	Rhizoma Cyperi	10-15
川楝子	<i>chuān liàn zǐ</i>	Fructus Toosendan	10-15
大腹皮	<i>dà fù pí</i>	Pericarpium Arecae	3-10
佛手	<i>fó shǒu</i>	Fructus Citri Sarcodactylis	3-5
绿萼梅	<i>lǜ è méi</i>	Flos Mume	3-6
紫苏梗	<i>zǐ sū gěng</i>	Caulis Perillae	5-10
荷梗	<i>hé gěng</i>	Petiolus Nelmbinis	10-15
荔枝核	<i>lì zhī hé</i>	Semen Litchi	5-10
橘核	<i>jú hé</i>	Semen Citri Reticulatae	3-10
沉香	<i>chén xiāng</i>	Lignum Aquilariae Resinatum	1-3

Continued

Chinese Medicinal Names			Dosage (grams)
刀豆	dāo dòu	Semen Canavaliae	10-15
柿蒂	shì dì	Calyx Kaki	3-10
香椽	xiāng yuán	Citri Fructus	3-10
玫瑰花	méi guī huā	Rosae Rugosae Flos	3-6
青木香	qīng mù xiāng	Radix Aristolochiae	3-10
活血破血药 Medicinals for Invigorating and Breaking Blood			
丹参	dān shēn	Radix et Rhizoma Salviae Miltiorrhizae	3-15
川芎	chuān xiōng	Rhizoma Chuanxiong	3-10
桃仁	táo rén	Semen Persicae	3-10
红花	hóng huā	Flos Carthami	3-10
泽兰	zé lán	Herba Lycopi	3-10
益母草	yì mǔ cǎo	Herba Leonuri	10-30
鸡血藤	jī xuè téng	Caulis Spatholobi	10-15
莪术	é zhú	Rhizoma Curcumae	3-10
土鳖虫	tǔ biē chóng	Eupolyphaga seu Steleophaga	3-10
穿山甲	chuān shān jiǎ	Squama Manitis	3-10
皂角刺	zào jiǎo cì	Spina Gleditsiae	3-10
乳香	rǔ xiāng	Olibanum	3-10
没药	mò yào	Myrrha	3-10
郁金	yù jīn	Radix Curcumae	3-10
延胡索	yán hú suǒ	Rhizoma Corydalis	3-10
平地木	píng dì mù	Herba Ardisiae Japonicae	10-30
儿茶	ér chá	Catechu	1-3
茺蔚子	chōng wèi zǐ	Leonuri Fructus	5-10
五灵脂	wǔ líng zhī	Faeces Troglodyteri	3-10
止血药 Medicinals for Stanching Bleeding			
仙鹤草	xiān hè cǎo	Herba Agrimoniae	10-30
紫珠叶	zǐ zhū yè	Callicarpae Formosanae Folium	10-15
白及	bái jí	Rhizoma Bletillae	3-10
地锦草	dì jīn cǎo	Herba Euphorbiae Humifusae	10-30
艾叶	ài yè	Folium Artemisiae Argyi	3-10
灶心土	zào xīn tǔ	Terra Flava Usta	15-30
大蓟	dà jì	Herba Cirsii Japonici	10-15
小蓟	xiǎo jì	Herba Cirsii	10-15
侧柏叶	cè bǎi yè	Cacumen Platycladi	3-10
槐花	huái huā	Flos Sophorae	10-15
地榆	dì yú	Radix Sanguisorbae	3-10
茜草	qiàn cǎo	Radix et Rhizoma Rubiae	2-10
蒲黄	pú huáng	Pollen Typhae	3-10
棕榈炭	zōng lǚ tàn	Petiolus Trachycarpi Carbonisatus	3-10

Continued

Chinese Medicinal Names			Dosage (grams)
血余炭	xuè yú tàn	Crinis Carbonisatus	3-10
藕节	ǒu jié	Nodus Nelumbinis Rhizomatis	10-15
三七	sān qī	Radix et Rhizoma Notoginseng	3-10
花蕊石	huā ruǐ shí	Ophicalciturum	10-15
白茅根	bái máo gēn	Rhizoma Imperatae	15-30
苎麻根	zhù má gēn	Radix Boehmeriae	10-20
补气药 Medicinals for Supplementing Qi			
人参	rén shēn	Radix et Rhizoma Ginseng	2-10
党参	dǎng shēn	Radix Codonopsis	10-15
太子参	tài zǐ shēn	Radix Pseudostellariae	6-15
西洋参	xī yáng shēn	Radix Panacis Quinquefolii	3-6
黄芪	huáng qí	Radix Astragali	10-15
白术	bái zhú	Rhizoma Atractylodis Macrocephalae	3-10
山药	shān yào	Rhizoma Dioscoreae	10-30
扁豆	biǎn dòu	Semen Lablab Album	3-12
大枣	dà zǎo	Jujubae Fructus	3-10枚
甘草	gān cǎo	Radix et Rhizoma Glycyrrhizae	2-10
饴糖	yí táng	Saccharum Granorum	30-60
紫河车	zǐ hé chē	Placenta Hominis	2-3
黄精	huáng jīng	Rhizoma Polygonati	9-15
白扁豆	bái biǎn dòu	Semen Lablab Album	10-15
助阳药 Medicinals for Assisting Yang			
鹿角	lù jiǎo	Cornu Cervi	3-10
鹿茸	lù róng	Cornu Cervi Pantotrichum	1-2
鹿角胶	lù jiǎo jiāo	Colla Cornus Cervi	3-6
鹿角霜	lù jiǎo shuāng	Cornu Cervi Degelatinatum	10-15
淫羊藿	yín yáng huò	Radix Morindae Officinalis	6-10
仙茅	xiān máo	Fructus Psoraleae	3-10
巴戟天	bā jǐ tiān	Radix Morindae Officinalis	10-15
补骨脂	bǔ gǔ zhī	Fructus Psoraleae	6-12
肉苁蓉	ròu cōng róng	Herba Cistanches	10-15
益智	yì zhì	Cuscutae Semen	3-10
沙苑子	shā yuàn zǐ	Semen Astragali Complanati	10-15
菟丝子	tù sī zǐ	Semen Cuscutae	10-15
蛤蚧	gé jiè	Gecko	3-6
冬虫夏草	dōng chóng xià cǎo	Cordyceps	3-10
续断	xù duàn	Radix Dipsaci	10-15
杜仲	dù zhòng	Cortex Eucommiae	10-15
狗脊	gǒu jǐ	Rhizoma Cibotii	10-15
骨碎补	gǔ suì bǔ	Rhizoma Drynariae	3-10

Continued

Chinese Medicinal Names			Dosage (grams)
养血药 Medicinals for Nourishing Blood			
熟地黄	shú dì huáng	Radix Rehmanniae Praeparata	10-30
何首乌	hé shǒu wū	Radix Polygoni Multiflori	10-30
当归	dāng guī	Radix Angelicae Sinensis	3-10
白芍	bái sháo	Radix Paeoniae Alba	3-10
阿胶	ē jiāo	Colla Corii Asini	5-15
桑椹	sāng shèn	Fructus Mori	10-15
龙眼肉	lóng yǎn ròu	Arillus Longan	3-10
滋阴药 Medicinals for Enriching Yin			
南沙参	nán shā shēn	Radix Adenophorae	10-15
北沙参	běi shā shēn	Radix Glehniae	5-10
天冬	tiān mén dōng	Radix Ophiopogonis	3-10
麦冬	mài dōng	Radix Ophiopogonis	3-10
石斛	shí hú	Polygonati Odorati Rhizoma	3-10
玉竹	yù zhú	Rhizoma Polygonati Odorati	10-15
百合	bǎi hé	Bulbus Lili	10-15
枸骨叶	gǒu gǔ yè	Folium Ilicis Cornutae	10-30
女贞子	nǚ zhēn zǐ	Fructus Ligustri Lucidi	10-30
墨旱莲	mò hàn lián	Herba Ecliptae	10-15
龟板	guī bǎn	Carapax Trionycis	10-30
鳖甲	biē jiǎ	Carapax Trionycis	10-30
枸杞子	gǒu qǐ zǐ	Fructus Lycii	3-10
桑寄生	sāng jì shēng	Herba Taxilli	10-15
收敛药 Astringent Medicinals			
山茱萸	shān zhū yú	Fructus Corni	3-10
五味子	wǔ wèi zǐ	Fructus Schisandrae Chinensis	2-5
乌梅	wū méi	Fructus Mume	3-10
莲子	lián zǐ	Semen Nelumbinis	10-15
肉豆蔻	ròu dòu kòu	Semen Myristicae	3-10
诃子	hē zǐ	Fructus Chebulae	3-10
赤石脂	chì shí zhī	Halloysitum Rubrum	10-20
禹余粮	yǔ yú liáng	Limonitum	10-20
五倍子	wǔ bèi zǐ	Galla Chinensis	2-5
罂粟壳	yīng sù qiào	Pericarpium Papaveris	3-10
石榴皮	shí liú pí	Pericarpium Granati	3-10
芡实	qiàn shí	Semen Euryales	10-30
桑螵蛸	sāng piāo xiāo	Oötheca Mantidis	3-10
覆盆子	fù pén zǐ	Fructus Rubi	3-10
金樱子	jīn yīng zǐ	Fructus Rosae Laevigatae	10-30

Continued

Chinese Medicinal Names			Dosage (grams)
海螵蛸	<i>hǎi piāo xiāo</i>	Endoconcha Sepiae	3-10
浮小麦	<i>fú xiǎo mài</i>	Fructus Triticis Levis	10-15
糯稻根	<i>nuò dào gēn</i>	Radix Oryzae Glutinosae	15-30
碧桃干	<i>bì táo gān</i>	Fructus Persicae Immaturus	10-15
麻黄根	<i>má huáng gēn</i>	Radix et Rhizoma Ephedrae	3-10
白果	<i>bái guǒ</i>	Semen Ginkgo	3-10
椿皮	<i>chūn pí</i>	Cortex Ailanthi	6-10
驱虫药 Anthelmintic Medicinals			
苦楝皮	<i>kǔ liàn pí</i>	Cortex Meliae	10-30
使君子	<i>shǐ jūn zǐ</i>	Fructus Quisqualis	3-10
槟榔	<i>bīng láng</i>	Semen Arecae	10-30
雷丸	<i>léi wán</i>	Omphalia	3-6
鹤虱	<i>hè shī</i>	Fructus Carpesii	3-10
榧子	<i>fěi zǐ</i>	Semen Torreyae	15-30
南瓜子	<i>nán guā zǐ</i>	Semen Cucurbitae	30-60
贯众	<i>guàn zhòng</i>	Rhizoma Cyrtomii	10-15
常山	<i>cháng shān</i>	Radix Dichroae	3-10
草果	<i>cǎo guǒ</i>	Fructus Tsaoko	3-6

Appendix II

Formulas

A

Ān Gōng Niú Huáng Wán (Peaceful Palace Bovine Bezoar Pill, 安宫牛黄丸)

[Source] *Systematic Differentiation of Warm Diseases (Wēn Bìng Tiáo Biàn, 温病条辨)*

[Ingredients] niú huáng (Calculus Bovis), yù jīn (Radix Curcumae), xī jiǎo (Cornu Rhinocerotis), huáng qín (Radix Scutellariae), huáng lián (Rhizoma Coptidis), xióng huáng (Realgar), zhī zǐ (Fructus Gardeniae), zhū shā (Cinnabar), bīng piàn (Borneolum Syntheticum), shè xiāng (Moschus), zhēn zhū (Margarita)

[Indications] Pneumonia, asthma

B

Bā Zhēn Tāng (Eight Gem Decoction, 八珍汤)

[Source] *The Categorized Synopsis of the Whole (Zhèng Tǐ Lèi Yào, 正体类要)*

[Ingredients] rén shēn (Radix et Rhizoma Ginseng), bái zhú (Rhizoma Atractylodis Macrocephalae), fú líng (Poria), gān cǎo (Radix et Rhizoma Glycyrrhizae), dāng guī (Radix Angelicae Sinensis), bái sháo (Radix Paeoniae Alba), shēng dì (Radix Rehmanniae) and chuān xiōng (Rhizoma Chuanxiong)

[Indications] Malnutrition

Bā Zhèng Sǎn (Eight Corrections Powder, 八正散)

[Source] *The Beneficial Formulas from the Taiping Imperial Pharmacy (Tài Píng Huì Mín Hé Jì Jú Fāng, 太平惠民和剂局方)*

[Ingredients] chē qián zǐ (Semen Plantaginis), mù tōng (Caulis Akebiae), qú mài (Herba Dianthi), biǎn xù (Herba Polygoni Avicularis), huá shí (Talcum), gān cǎo (Radix et Rhizoma Glycyrrhizae), shān zhī (Fructus Gardeniae) and dà huáng (Radix et Rhizoma Rhei)

[Indications] Frequent micturition

Bái Hǔ Tāng (White Tiger Decoction, 白虎汤)

[Source] *Treatise on Cold Damage (Shāng Hán Lùn, 伤寒论)*

[Ingredients] shí gāo (Gypsum Fibrosum), zhī mǔ (Rhizoma Anemarrhenae), jīng mǐ (Oryza Sativa L.), gān cǎo (Radix et Rhizoma Glycyrrhizae)

[Indications] Kawasaki Disease

Bái Tōng Tāng (Scallion Yang-Freeing Decoction, 白通汤)

[Source] *Treatise on Cold Damage (Shāng Hán Lùn, 伤寒论)*

[Ingredients] fù zǐ (Radix Aconiti Lateralis Praeparata), gān jiāng (Rhizoma Zingiberis), cōng bái (Bulbus Allii Fistulosi)

[Indications] Measles

Bǎo Hé Wán (Harmony-Preserving Pill, 保和丸)

[Source] *Teachings of [Zhu] Dan-xi (Dān Xī Xīn Fǎ, 丹溪心法)*

[Ingredients] shān zhā (Fructus Crataegi), shén qū (Massa Medicata Fermentata), bàn xià (Rhizoma



Pinelliae), *fú líng* (Poria), *chén pí* (Pericarpium Citri Reticulatae), *lián qiào* (Fructus Forsythiae), *lái fú zǐ* (Semen Raphani)

[Indications] Diarrhea, dyspeptic disease, common cold, sweating syndrome

Bǎo Yuán Tāng (Original-Qi-Preserving Decoction, 保元汤)

[Source] *Reflections of Universal Love: The Complete Book on Pox* (Bó Ài Xīn Jiàn, 博爱心鉴)

[Ingredients] *rén shēn* (Radix et Rhizoma Ginseng), *huáng qí* (Radix Astragali), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *ròu guì* (Cortex Cinnamomi)

[Indications] Fetal feebleness

Bù Huàn Jīn Zhèng Qì Sǎn (Priceless Qi-Correcting Powder, 不换金正气散)

[Source] *Beneficial Formulas from the Taiping Imperial Pharmacy* (Tài Píng Huì Mǐn Hé Jì Jú Fāng, 太平惠民和剂局方)

[Ingredients] *cāng zhú* (Rhizoma Atractylodis), *hòu pò* (Cortex Magnoliae Officinalis), *chén pí* (Pericarpium Citri Reticulatae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *huò xiāng* (Herba Agastachis)

[Indications] Anorexia

Bǔ Shèn Dì Huáng Wán (Kidney-Supplementing Rehmannia Pill, 补肾地黄丸)

[Source] *Golden Mirror of the Medical Tradition* (Yī Zōng Jīn Jiàn, 医宗金鉴)

[Ingredients] *shú dì* (Radix Rehmanniae Praeparata), *zé xiè* (Rhizoma Alismatis), *mǔ dān pí* (Cortex Moutan), *shān zhū yú* (Fructus Corni), *niú xī* (Radix Achyranthis Bidentatae), *shān yào* (Rhizoma Dioscoreae), *lù róng* (Cornu Cervi Pantotrichum), *fú líng* (Poria)

[Indications] Acquired immunodeficiency syndrome, recurrent respiratory tract infections, rickets

Bǔ Zhōng Yì Qì Tāng (Center-Supplementing and Qi-Boosting Decoction, 补中益气汤)

[Source] *Treatise on the Spleen and Stomach* (Pí Wèi Lùn, 脾胃论)

[Ingredients] *huáng qí* (Radix Astragali), *rén shēn* (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *dāng guī* (Radix Angelicae Sinensis), *chén pí* (Pericarpium Citri Reticulatae), *shēng má* (Rhizoma Cimicifugae), *chái hú* (Radix Bupleuri), *shēng jiāng* (Rhizoma Zingiberis Recens), *dà zǎo* (Fructus Jujubae)

[Indications] Frequent micturition, enuresis

C

Chái Gé Jiě Jī Tāng (Bupleurum and Pueraria Muscle-Resolving Decoction, 柴葛解肌汤)

[Source] *Six Texts on Cold Damage* (Shāng Hán Liù Shū, 伤寒六书)

[Ingredients] *chái hú* (Radix Bupleuri), *gé gēn* (Radix Puerariae Lobatae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *huáng qín* (Radix Scutellariae), *qiāng huó* (Rhizoma et Radix Notopterygii), *bái zhǐ* (Radix Angelicae Dahuricae), *sháo yào* (Radix Paeoniae), *jié gēng* (Radix Platycodonis)

[Indications] Acquired immunodeficiency syndrome

Chái Hú Gé Gēn Tāng (Bupleurum and Pueraria Decoction, 柴胡葛根汤)

[Source] *Orthodox Lineage of External Medicine* (Wài Kē Zhèng Zōng, 外科正宗)

[Ingredients] *chái hú* (Radix Bupleuri), *tiān huā fěn* (Radix Trichosanthis), *gé gēn* (Radix Puerariae Lobatae), *huáng qín* (Radix Scutellariae), *jié gēng* (Radix Platycodonis), *lián qiào* (Fructus Forsythiae), *niú bàng zǐ* (Fructus Arctii), *shí gāo* (Gypsum Fibrosum), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *shēng má* (Rhizoma Cimicifugae)

[Indications] Epidemic parotitis

D

Dà Bǔ Yīn Wán (Major Yin-Supplementing Pill, 大补阴丸)

[Source] *Teachings of [Zhu] Dan-xi (Dān Xī Xīn Fǎ, 丹溪心法)*

[Ingredients] *shú dì huáng* (Radix Rehmanniae Praeparata), *zhī mǔ* (Rhizoma Anemarrhenae), *huáng bǎi* (Cortex Phellodendri Chinensis), *guī jiǎ* (Carapax et Plastrum Testudinis), *zhū jǐ suǐ* (Spinal Cord of Pig)

[Indications] Sexual precocity

Dà Chái Hú Tāng (Major Bupleurum Decoction, 大柴胡汤)

[Source] *Essentials from the Golden Cabinet (Jīn Guì Yào Lǜ, 金匮要略)*

[Ingredients] *chái hú* (Radix Bupleuri), *huáng qín* (Radix Scutellariae), *sháo yào* (Radix Paeoniae), *bàn xià* (Rhizoma Pinelliae), *shēng jiāng* (Rhizoma Zingiberis Recens), *zhǐ shí* (Fructus Aurantii Immaturus), *dà zǎo* (Fructus Jujubae), *dà huáng* (Radix et Rhizoma Rhei)

[Indications] Epidemic parotitis

Dà Dìng Fēng Zhū (Major Wind-Stabilizing Pill, 大定风珠)

[Source] *Systematic Differentiation of Warm Diseases (Wēn Bìng Tiáo Biàn, 温病条辨)*

[Ingredients] *bái sháo* (Radix Paeoniae Alba), *ē jiāo* (Colla Corii Asini), *guī bǎn* (Plastrum Testudinis), *dì huáng* (Radix Rehmanniae), *má rén* (Fructus Cannabis), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *mǔ lì* (Concha Ostreae), *mù dōng* (Radix Ophiopogonis), *zhī gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), *biē jiǎ* (Carapax Trionycis), *jī zǐ huáng* (Ovum Gallus domesticus Flavus)

[Indications] Tics

Dà Qīng Lóng Tāng (Major Green Dragon Decoction, 大青龙汤)

[Source] *Treatise on Cold Damage (Shāng Hán Lùn, 伤寒论)*

[Ingredients] *má huáng* (Herba Ephedrae), *guì zhī* (Ramulus Cinnamomi), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *shēng jiāng* (Rhizoma Zingiberis Recens), *dà zǎo* (Fructus Jujubae), *shí gāo* (Gypsum Fibrosum)

[Indications] Asthma

Dài Gé Sǎn (Indigo and Gecko Powder, 黛蛤散)

[Source] *Chinese Pharmacopoeia (Zhōng Guó Yào Diǎn, 中国药典)*

[Ingredients] *qīng dài* (Indigo Naturalis), *gé qiào* (Concha Meretricis seu Cyclinae)

[Indications] Acquired immunodeficiency syndrome

Dān Zhī Xiǎo Yáo Sǎn (Cortex and Gardenia Free Wanderer Powder, 丹栀逍遥散)

[Source] *Summary of Internal Medicine (Nèi Kē Zhāi Yào, 内科摘要)*

[Ingredients] *chái hú* (Radix Bupleuri), *dāng guī* (Radix Angelicae Sinensis), *bái sháo* (Radix Paeoniae Alba), *fú líng* (Poria), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *bò he* (Herba Menthae), *dān pí* (Cortex Moutan), *zhī zǐ* (Fructus Gardeniae)

[Indications] Sexual precocity

Dāng Guī Sì Nì Tāng (Chinese Angelica Frigid Extremities Decoction, 当归四逆汤)

[Source] *Treatise on Cold Damage (Shāng Hán Lùn, 伤寒论)*

[Ingredients] *dāng guī* (Radix Angelicae Sinensis), *guì zhī* (Ramulus Cinnamomi), *sháo yào* (Radix Paeoniae), *xì xīn* (Radix et Rhizoma Asari), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *tōng cǎo* (Medulla Tetrapanacis), *dà zǎo* (Fructus Jujubae)



[Indications] Scleredema

Dāng Guī Yǐn Zǐ (Chinese Angelica Drink, 当归饮子)

[Source] *Revised Yan's Formulas to Aid the Living* (Chóng Dìng Yán Shì Jì Shēng Fāng, 重订严氏济生方)

[Ingredients] *dāng guī* (Radix Angelicae Sinensis), *shēng dì* (Radix Rehmanniae), *bái sháo* (Radix Paeoniae Alba), *chuān xiōng* (Rhizoma Chuanxiong), *hé shǒu wū* (Radix Polygoni Multiflori), *jīng jiè* (Herba Schizonepetae), *fáng fēng* (Radix Saposhnikoviae), *bái jǐ lí* (Fructus Tribuli), *huáng qí* (Radix Astragali), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Acquired immunodeficiency syndrome

Dí Tán Tāng (Phlegm-Flushing Decoction, 涤痰汤)

[Source] *Fine Formulas of Wonderful Efficacy* (Qí Xiào Liáng Fāng, 奇效良方)

[Ingredients] *bàn xià* (Rhizoma Pinelliae), *chén pí* (Pericarpium Citri Reticulatae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *zhú rú* (Caulis Bambusae in Taenia), *zhǐ shí* (Fructus Aurantii Immaturus), *shēng jiāng* (Rhizoma Zingiberis Recens), *dǎn nán xīng* (Arisaema cum Bile), *rén shēn* (Radix et Rhizoma Ginseng), *chāng pú* (Rhizoma Acori Tatarinowii)

[Indications] Epilepsy

Dìng Chuǎn Tāng (Arrest Wheezing Decoction, 定喘汤)

[Source] *Fu Shou Jing Fang* (扶寿精方)

[Ingredients] *bái guǒ* (Semen Ginkgo), *má huáng* (Herba Ephedrae), *kuǎn dōng huā* (Flos Farfarae), *sāng bái pí* (Cortex Mori), *sū zǐ* (Fructus Perillae), *bàn xià* (Rhizoma Pinelliae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *xìng rén* (Semen Armeniacae Amarum), *huáng qín* (Radix Scutellariae)

[Indications] Asthma

Dìng Xián Wán (Convulsion-Settling Pill, 定痫丸)

[Source] *Medical Revelations* (Yī Xué Xīn Wù, 医学心悟)

[Ingredients] *tiān má* (Rhizoma Gastrodiae), *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae), *dǎn nán xīng* (Arisaema cum Bile), *bàn xià* (Rhizoma Pinelliae), *chén pí* (Pericarpium Citri Reticulatae), *fú líng* (Poria), *fú shén* (Sclerotium Poriae Paradicis), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *mài dōng* (Radix Ophiopogonis), *shí chāng pú* (Rhizoma Acori Tatarinowii), *yuǎn zhì* (Radix Polygalae), *quán xiē* (Scorpio), *jiāng cán* (Bombyx Batryticatus), *hǔ pò* (Succinum), *chén shā* (Cinnabaris), *zhú lì* (Succus Bambusae), *jiāng zhī* (Succus Rhizomatis Zingiberis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Epilepsy

Dū Qì Wán (Qi-Restraining Pill, 都气丸)

[Source] *Comprehensive Medicine According to Master Zhang* (Zhāng Shì Yī Tōng, 张氏医通)

[Ingredients] *shú dì huáng* (Radix Rehmanniae Praeparata), *shān yào* (Rhizoma Dioscoreae), *shān zhū yú* (Fructus Corni), *fú líng* (Poria), *zé xiè* (Rhizoma Alismatis), *mǔ dān pí* (Cortex Moutan), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis)

[Indications] Asthma

E

Èr Chén Tāng (Two Matured Substances Decoction, 二陈汤)

[Source] *Beneficial Formulas from the Taiping Imperial Pharmacy* (Tài Píng Huì Mǐn Hé Jì Jù Fāng, 太平惠民和剂局方)

[Ingredients] *Bàn xià* (Rhizoma Pinelliae), *jú hóng* (Exocarpium Citri), *fú líng* (Poria), *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle)

[Indications] Cough, common cold, cerebral palsy

Èr Zhì Wán (Double Supreme Pill, 二至丸)

[Source] *Standards for Diagnosis and Treatment (Zhèng Zhì Zhǔn Shéng, 证治准绳)*

[Ingredients] *Nǚ zhēn zǐ* (Fructus Ligustri Lucidi), *hàn lián cǎo* (Herba Ecliptae)

[Indications] Glomerulonephritis

F

Fáng Jǐ Fú Líng Tāng (Stephania Root and Poria Decoction, 防己茯苓汤)

[Source] *Essentials from the Golden Cabinet (Jīn Guì Yào Lǜè, 金匮要略)*

[Ingredients] *fáng jǐ* (Radix Stephaniae Tetrandrae), *huáng qí* (Radix Astragali), *guì zhī* (Ramulus Cinnamomi), *fú líng* (Poria), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Glomerulonephritis

Fáng Jǐ Huáng Qí Tāng (Stephania Root and Astragalus Decoction, 防己黄芪汤)

[Source] *Essentials from the Golden Cabinet (Jīn Guì Yào Lǜè, 金匮要略)*

[Ingredients] *fáng jǐ* (Radix Stephaniae Tetrandrae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *huáng qí* (Radix Astragali), *shēng jiāng* (Rhizoma Zingiberis Recens), *dà zǎo* (Fructus Jujubae)

[Indications] Malnutrition

Féi Ēr Wán (Childhood-Malnutrition Rectifying Pill, 肥儿丸)

[Source] *Golden Mirror of the Medical Tradition (Yī Zōng Jīn Jiàn, 医宗金鉴)*

[Ingredients] *mài yá* (Fructus Hordei Germinatus), *hú huáng lián* (Rhizoma Picrorhizae), *rén shēn* (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *huáng lián* (Rhizoma Coptidis), *shǐ jūn zǐ* (Fructus Quisqualis), *shén qū* (Massa Medicata Fermentata), *shān zhā* (Fructus Crataegi), *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), *lú huì* (Aloe)

[Indications] Acquired immunodeficiency syndrome, malnutrition

Fù Zǐ Lǐ Zhōng Tāng (Aconite Center-Regulating Decoction, 附子理中汤)

[Source] *Treatise on Diseases, Patterns, and Formulas Related to the Unification of the Three Etiologies (Sān Yīn Jí Yī Bìng Zhèng Fāng Lùn, 三因极一病证方论)*

[Ingredients] *fù zǐ* (Radix Aconiti Lateralis Praeparata), *rén shēn* (Radix et Rhizoma Ginseng), *gān jiāng* (Rhizoma Zingiberis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *bái zhú* (Rhizoma Atractylodis Macrocephalae)

[Indications] Acquired immunodeficiency syndrome

Fù Zǐ Xiè Xīn Tāng (Aconite Heart-Draining Decoction, 附子泻心汤)

[Source] *Treatise on Cold Damage (Shāng Hán Lùn, 伤寒论)*

[Ingredients] *fù zǐ* (Radix Aconiti Lateralis Praeparata), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *sháo yào* (Radix Paeoniae), *rén shēn* (Radix et Rhizoma Ginseng)

[Indications] Glomerulonephritis

G

Gān Lù Xiǎo Dú Dān (Sweet Dew Toxin-Removing Elixir, 甘露消毒丹)

[Source] *Medical effects secret* (Yī Xiào Mì Chuán, 医效秘传)

[Ingredients] huá shí (Talcum), huáng qín (Radix Scutellariae), yīn chén (Herba Artemisiae Scopariae), huò xiāng (Herba Agastachis), lián qiào (Fructus Forsythiae), shí chāng pú (Rhizoma Acori Tatarinowii), bái kòu (Fructus Amomi Kravanh), bò he (Herba Menthae), mù tóng (Caulis Akebiae), shè gān (Rhizoma Belamcandae), chuān bèi mǔ (Bulbus Fritillariae Cirrhosae)

[Indications] Hand-foot-mouth disease

Gān Mài Dà Zǎo Tāng (Licorice, Wheat and Jujube Decoction, 甘麦大枣汤)

[Source] *Essentials from the Golden Cabinet* (Jīn Guì Yào Lùè, 金匮要略)

[Ingredients] gān cǎo (Radix et Rhizoma Glycyrrhizae), xiǎo mài (Fructus Triticum), dà zǎo (Fructus Jujubae)

[Indications] Hyperkinetic disorder

Gé Gēn Huáng Qín Huáng Lián Tāng (Pueraria, Scutellaria, and Coptis Decoction, 葛根黄芩黄连汤)

[Source] *Treatise on Cold Damage* (Shāng Hán Lùn, 伤寒论)

[Ingredients] gé gēn (Radix Puerariae Lobatae), huáng qín (Radix Scutellariae), huáng lián (Rhizoma Coptidis)

[Indications] Diarrhea, acquired immunodeficiency syndrome

Guī Lù Èr Xiān Gāo (Tortoise Shell and Deer Horn Two Immortals Glue, 龟鹿二仙膏)

[Source] Empirical formula

[Ingredients] guī bǎn (Plastrum Testudinis), lù jiǎo (Cornu Cervi), dǎng shēn (Radix Codonopsis)

[Indications] Rickets

Guī Pí Tāng (Spleen-Restoring Decoction, 归脾汤)

[Source] *Categorized Synopsis of the Whole* (Zhèng Tǐ Lèi Yào, 正体类要)

[Ingredients] bái zhú (Rhizoma Atractylodis Macrocephalae), dāng guī (Radix Angelicae Sinensis), fú líng (Poria), huáng qí (Radix Astragali), yuǎn zhì (Radix Polygalae), lóng yǎn ròu (Arillus Longan), suān zǎo rén (Semen Ziziphi Spinosae), rén shēn (Radix et Rhizoma Ginseng), mù xiāng (Radix Aucklandiae), zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle)

[Indications] Iron deficiency anemia, hyperkinetic disorder, purpura, sweating syndrome, eczema

Guī Sháo Dì Huáng Tāng (Chinese Angelica and Peony Rehmannia Decoction, 归芍地黄汤)

[Source] *Symptoms, Causes, Pulses, and Treatment* (Zhèng Yīn Mài Zhì, 症因脉治)

[Ingredients] shēng dì (Radix Rehmanniae), dāng guī (Radix Angelicae Sinensis), bái sháo (Radix Paeoniae Alba), gǒu qǐ zǐ (Fructus Lycii), mǔ dān pí (Cortex Moutan), zhī mǔ (Rhizoma Anemarrhenae), rén shēn (Radix et Rhizoma Ginseng), gān cǎo (Radix et Rhizoma Glycyrrhizae), dì gǔ pí (Cortex Lycii)

[Indications] Glomerulonephritis

H

Hé Chē Bā Wèi Wán (Placenta Eight Ingredients Pill, 河车八味丸)

[Source] *The Grand Compendium of Pediatrics* (Yòu Yòu Jí Chéng, 幼幼集成)

[Ingredients] zǐ hé chē (Placenta Hominis), dì huáng (Radix Rehmanniae), mǔ dān pí (Cortex Moutan),



dà zǎo (Fructus Jujubae), fú líng (Poria), zé xiè (Rhizoma Alismatis), shān yào (Rhizoma Dioscoreae), mài dōng (Radix Ophiopogonis), wǔ wèi zǐ (Fructus Schisandrae Chinensis), ròu guì (Cortex Cinnamomi), Shú fù piàn (Radix Aconitilaterials preparata), lù róng (Cornu Cervi Pantotrichum)

[Indications] Epilepsy

Huá Gài Sǎn (Florid Canopy Powder, 华盖散)

[Source] Beneficial Formulas from the Taiping Imperial Pharmacy (Tài Píng Huì Mǐn Hé Jì Jú Fāng, 太平惠民和剂局方)

[Ingredients] má huáng (Herba Ephedrae), xìng rén (Semen Armeniacae Amarum), gān cǎo (Radix et Rhizoma Glycyrrhizae), sāng bái pí (Cortex Mori), zǐ sū zǐ (Fructus Perillae), chì fú líng (Poria Rubra), chén pí (Pericarpium Citri Reticulatae)

[Indications] Pneumonia, asthma

Huáng Lián Jiě Dú Tāng (Coptis Toxin-Resolving Decoction, 黄连解毒汤)

[Source] Arcane Essentials from the Imperial Library (Wài Táì Mì Yào, 外台秘要)

[Ingredients] huáng lián (Rhizoma Coptidis), huáng qín (Radix Scutellariae), huáng bǎi (Cortex Phellodendri Chinensis), zhī zǐ (Fructus Gardeniae)

[Indications] Pneumonia, asthma

Huáng Lián Wēn Dǎn Tāng (Coptis Gallbladder-Warming Decoction, 黄连温胆汤)

[Source] Systematic Differentiation of the Six Etiologies (Liù Yīn Tiáo Biàn, 六因条辨)

[Ingredients] bàn xià (Rhizoma Pinelliae), chén pí (Pericarpium Citri Reticulatae), zhú rú (Caulis Bambusae in Taenia), zhǐ shí (Fructus Aurantii Immaturus), fú líng (Poria), zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), dà zǎo (Fructus Jujubae), huáng lián (Rhizoma Coptidis)

[Indications] Hyperkinetic disorder

Huáng Qí Guì Zhī Wǔ Wù Tāng (Astragalus and Cinnamon Twig Five Substances Decoction, 黄芪桂枝五物汤)

[Source] Essentials from the Golden Cabinet (Jīn Guì Yào Lǜè, 金匮要略)

[Ingredients] huáng qí (Radix Astragali), guì zhī (Ramulus Cinnamomi), sháo yào (Radix Paeoniae), dāng guī (Radix Angelicae Sinensis), zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), dà zǎo (Fructus Jujubae)

[Indications] Recurrent respiratory tract infections, sweating syndrome

Huò Xiāng Zhèng Qì Sǎn (Agastache Qi-Correcting Powder, 藿香正气散)

[Source] Beneficial Formulas from the Taiping Imperial Pharmacy (Tài Píng Huì Mǐn Hé Jì Jú Fāng, 太平惠民和剂局方)

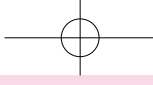
[Ingredients] huò xiāng (Herba Agastachis), zǐ sū yè (Folium Perillae), bái zhǐ (Radix Angelicae Dahuricae), jié gěng (Radix Platycodonis), bái zhú (Rhizoma Atractylodis Macrocephalae), hòu pò (Cortex Magnoliae Officinalis), bàn xià qū (Rhizoma Pinelliae Fermentata), dà fú pí (Pericarpium Arecae), fú líng (Poria), chén pí (Pericarpium Citri Reticulatae), gān cǎo (Radix et Rhizoma Glycyrrhizae)

[Indications] Diarrhea

J

Jī Jiāo Lì Huáng Wán (Semen Zanthoxyli, Semen Lepidii and Radix et Rhizoma Rhei Pills, 己椒蒴黄丸)

[Source] Essentials from the Golden Cabinet (Jīn Guì Yào Lǜè, 金匮要略)



[Ingredients] *fáng jǐ* (Radix Stephaniae Tetrandrae), *jiāo mù* (Semen Zanthoxyli), *tíng lì zǐ* (Semen Lepidii; Semen Descurainiae), *dà huáng* (Radix et Rhizoma Rhei)

[Indications] Glomerulonephritis

Jī Sū Sǎn (Mint Powder, 鸡苏散)

[Source] *Direct Investigation of Cold Damage* (Shāng Hán Zhí Gé, 伤寒直格)

[Ingredients] *huá shí* (Talcum), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *bò he* (Herba Menthae)

[Indications] Varicella

Jiā Wèi Liù Wèi Dì Huáng Wán (Supplemented Six Ingredients Rehmannia Pill, 加味六味地黄丸)

[Source] *Golden Mirror of the Medical Tradition* (Yī Zōng Jīn Jiàn, 医宗金鉴)

[Ingredients] *shú dì huáng* (Radix Rehmanniae Praeparata), *shān zhū yú* (Fructus Corni), *lù róng* (Cornu Cervi Pantotrichum), *wǔ jiǎ pí* (Cortex Acanthopanax), *shān yào* (Rhizoma Dioscoreae), *fú líng* (Poria), *zé xiè* (Rhizoma Alismatis), *mǔ dān pí* (Cortex Moutan), *shè xiāng* (Moschus)

[Indications] Cerebral palsy

Jiàn Pí Wán (Spleen-Fortifying Pill, 健脾丸)

[Source] *Medical Formulas Collected and Analyzed* (Yī Fāng Jí Jiě, 医方集解)

[Ingredients] *rén shēn* (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *chén pí* (Pericarpium Citri Reticulatae), *mài yá* (Fructus Hordei Germinatus), *shān zhā* (Fructus Crataegi), *zhǐ shí* (Fructus Aurantii Immaturus), *shén qū* (Massa Medicata Fermentata)

[Indications] Dyspeptic disease

Jīn Guì Shèn Qì Wán (Golden Cabinet's Kidney Qi Pill, 金匱肾气丸)

[Source] *Essentials from the Golden Cabinet* (Jīn Guì Yào Lǜè, 金匱要略)

[Ingredients] *gān dì huáng* (Radix Rehmanniae Recens), *shān yào* (Rhizoma Dioscoreae), *shān zhū yú* (Fructus Corni), *zé xiè* (Rhizoma Alismatis), *fú líng* (Poria), *fù zǐ* (Radix Aconiti Lateralis Praeparata), *guì zhī* (Ramulus Cinnamomi)

[Indications] Asthma

Jīng Fáng Bāi Dú Sǎn (Schizonepeta and Saposhnikovia Toxin-Resolving Powder, 荆防败毒散)

[Source] *Numerous Miraculous Prescriptions for Health Cultivation* (Shè Shēng Zhòng Miào Fāng, 摄生众妙方)

[Ingredients] *jīng jiè* (Herba Schizonepetae), *fáng fēng* (Radix Saposhnikoviae), *qiāng huó* (Rhizoma et Radix Notopterygii), *dú huó* (Radix Angelicae Pubescentis), *chái hú* (Radix Bupleuri), *chuān xiōng* (Rhizoma Chuanxiong), *zhǐ qiào* (Fructus Aurantii), *fú líng* (Poria), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *jié gēng* (Radix Platycodonis), *qián hú* (Radix Peucedani), *rén shēn* (Radix et Rhizoma Ginseng), *shēng jiāng* (Rhizoma Zingiberis Recens), *bò he* (Herba Menthae)

[Indications] Common cold

Jīn Fèi Cǎo Sǎn (Herba Inulae Powder, 金沸草散)

[Source] *Book to Safeguard Life from Nanyang* (Nán Yáng Huó Rén Shū, 南阳活人书)

[Ingredients] *jīn fèi cǎo* (Herba Inulae), *qián hú* (Radix Peucedani), *jīng jiè* (Nepeta), *xì xīn* (Radix et Rhizoma Asari), *bàn xià* (Rhizoma Pinelliae), *fú líng* (Poria), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *shēng jiāng* (Rhizoma Zingiberis Recens), *dà zǎo* (Fructus Jujubae)

[Indications] Cough, scleredema

L

Lǐ Zhōng Tāng (Center-Regulating Decoction, 理中汤)

[Source] *Treatise on Cold Damage (Shāng Hán Lùn, 伤寒论)*

[Ingredients] *rén shēn* (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), *gān jiāng* (Rhizoma Zingiberis)

[Indications] Dyspeptic disease

Lián Qiào Bāi Dú Sǎn (Forsythia Toxin-Resolving Powder, 连翘败毒散)

[Source] *Medical Formulas Collected and Analyzed (Yī Fāng Jí Jiě, 医方集解)*

[Ingredients] *jīng jiè* (Herba Schizonepetae), *fāng fēng* (Radix Saposhnikoviae), *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *qián hú* (Radix Peucedani), *chái hú* (Radix Bupleuri), *chuān xiōng* (Rhizoma Chuanxiong), *zhǐ qiào* (Fructus Aurantii), *jié gěng* (Radix Platycodonis), *fú líng* (Poria), *bò hé* (Herba Menthae), *shēng jiāng* (Rhizoma Zingiberis Recens), *qiāng huó* (Rhizoma et Radix Notopterygii), *dú huó* (Radix Angelicae Pubescentis)

[Indications] Purpura

Líng Jiǎo Gōu Téng Tāng (Antelope Horn and Uncaria Decoction, 羚角钩藤汤)

[Source] *Revised Popular Guide to 'Treatise on Cold Damage' (Chóng Dìng Tōng Sù Shāng Hán Lùn, 重订通俗伤寒论)*

[Ingredients] *líng yáng jiǎo* (Cornu Saigae Tataricae), *sāng yè* (Folium Mori), *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae), *xiān dì huáng* (Radix Rehmanniae Recens), *gōu téng* (Ramulus Uncariae Cum Uncis), *jú huā* (Flos Chrysanthemi), *fú shén* (Sclerotium Poriae Paradicis), *bái sháo* (Radix Paeoniae Alba), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Neonatal jaundice, acquired immunodeficiency syndrome, pneumonia, asthma, glomerulonephritis, measles, hand-foot-mouth disease

Liù Jūn Zǐ Tāng (Six Gentlemen Decoction, 六君子汤)

[Source] *Effective Formulas from Generations of Physicians (Shì Yī Dé Xiào Fāng, 世医得效方)*

[Ingredients] *rén shēn* (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *chén pí* (Pericarpium Citri Reticulatae), *bàn xià* (Rhizoma Pinelliae)

[Indications] Iron deficiency anemia, cough, epilepsy

Liù Wèi Dì Huáng Wán (Six Ingredients Rehmannia Pill, 六味地黄丸)

[Source] *Qian's Key to Diagnosis and Treatment of Children's Diseases (Qián Shì Xiǎo Ér Yào Zhèng Zhí Jué, 钱氏小儿药证直诀)*

[Ingredients] *shú dì* (Radix Rehmanniae Praeparata), *shān zhū yú* (Fructus Corni), *shān yào* (Rhizoma Dioscoreae), *fú líng* (Poria), *zé xiè* (Rhizoma Alismatis), *mǔ dān pí* (Cortex Moutan)

[Indications] Purpura, rickets

Liù Yī Sǎn (Six-to-One Powder, 六一散)

[Source] *Formulas from the Discussion Illuminating the Yellow Emperor's Basic Questions (Huáng Dì Sù Wèn Xuān Míng Lùn Fāng, 黄帝素问宣明论方)*

[Ingredients] *huá shí* (Talcum), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Varicella, hand-foot-mouth disease, eczema, sweating syndrome

**Lóng Dǎn Xiè Gān Tāng (Gentian Liver-Draining Decoction, 龙胆泻肝汤)**

[Source] *Beneficial Formulas from the Taiping Imperial Pharmacy (Tài Píng Huì Mín Hé Jì Jú Fāng, 太平惠民和剂局方)*

[Ingredients] *lóng dǎn cǎo* (Radix et Rhizoma Gentianae), *huáng qín* (Radix Scutellariae), *zhī zǐ* (Fructus Gardeniae), *zé xiè* (Rhizoma Alismatis), *chuān mù tōng* (Caulis Clematidis Armandii), *chē qián zǐ* (Semen Plantaginis), *dāng guī* (Radix Angelicae Sinensis), *shēng dì huáng* (Radix Rehmanniae), *chái hú* (Radix Bupleuri), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Glomerulonephritis, epidemic parotitis, enuresis

M**Má Huáng Lián Qiào Chì Xiǎo Dòu Tāng (Ephedra, Forsythiae and Phaseoli Decoction, 麻黄连翘赤小豆汤)**

[Source] *Treatise on Cold Damage (Shāng Hán Lùn, 伤寒论)*

[Ingredients] *má huáng* (Herba Ephedrae), *lián qiào* (Fructus Forsythiae), *chì xiǎo dòu* (Semen Phaseoli), *xìng rén* (Semen Armeniacae Amarum), *zǐ bái pí* (Cortex Catalpae), *shēng jiāng* (Rhizoma Zingiberis Recens), *dà zǎo* (Fructus Jujubae), *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle)

[Indications] Glomerulonephritis

Má Huáng Tāng (Ephedra Decoction, 麻黄汤)

[Source] *Treatise on Cold Damage (Shāng Hán Lùn, 伤寒论)*

[Ingredients] *má huáng* (Herba Ephedrae), *guì zhī* (Ramulus Cinnamomi), *xìng rén* (Semen Armeniacae Amarum), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Asthma

Má Xìng Shí Gān Tāng (Ephedra, Apricot Kernel, Gypsum and Licorice Decoction, 麻杏石甘汤)

[Source] *Treatise on Cold Damage (Shāng Hán Lùn, 伤寒论)*

[Ingredients] *má huáng* (Herba Ephedrae), *xìng rén* (Semen Armeniacae Amarum), *shí gāo* (Gypsum Fibrosum), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Acquired immunodeficiency syndrome, pneumonia asthma, measles, hand-foot-mouth disease, asthma

Mài Wèi Dì Huáng Wán (Ophiopogon, Schisandrae and Rehmannia Pill, 麦味地黄丸)

[Source] *Prolonging Life and Preserving the Origin (Shòu Shì Bǎo Yuán, 寿世保元)*

[Ingredients] *Shēng dì huáng* (Radix Rehmanniae), *shān zhū yú* (Fructus Corni), *shān yào* (Rhizoma Dioscoreae), *fú líng* (Poria), *mǔ dān pí* (Cortex Moutan), *zé xiè* (Rhizoma Alismatis), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *mài mén dōng* (Radix Ophiopogonis)

[Indications] Asthma

Mǔ Lì Sǎn (Oyster Shell Powder, 牡蛎散)

[Source] *Beneficial Formulas from the Taiping Imperial Pharmacy (Tài Píng Huì Mín Hé Jì Jú Fāng, 太平惠民和剂局方)*

[Ingredients] *mǔ lì* (Concha Ostreae), *huáng qí* (Radix Astragali), *má huáng gēn* (Radix et Rhizoma Ephedrae), *fú xiǎo mài* (Fructus Triticis Levis)

[Indications] Sweating syndrome

N

Niú Huáng Qīng Xīn Wán (Bovine Bezoar Heart-Clearing Pill, 牛黄清心丸)

[Source] *Teachings on the Treatment of Pox from a Family Lineage of Doctors* (Dòu Zhěn Shì Yī Xīn Fǎ, 痘疹世医心法)

[Ingredients] niú huáng (Calculus Bovis), huáng qín (Radix Scutellariae), huáng lián (Rhizoma Coptidis), zhī zǐ (Fructus Gardeniae), yù jīn (Radix Curcumae), zhū shā (Cinnabaris)

[Indications] Pneumonia asthma

P

Pǔ Jì Xiāo Dú Yǐn (Universal Relief Toxin-Removing Beverage, 普济消毒饮)

[Source] *The Complete Works of [Zhang] Jing-yue* (Jǐng Yuè Quán Shū, 景岳全书)

[Ingredients] huáng qín (Radix Scutellariae), huáng lián (Rhizoma Coptidis), jú hóng (Exocarpium Citri Rubrum), xuán shēn (Radix Scrophulariae), gān cǎo (Radix et Rhizoma Glycyrrhizae), lián qiào (Fructus Forsythiae), niú bàng zǐ (Fructus Arctii), bǎn lán gēn (Radix Isatidis), mǎ bó (Lasiosphaera seu Calvatia), bái jiāng cán (Bombyx Batryticatus), shēng má (Rhizoma Cimicifugae), chái hú (Radix Bupleuri), jié gěng (Radix Platycodonis)

[Indications] Acquired immunodeficiency syndrome, common cold, epidemic parotitis

Q

Qǐ Jú Dì Huáng Wán (Lycium Berry, Chrysanthemum and Rehmannia Pill, 杞菊地黄丸)

[Source] *Yī Jí* (医极)

[Ingredients] shēng dì huáng (Radix Rehmanniae), shān zhū yú (Fructus Corni), fú líng (Poria), shān yào (Rhizoma Dioscoreae), dān pí (Cortex Moutan), zé xiè (Rhizoma Alismatis), gǒu qǐ zǐ (Fructus Lycii), jú huā (Flos Chrysanthemi)

[Indications] Hyperkinetic disorder

Qīng Gān Dá Yù Tāng (Liver-Clearing and Constraint-Expelling Decoction, 清肝达郁汤)

[Source] *Revised Popular Guide to 'Treatise on Cold Damage'* (Chóng Dìng Tōng Sù Shāng Hán Lùn, 重订通俗伤寒论)

[Ingredients] shān zhī (Fructus Gardeniae), bái sháo (Radix Paeoniae Alba), dāng guī (Radix Angelicae Sinensis), chái hú (Radix Bupleuri), mǔ dān pí (Cortex Moutan), zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), bò hé (Herba Menthae), jú huā (Flos Chrysanthemi), qīng jú yè (Folium Citri Reticulatae)

[Indications] Tics

Qīng Jiě Tòu Biǎo Tāng (Exterior-Expelling with Clearing and Removing Decoction, 清解透表汤)

[Source] Empirical formula

[Ingredients] xī hé liǔ (Cacumen Tamaricis), chán tuì (Periostracum Cicadae), gé gēn (Radix Puerariae Lobatae), shēng má (Rhizoma Cimicifugae), zǐ cǎo (Radix Arnebiae), sāng yè (Folium Mori), jú huā (Flos Chrysanthemi), gān cǎo (Radix et Rhizoma Glycyrrhizae), niú bàng zǐ (Fructus Arctii), jīn yín huā (Flos Lonicerae Japonicae), lián qiào (Fructus Forsythiae)

[Indications] Measles

Qīng Jīn Huà Tán Tāng (Metal-Clearing and Phlegm-Dissolving Decoction, 清金化痰汤)**[Source]** 《东病广要》引《统旨方》**[Ingredients]** *huáng qín* (Radix Scutellariae), *zhī zǐ* (Fructus Gardeniae), *sāng bái pí* (Cortex Mori), *zhī mǔ* (Rhizoma Anemarrhenae), *guā lóu rén* (Semen Trichosanthis), *bèi mǔ* (Bulbus Fritillaria), *mài dōng* (Radix Ophiopogonis), *jié gěng* (Radix Platycodonis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *jú hóng* (Exocarpium Citri Rubrum), *fú líng* (Poria)**[Indications]** Cough**Qīng Rè Xiè Pí Sǎn (Heat-Clearing and Spleen-Draining Powder, 清热泻脾散)****[Source]** Golden Mirror of the Medical Tradition (*Yi Zōng Jīn Jiàn*, 医宗金鉴)**[Ingredients]** *zhī zǐ* (Fructus Gardeniae), *shí gāo* (Gypsum Fibrosum), *huáng lián* (Rhizoma Coptidis), *shēng dì huáng* (Radix Rehmanniae), *huáng qín* (Radix Scutellariae), *fú líng* (Poria), *dēng xīn cǎo* (Medulla Junci)**[Indications]** Acquired immunodeficiency syndrome**Qīng Wèi Jiě Dú Tāng (Stomach-Clearing and Toxin-Resolving Decoction, 清胃解毒汤)****[Source]** 痘疹传心录 (*Dòu Zhēn Chuán Xīn Lù*)**[Ingredients]** *dāng guī* (Radix Angelicae Sinensis), *huáng lián* (Rhizoma Coptidis), *shēng dì huáng* (Radix Rehmanniae), *tiān huā fěi* (Radix Trichosanthis), *lián qiào* (Fructus Forsythiae), *shēng má* (Rhizoma Cimicifugae), *mǔ dān pí* (Cortex Moutan), *chì sháo* (Radix Paeoniae Rubra)**[Indications]** Varicella**Qīng Wēn Bì Dú Yǐn (Epidemic-Clearing Toxin-Resolving Beverage, 清瘟败毒饮)****[Source]** Achievements in the Treatment of Epidemic Rashes (*Yi Zhēn Yī Dé*, 疫疹一得)**[Ingredients]** *shēng shí gāo* (Gypsum Fibrosum), *shēng dì huáng* (Radix Rehmanniae), *shuǐ niú jiǎo* (Cornu Bubali), *huáng lián* (Rhizoma Coptidis), *zhī zǐ* (Fructus Gardeniae), *jié gěng* (Radix Platycodonis), *huáng qín* (Radix Scutellariae), *zhī mǔ* (Rhizoma Anemarrhenae), *chì sháo* (Radix Paeoniae Rubra), *xuán shēn* (Radix Scrophulariae), *lián qiào* (Fructus Forsythiae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *dān pí* (Cortex Moutan), *zhú yè* (Folium Phyllostachydis Henonis)**[Indications]** Acquired immunodeficiency syndrome, Kawasaki Disease, rubella, epidemic parotitis, hand-foot-mouth disease, varicella**Qīng Yān Xià Tán Tāng (Throat-Clearing and Phlegm-Dissolving Decoction, 清咽下痰汤)****[Source]** Empirical formula**[Ingredients]** *xuán shēn* (Radix Scrophulariae), *jié gěng* (Radix Platycodonis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *niú bàng zǐ* (Fructus Arctii), *bèi mǔ* (Bulbus Fritillaria), *guā lóu* (Fructus Trichosanthis), *shè gān* (Rhizoma Belamcandae), *jīng jiè* (Herba Schizonepetae), *mǎ dòu líng* (Fructus Aristolochiae)**[Indications]** Measles**Qīng Yíng Tāng (Ying Level Heat-Clearing Decoction, 清营汤)****[Source]** Systematic Differentiation of Warm Diseases (*Wēn Bìng Tiáo Biàn*, 温病条辨)**[Ingredients]** *xī jiǎo* (Cornu Rhinocerotis), *shēng dì huáng* (Rehmannia Root), *xuán shēn* (Radix Scrophulariae), *zhú yè xīn* (Folium Pleioblasti), *mài dōng* (Radix Ophiopogonis Japonici), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *huáng lián* (Rhizoma Coptidis), *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae)**[Indications]** Kawasaki Disease



R

Rén Shēn Wū Méi Tāng (Ginseng and Mume Decoction, 人参乌梅汤)

[Source] *Systematic Differentiation of Warm Diseases (Wēn Bìng Tiáo Biàn, 温病条辨)*

[Ingredients] rén shēn (Radix et Rhizoma Ginseng), wū méi (Fructus Mume), mù guā (Fructus Chaenomelis), shān yào (Rhizoma Dioscoreae), lián zǐ (Semen Nelumbinis), zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle)

[Indications] Diarrhea

Rén Shēn Wǔ Wèi Zǐ Tāng (Ginseng and Schisandrae Decoction, 人参五味子汤)

[Source] *The Grand Compendium of Pediatrics (Yòu Yòu Jí Chéng, 幼幼集成)*

[Ingredients] rén shēn (Radix et Rhizoma Ginseng), bái zhú (Rhizoma Atractylodis Macrocephalae), fú líng (Poria), wǔ wèi zǐ (Fructus Schisandrae Chinensis), mài mén dōng (Radix Ophiopogonis), zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle)

[Indications] Pneumonia asthma, rickets, asthma

S

Sān Rén Tāng (Three Kernels Decoction, 三仁汤)

[Source] *Systematic Differentiation of Warm Diseases (Wēn Bìng Tiáo Biàn, 温病条辨)*

[Ingredients] xìng rén (Semen Armeniacae Amarum), huá shí (Talcum), bái kòu rén (Fructus Amomi Rotundus), zhú yè (Folium Phyllostachydis Henonis), hòu pò (Cortex Magnoliae Officinalis)

[Indications] Varicella

Sān Zǐ Yǎng Qīn Tāng (Three-Seed Filial Devotion Decoction, 三子养亲汤)

[Source] *Han's Clear View of Medicine (Hán Shì Yī Tōng, 韩氏医通)*

[Ingredients] zǐ sū zǐ (Fructus Perillae), bái jiè zǐ (Semen Sinapis), lái fú zǐ (Semen Raphani), shān yào (Rhizoma Dioscoreae), lián zǐ (Semen Nelumbinis), zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle)

[Indications] Glomerulonephritis, asthma

Sāng Jú Yǐn (Mulberry Leaf and Chrysanthemum Beverage, 桑菊饮)

[Source] *Systematic Differentiation of Warm Diseases (Wēn Bìng Tiáo Biàn, 温病条辨)*

[Ingredients] xìng rén (Semen Armeniacae Amarum), lián qiào (Fructus Forsythiae), bò he (Herba Menthae), sāng yè (Folium Mori), jú huā (Flos Chrysanthemi), jié gēng (Radix Platycodonis), gān cǎo (Radix et Rhizoma Glycyrrhizae), lú gēn (Rhizoma Phragmitis)

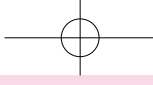
[Indications] Cough, common cold

Shā Shēn Mài Dōng Tāng (Adenophorae and Ophiopogonis Decoction, 沙参麦冬汤)

[Source] *Systematic Differentiation of Warm Diseases (Wēn Bìng Tiáo Biàn, 温病条辨)*

[Ingredients] shā shēn (Radix Adenophorae seu Glehniae), mài dōng (Radix Ophiopogonis), yù zhú (Rhizoma Polygonati Odorati), sāng yè (Folium Mori), gān cǎo (Radix et Rhizoma Glycyrrhizae), tiān huā fēn (Radix Trichosanthis), bái biǎn dòu (Semen Lablab Album)

[Indications] Kawasaki Disease, cough, pneumonia, asthma, measles, hand-foot-mouth disease

**Shè Gān Má Huáng Tāng (Belamcanda and Ephedra Decoction, 射干麻黄汤)**

[Source] *Essentials from the Golden Cabinet (Jīn Guì Yào Lùè, 金匮要略)*

[Ingredients] *shè gān* (Rhizoma Belamcandae), *má huáng* (Herba Ephedrae), *xì xīn* (Radix et Rhizoma Asari), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *zǐ wǎn* (Radix et Rhizoma Asteris), *kuān dōng huā* (Flos Farfarae), *bàn xià* (Rhizoma Pinelliae), *dà zǎo* (Fructus Jujubae), *shēng jiāng* (Rhizoma Zingiberis Recens)

[Indications] Asthma

Shēn Fù Lóng Mǔ Jiù Nì Tāng (Ginseng and Aconite, Os Draconis, Concha Ostreae Collapse-Saving Decoction, 参附龙牡救逆汤)

[Source] *Mò Bǎo Zhāi Jīng Yàn Fāng*

[Ingredients] *rén shēn* (Radix et Rhizoma Ginseng), *fù zǐ* (Radix Aconiti Lateralis Praeparata), *lóng gǔ* (Os Draconis; Fossilia Ovis Mastodi), *mǔ lì* (Concha Ostreae), *bái sháo* (Radix Paeoniae Alba), *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle)

[Indications] Diarrhea, acquired immunodeficiency syndrome, iron deficiency anemia, malnutrition, pneumonia, asthma, glomerulonephritis, hand-foot-mouth disease

Shēn Fù Tāng (Ginseng and Aconite Decoction, 参附汤)

[Source] *Effective Formulas from Generations of Physicians (Shì Yī Dé Xiào Fāng, 世医得效方)*

[Ingredients] *rén shēn* (Radix et Rhizoma Ginseng), *fù zǐ* (Radix Aconiti Lateralis Praeparata)

[Indications] Neonatal jaundice, pneumonia Asthma, glomerulonephritis, scleredema, purpura

Shēn Líng Bái Zhú Sǎn (Ginseng, Poria and Atractylodes Macrocephalae Powder, 参苓白术散)

[Source] *Beneficial Formulas from the Taiping Imperial Pharmacy (Tài Píng Huì Mín Hé Jì Jú Fāng, 太平惠民和剂局方)*

[Ingredients] *rén shēn* (Radix et Rhizoma Ginseng), *fú líng* (Poria), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *jié gěng* (Radix Platycodonis), *shān yào* (Rhizoma Dioscoreae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *bái biǎn dòu* (Semen Lablab Album), *lián zǐ* (Semen Nelumbinis), *shā rén* (Fructus Amomi), *yì yǐ rén* (Semen Coicis), *lù róng* (Cornu Cervi Pantotrichum)

[Indications] Diarrhea, neonatal jaundice, acquired immunodeficiency syndrome, malnutrition, glomerulonephritis, frequent micturition

Shēng Mài Sǎn (Pulse-Engendering Powder, 生脉散)

[Source] *Origins of Medicine (Yī Xué Qǐ Yuán, 医学启源)*

[Ingredients] *mài dōng* (Radix Ophiopogonis), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *rén shēn* (Radix et Rhizoma Ginseng)

[Indications] Neonatal jaundice, acquired immunodeficiency syndrome, sweating syndrome

Shí Hú Yè Guāng Wán (Caulis Dendrobii Noctilucent Pill, 石斛夜光丸)

[Source] *The original micro-machine start (Yuán Jī Qǐ Wēi, 原机启微)*

[Ingredients] *tiān mén dōng* (Radix Asparagi), *rén shēn* (Radix et Rhizoma Ginseng), *fú líng* (Poria), *mài mén dōng* (Radix Ophiopogonis), *shú dì huáng* (Radix Rehmanniae Praeparata), *shēng dì huáng* (Radix Rehmanniae), *tù sī zǐ* (Semen Cuscutae), *jú huā* (Flos Chrysanthemi), *cǎo jué míng* (Semen Cassiae), *xìng rén* (Semen Armeniacae Amarum), *shān yào* (Rhizoma Dioscoreae), *gōu qǐ zǐ* (Fructus Lycii), *niú xī* (Radix Achyranthidis Bidentatae), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *bái jí lí* (Fructus Tribuli), *shí hú* (Caulis Dendrobii), *ròu cōng róng* (Herba Cistanches), *chuān xiōng* (Rhizoma Chuanxiong), *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), *zhǐ qiào* (Fructus Aurantii), *qīng xiāng zǐ* (Semen Celosiae), *fáng fēng* (Radix Saposhnikoviae), *huáng lián* (Rhizoma Coptidis), *shuǐ niú jiǎo* (Cornu Bubali), *líng yáng jiǎo*



(Cornu Saigae Tataricae)

[Indications] Malnutrition

Shí Wèi Wēn Dǎn Tāng (Ten Ingredients Gallbladder-Warming Decoction, 十味温胆汤)

[Source] *Effective Formulas from Generations of Physicians (Shì Yī Dé Xiào Fāng, 世医得效方)*

[Ingredients] *rén shēn* (Radix et Rhizoma Ginseng), *shú dì* (Radix Rehmanniae Praeparata), *zǎo rén* (Semen Ziziphi Spinosae), *yuǎn zhì* (Radix Polygalae), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *fú líng* (Poria), *bàn xià* (Rhizoma Pinelliae), *zhǐ shí* (Fructus Aurantii Immaturus), *chén pí* (Pericarpium Citri Reticulatae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Tics

Shī Xiào Sǎn (Sudden Smile Powder, 失笑散)

[Source] *Fine Formulas of Su and Shen (Sū Shěn Liáng Fāng, 苏沈良方)*

[Ingredients] *wǔ líng zhī* (Faeces Troglodyteris), *pú huáng* (Pollen Typhae)

[Indications] Epilepsy

Sì Jūn Zǐ Tāng (Four Gentlemen Decoction, 四君子汤)

[Source] *Beneficial Formulas from the Taiping Imperial Pharmacy (Tài Píng Huì Mǐn Hé Jì Jù Fāng, 太平惠民和剂局方)*

[Ingredients] *rén shēn* (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle)

[Indications] Purpura

Sì Shén Wán (Four Spirits Pill, 四神丸)

[Source] *Summary of Internal Medicine (Nèi Kē Zhāi Yào, 内科摘要)*

[Ingredients] *bǔ gǔ zhī* (Fructus Psoraleae), *ròu dòu kòu* (Semen Myristicae), *wú zhū yú* (Fructus Evodiae), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *shēng jiāng* (Rhizoma Zingiberis Recens), *dà zǎo* (Fructus Jujubae)

[Indications] Diarrhea, acquired immunodeficiency syndrome

Sū Tíng Wán (Perilla Fruit and Lepidium Pill, 苏萆丸)

[Source] *Golden Mirror of the Medical Tradition (Yī Zōng Jīn Jiàn, 医宗金鉴)*

[Ingredients] *tíng lì zǐ* (Semen Lepidii; Semen Descurainiae), *sū zǐ* (Fructus Perillae)

[Indications] Asthma

Sū Zǐ Jiàng Qì Tāng (Perilla Fruit Qi-Descending Decoction, 苏子降气汤)

[Source] *Teachings of [Zhu] Dan-xi (Dān Xī Xīn Fǎ, 丹溪心法)*

[Ingredients] *zǐ sū zǐ* (Fructus Perillae), *bàn xià* (Rhizoma Pinelliae), *dāng guī* (Radix Angelicae Sinensis), *chén pí* (Pericarpium Citri Reticulatae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *qián hú* (Radix Peucedani), *hòu pò* (Cortex Magnoliae Officinalis), *zhǐ shí* (Fructus Aurantii Immaturus)

[Indications] Asthma

Suō Quán Wán (Stream-Reducing Pill, 缩泉丸)

[Source] *Corrections and Annotations to Fine Formulas for Women (Jiào Zhù Fù Rén Liáng Fāng, 校注妇人良方)*

[Ingredients] *yì zhì rén* (Fructus Alpiniae Oxyphyllae), *wū yào* (Radix Linderae), *shān yào* (Rhizoma Dioscoreae)

[Indications] Frequent micturition



T

Táo Hóng Sì Wù Tāng (Peach Kernel and Carthamus Four Substances Decoction, 桃红四物汤)

[Source] *Golden Mirror of the Medical Tradition (Yi Zong Jin Jian, 医宗金鉴)*

[Ingredients] *dāng guī* (Radix Angelicae Sinensis), *chuān xiōng* (Rhizoma Chuanxiong), *táo rén* (Semen Persicae), *hóng huā* (Flos Carthami), *sháo yào* (Radix Paeoniae), *dì huáng* (Radix Rehmanniae)

[Indications] Purpura

Tiáo Yuán Sǎn (Original-Qi-Regulating Powder, 调元散)

[Source] (*Huó Yòu Xīn Shū, 活幼心书*)

[Ingredients] *shān yào* (Rhizoma Dioscoreae), *rén shēn* (Radix et Rhizoma Ginseng), *fú líng* (Poria), *fú shén* (Sclerotium Poriae Paradicis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *bái sháo* (Radix Paeoniae Alba), *shú dì huáng* (Radix Rehmanniae Praeparata), *dāng guī* (Radix Angelicae Sinensis), *chuān xiōng* (Rhizoma Chuanxiong), *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), *shí chāng pú* (Rhizoma Acori Tatarinowii)

[Indications] Cerebral palsy

Tíng Lì Dà Zǎo Xiè Fèi Tāng (Lepidium/Descurainiae and Jujube Lung-Draining Decoction, 葶苈大枣泻肺汤)

[Source] *Essentials from the Golden Cabinet (Jīn Guì Yào Lüè, 金匱要略)*

[Ingredients] *tíng lì zǐ* (Semen Lepidii; Semen Descurainiae), *dà zǎo* (Fructus Jujubae)

[Indications] Pneumonia, asthma

Tōng Qiào Huó Xuě Tāng (Orifices-Unblocking and Blood-Invigorating Decoction, 通窍活血汤)

[Source] *Correction of Errors in Medical Works (Yī Lín Gǎi Cuò, 医林改错)*

[Ingredients] *chì sháo* (Radix Paeoniae Rubra), *chuān xiōng* (Rhizoma Chuanxiong), *táo rén* (Semen Persicae), *hóng huā* (Flos Carthami), *hóng zǎo* (Fructus Jujubae), *shēng jiāng* (Rhizoma Zingiberis Recens), *shè xiāng* (Moschus), *dà cōng* (Bulbus Allii Fistulosi)

[Indications] Cerebral palsy, epilepsy

Tōu Zhěn Liáng Jiě Tāng (Promoting Eruptions and Removing Heat Decoction, 透疹凉解汤)

[Source] Empirical formula

[Ingredients] *sāng yè* (Folium Mori), *bò he* (Herba Menthae), *lián qiào* (Fructus Forsythiae), *niú bàng zǐ* (Fructus Arctii), *chì sháo* (Radix Paeoniae Rubra), *chán tuì* (Periostracum Cicadae), *zǐ huā dì dīng* (Herba Violae), *huáng lián* (Rhizoma Coptidis), *zàng hóng huā* (Stigma Croci)

[Indications] Rubella

Tù Sī Zǐ Wán (Semen Cuscutae Pill, 菟丝子丸)

[Source] *Jī Fēng Pǔ Jì Fāng* (鸡峰普济方)

[Ingredients] *tù sī zǐ* (Semen Cuscutae), *sāng piāo xiāo* (Oötheca Mantidis), *zé xiè* (Rhizoma Alismatis)

[Indications] Enuresis

W

Wán Dài Tāng (Discharge-Ceasing Decoction, 完带汤)

[Source] *Fu Qing-zhu's [Treatise on] Gynecology (Fù Qīng Zhǔ Nǚ Kē, 傅青主女科)*

[Ingredients] *bái zhú* (Rhizoma Atractylodis Macrocephalae), *shān yào* (Rhizoma Dioscoreae), *rén*

shēn (Radix et Rhizoma Ginseng), *bái sháo* (Radix Paeoniae Alba), *chē qián zǐ* (Semen Plantaginis), *cāng zhú* (Rhizoma Atractylodis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *chén pí* (Pericarpium Citri Reticulatae), *jīng jiè* (Herba Schizonepetae), *chái hú* (Radix Bupleuri)

[Indications] Sexual precocity

Wēn Dǎn Tāng (Gallbladder-Warming Decoction, 温胆汤)

[Source] *Effective Formulas from Generations of Physicians (Shì Yī Dé Xiào Fāng, 世医得效方)*

[Ingredients] *bàn xià* (Rhizoma Pinelliae), *zhú rú* (Caulis Bambusae in Taenia), *zhǐ shí* (Fructus Aurantii Immaturus), *chén pí* (Pericarpium Citri Reticulatae), *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), *fú líng* (Poria), *rén shēn* (Radix et Rhizoma Ginseng)

[Indications] Hyperkinetic disorder, glomerulonephritis

Wǔ Hǔ Tāng (Five Tigers Decoction, 五虎汤)

[Source] [Yang] *Ren-zhai's Direct Guidance on Formulas (Rén Zhāi Zhí Zhǐ Fāng, 仁斋直指方)*

[Ingredients] *má huáng* (Herba Ephedrae), *xīng rén* (Semen Armeniacae Amarum), *shí gāo* (Gypsum Fibrosum), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *xì chá* (Green Tea)

[Indications] Pneumonia, asthma

Wǔ Líng Sǎn (Five Substances Powder with Poria, 五苓散)

[Source] *Treatise on Cold Damage (Shāng Hán Lùn, 伤寒论)*

[Ingredients] *guì zhī* (Ramulus Cinnamomi), *fú líng* (Poria), *zé xiè* (Rhizoma Alismatis), *zhū líng* (Polyporus), *bái zhú* (Rhizoma Atractylodis Macrocephalae)

[Indications] Malnutrition, glomerulonephritis

Wǔ Wèi Xiǎo Dú Yǐn (Five Ingredients Toxin-Removing Beverage, 五味消毒饮)

[Source] *Golden Mirror of the Medical Tradition (Yī Zōng Jīn Jiàn, 医宗金鉴)*

[Ingredients] *yě jú huā* (Flos Chrysanthemi Indici), *jīn yín huā* (Flos Lonicerae Japonicae), *pú gōng yīng* (Herba Taraxaci), *zǐ huā dì dīng* (Herba Violae), *zǐ bèi tiān kuí zǐ* (Herba Begoniae Fimbristipulatae)

[Indications] Glomerulonephritis

X

Xī Jiǎo Dì Huáng Tāng (Rhinoceros Horn and Rehmannia Decoction, 犀角地黄汤)

[Source] *Important Formulas Worth a Thousand Gold Pieces for Emergency (Bèi Jí Qiān Jīn Yào Fāng, 备急千金要方)*

[Ingredients] *shuǐ niú jiǎo* (Cornu Bubali), *shēng dì* (Radix Rehmanniae), *dān pí* (Cortex Moutan), *sháo yào* (Radix Paeoniae)

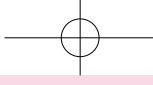
[Indications] Purpura

Xiāng Shā Liù Jūn Zǐ Tāng (Costusroot and Amomum Six Gentlemen Decoction, 香砂六君子汤)

[Source] *古今名医方论 (Gǔ Jīn Míng Yī Fāng Lùn)*

[Ingredients] *rén shēn* (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *chén pí* (Pericarpium Citri Reticulatae), *bàn xià* (Rhizoma Pinelliae), *shā rén* (Fructus Amomi), *mù xiāng* (Radix Aucklandiae)

[Indications] Dyspeptic disease

***Xiāo Fēng Dǎo Chì Tāng (Wind-Dispersing and Red-Guiding Decoction, 消风导赤汤)***

[Source] *Golden Mirror of the Medical Tradition (Yī Zōng Jīn Jiàn, 医宗金鉴)*

[Ingredients] *shēng dì huáng* (Radix Rehmanniae), *jīn yín huā* (Flos Lonicerae Japonicae), *huáng lián* (Rhizoma Coptidis), *chì fú líng* (Poria Rubra), *bái xiān pí* (Cortex Dictamni), *bò he* (Herba Menthae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *dēng xīn cǎo* (Medulla Junci), *niú bàng zǐ* (Fructus Arctii), *mù tōng* (Caulis Akebiae)

[Indications] Eczema

Xiāo Fēng Sǎn (Wind-Dispersing Powder, 消风散)

[Source] *Orthodox Lineage of External Medicine (Wài Kē Zhèng Zōng, 外科正宗)*

[Ingredients] *dāng guī* (Radix Angelicae Sinensis), *shēng dì* (Radix Rehmanniae), *fáng fēng* (Radix Saposhnikoviae), *chán tuì* (Periostracum Cicadae), *zhī mǔ* (Rhizoma Anemarrhenae), *kǔ shēn* (Radix Sophorae Flavescentis), *hú má rén* (Fructus Cannabis), *jīng jiè* (Herba Schizonepetae), *cāng zhú* (Rhizoma Atractylodis), *niú bàng zǐ* (Fructus Arctii), *shí gāo* (Gypsum Fibrosum), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *mù tōng* (Caulis Akebiae)

[Indications] Acquired immunodeficiency syndrome

Xiǎo Lǚ Wán (Scrofula-Dispersing Pill, 消瘰丸)

[Source] *Golden Mirror of the Medical Tradition (Yī Zōng Jīn Jiàn, 医宗金鉴)*

[Ingredients] *xuán shēn* (Radix Scrophulariae), *mǔ lì* (Concha Ostreae), *bèi mǔ* (Bulbus Fritillaria)

[Indications] Acquired immunodeficiency syndrome

Xiǎo Qīng Lóng Tāng (Minor Green Dragon Decoction, 小青龙汤)

[Source] *Treatise on Cold Damage (Shāng Hán Lùn, 伤寒论)*

[Ingredients] *má huáng* (Herba Ephedrae), *guì zhī* (Ramulus Cinnamomi), *sháo yào* (Radix Paeoniae), *xì xīn* (Radix et Rhizoma Asari), *bàn xià* (Rhizoma Pinelliae), *gān jiāng* (Rhizoma Zingiberis), *wú wèi zǐ* (Fructus Schisandrae Chinensis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Asthma

Xiǎo Jì Yīn Zǐ (Field Thistle Drink, 小蓟饮子)

[Source] *Formulas to Aid the Living (Jì Shēng Fāng, 济生方)*

[Ingredients] *shēng dì huáng* (Radix Rehmanniae), *xiǎo jì* (Herba Cirsii), *huá shí* (Talcum), *chuān mù tōng* (Caulis Clematidis Armandii), *pú huáng* (Pollen Typhae), *dàn zhú yè* (Herba Lophatheri), *ōu jié* (Nodus Nelumbinis Rhizomatis), *zhī zǐ* (Fructus Gardeniae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *dāng guī* (Radix Angelicae Sinensis)

[Indications] Glomerulonephritis

Xiǎo Rǔ Wán (Milk-Accumulation-Dispersing Pill, 消乳丸)

[Source] *Standards for Diagnosis and Treatment (Zhèng Zhì Zhǔn Shéng, 证治准绳)*

[Ingredients] *xiāng fù* (Rhizoma Cyperi), *shén qū* (assa Medicata Fermentata), *mài yá* (ructus Hordei Germinatus), *chén pí* (Pericarpium Citri Reticulatae), *shā rén* (Fructus Amomi), *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle)

[Indications] Dyspeptic disease

Xiè Huáng Sǎn (Yellow-Draining Powder, 泻黄散)

[Source] *Qian's Key to Diagnosis and Treatment of Children's Diseases (Qián Shì Xiǎo Ér Yào Zhèng Zhí Jué, 钱氏小儿药证直诀)*

[Ingredients] *huò xiāng* (Herba Agastachis), *zhī zǐ* (Fructus Gardeniae), *shí gāo* (Gypsum Fibrosum), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *fáng fēng* (Radix Saposhnikoviae)

[Indications] Sweating syndrome, hand-foot-mouth disease

***Xiè Xīn Dǎo Chì Sǎn* (Heart-Draining and Red-Guiding Powder, 泻心导赤散)**

[Source] *Golden Mirror of the Medical Tradition* (*Yī Zōng Jīn Jiàn*, 医宗金鉴)

[Ingredients] *shēng dì* (Radix Rehmanniae), *mù tōng* (Caulis Akebiae), *huáng lián* (Rhizoma Coptidis), *gān cǎo shāo* (Radix Tenuis Glycyrrhizae)

[Indications] Malnutrition, frequent micturition, eczema

***Xīn Jiā Xiāng Rú Yǐn* (Newly Supplemented Mosla Beverage, 新加香薷饮)**

[Source] *Systematic Differentiation of Warm Diseases* (*Wēn Bìng Tiáo Biàn*, 温病条辨)

[Ingredients] *xiāng rú* (Herba Moslae), *jīn yín huā* (Flos Lonicerae Japonicae), *biǎn dòu* (Semen Lablab Album), *hòu pò* (Cortex Magnoliae Officinalis), *lián qiào* (Fructus Forsythiae)

[Indications] Common cold

***Xìng Sū Sǎn* (Apricot Kernel and Perilla Powder, 杏苏散)**

[Source] *Systematic Differentiation of Warm Diseases* (*Wēn Bìng Tiáo Biàn*, 温病条辨)

[Ingredients] *xìng rén* (Semen Armeniacae Amarum), *jié gēng* (Radix Platycodonis), *huáng qín* (Radix Scutellariae), *bèi mǔ* (Bulbus Fritillaria), *zǐ sū* (Fructus Perillae), *zhǐ qiào* (Fructus Aurantii), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *chén pí* (Pericarpium Citri Reticulatae), *qián hú* (Radix Peucedani), *sāng bái pí* (Cortex Mori), *mài mén dōng* (Succus Ophiopogonis), *shēng jiāng* (Rhizoma Zingiberis Recens)

[Indications] Cough

***Xuān Dú Fā Biǎo Tāng* (Toxin-Diffusing and Exterior-Releasing Decoction, 宣毒发表汤)**

[Source] (*痘疹仁端录*)

[Ingredients] *shēng má* (Rhizoma Cimicifugae), *gé gēn* (Radix Puerariae Lobatae), *zhǐ qiào* (Fructus Aurantii), *fáng fēng* (Radix Saposhnikoviae), *jīng jiè* (Herba Schizonepetae), *bò hé* (Herba Menthae), *chuān mù tōng* (Caulis Clematidis Armandii), *lián qiào* (Fructus Forsythiae), *niú bàng zǐ* (Fructus Arctii), *zhú yè* (Folium Phyllostachydis Henonis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *qián hú* (Radix Peucedani), *jié gēng* (Radix Platycodonis), *xìng rén* (Semen Armeniacae Amarum)

[Indications] Measles

***Xuè Fǔ Zhú Yū Tāng* (Blood Mansion Stasis-Expelling Decoction, 血府逐瘀汤)**

[Source] *Correction of Errors in Medical Works* (*Yī Lín Gǎi Cuò*, 医林改错)

[Ingredients] *dāng guī* (Radix Angelicae Sinensis), *shēng dì huáng* (Radix Rehmanniae), *niú xī* (Radix Achyranthis Bidentatae), *hóng huā* (Flos Carthami), *táo rén* (Semen Persicae), *chái hú* (Radix Bupleuri), *zhǐ qiào* (Fructus Aurantii), *chì sháo* (Radix Paeoniae Rubra), *chuān xiōng* (Rhizoma Chuanxiong), *jié gēng* (Radix Platycodonis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Neonatal jaundice, acquired immunodeficiency syndrome

Y

***Yǎng Wèi Zēng Yè Tāng* (Stomach-Nourishing and Humor-Increasing Decoction, 养胃增液汤)**

[Source] Empirical formula

[Ingredients] *shí hú* (Caulis Dendrobii), *wū méi* (Fructus Mume), *shā shēn* (Radix Adenophorae seu Glehniae), *yù zhú* (Rhizoma Polygonati Odorati), *bái sháo* (Radix Paeoniae Alba), *gān cǎo* (Radix et Rhizoma



Glycyrrhizae)

[Indications] Anorexia

Yǎng Róng Tāng (Supporting and Nourishing Decoction, 养荣汤)

[Source] *Treatise on Diseases, Patterns, and Formulas Related to the Unification of the Three Etiologies* (Sān Yīn Jí Yī Bīng Zhèng Fāng Lùn, 三因极一病证方论)

[Ingredients] huáng qí (Radix Astragali), dāng guī (Radix Angelicae Sinensis), guì xīn (Cortex Cinnamomi), zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), jú pí (Pericarpium Citri Reticulatae), bái zhú (Rhizoma Atractylodis Macrocephalae), rén shēn (Radix et Rhizoma Ginseng), bái sháo (Radix Paeoniae Alba), shú dì huáng (Radix Rehmanniae Praeparata), wǔ wèi zǐ (Fructus Schisandrae Chinensis), fú líng (Poria), yuǎn zhì (Radix Polygalae)

[Indications] Iron deficiency anemia

Yǎng Yīn Qīng Fèi Tāng (Yin-Nourishing and Lung-Clearing Decoction, 养阴清肺汤)

[Source] *Jade Key to the Secluded Chamber* (Zhòng Lóu Yù Yào, 重楼玉钥)

[Ingredients] shēng dì huáng (Radix Rehmanniae), mài dōng (Radix Ophiopogonis), xuán shēn (Radix Scrophulariae), dān pí (Cortex Moutan), bái sháo (Radix Paeoniae Alba), bèi mǔ (Bulbus Fritillaria), bò he (Herba Menthae), gān cǎo (Radix et Rhizoma Glycyrrhizae)

[Indications] Exanthema subitum

Yì Gōng Sǎn (Special Achievement Powder, 异功散)

[Source] *Qian's Key to Diagnosis and Treatment of Children's Diseases* (Qián Shì Xiǎo Ér Yào Zhèng Zhí Jué, 钱氏小儿药证直诀)

[Ingredients] rén shēn (Radix et Rhizoma Ginseng), bái zhú (Rhizoma Atractylodis Macrocephalae), fú líng (Poria), chén pí (Pericarpium Citri Reticulatae), gān cǎo (Radix et Rhizoma Glycyrrhizae)

[Indications] Iron deficiency anemia, anorexia

Yì Pí Zhèn Jīng Sǎn (Spleen-Replenishing and Fright-Suppressing Powder, 益脾镇惊散)

[Source] *Golden Mirror of the Medical Tradition* (Yī Zōng Jīn Jiàn, 医宗金鉴)

[Ingredients] rén shēn (Radix et Rhizoma Ginseng), bái zhú (Rhizoma Atractylodis Macrocephalae), fú líng (Poria), zhū shā (Cinnabaris), gōu téng (Ramulus Uncariae Cum Uncis), zhì gān cǎo (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle), dēng xīn cǎo (Medulla Junci)

[Indications] Rickets

Yín Qiào Sǎn (Lonicera and Forsythia Powder, 银翘散)

[Source] *Systematic Differentiation of Warm Diseases* (Wēn Bìng Tiáo Biàn, 温病条辨)

[Ingredients] jīn yín huā (Flos Lonicerae Japonicae), lián qiào (Fructus Forsythiae), zhú yè (Folium Phyllostachydis Henonis), jīng jiè (Herba Schizonepetae), niú bàng zǐ (Fructus Arctii), bò he (Herba Menthae), dàn dòu chǐ (Semen Sojae Praeparatum), gān cǎo (Radix et Rhizoma Glycyrrhizae), jié gēng (Radix Platycodonis), lú gēn (Rhizoma Phragmitis)

[Indications] Acquired immunodeficiency syndrome, Kawasaki Disease, rubella, common cold, pneumonia, asthma, glomerulonephritis, varicella, exanthema subitum

Yòu Guī Wán (Right-Restoring Pill, 右归丸)

[Source] *The Complete Works of [Zhang] Jing-yue* (Jǐng Yuè Quán Shū, 景岳全书)

[Ingredients] shú dì huáng (Radix Rehmanniae Praeparata), shān yào (Rhizoma Dioscoreae), shān zhū yú (Fructus Corni), gōu qǐ zǐ (Fructus Lycii), lù jiǎo jiāo (Colla Cornus Cervi), tù sī zǐ (Semen Cuscutae), dù zhōng

(Cortex Eucommiae), *dāng guī* (Radix Angelicae Sinensis), *ròu guì* (Cortex Cinnamomi), *zhì fù zǐ* (Radix Aconiti Lateralis Praeparata)

[Indications] Iron deficiency anemia

Yù Píng Fēng Sǎn (Jade Wind-Barrier Powder, 玉屏风散)

[Source] *Categorized Collection of Medical Formulas* (Yī Fāng Lèi Jù, 医方类聚)

[Ingredients] *fáng fēng* (Radix Saposhnikoviae), *huáng qí* (Radix Astragali), *bái zhú* (Rhizoma Atractylodis Macrocephalae)

[Indications] Iron deficiency anemia, recurrent respiratory tract infections, rickets, purpura, sweating syndrome, asthma

Yù Shū Dān (Jade Pivot Elixir, 玉枢丹)

[Source] *Selected Formulas* (Bǎi Yī Xuǎn Fāng, 百一选方)

[Ingredients] *shān cí gū* (Pseudobulbus Cremastrae seu Pleiones), *zhū shā* (Cinnabaris), *hóng dà jǐ* (Radix Knoxiae), *qiān jīn zǐ shuāng* (Semen Euphorbiae Pulveratum), *wú bèi zǐ* (Galla Chinensis), *shè xiāng* (Moschus), *xióng huáng* (Realgar), *zhū shā* (Cinnabaris)

[Indications] Glomerulonephritis

Z

Zhēn Wǔ Tāng (True Warrior Decoction, 真武汤)

[Source] *Treatise on Cold Damage* (Shāng Hán Lùn, 伤寒论)

[Ingredients] *fú líng* (Poria), *sháo yào* (Radix Paeoniae), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *shēng jiāng* (Rhizoma Zingiberis Recens), *fù zǐ* (Radix Aconiti Lateralis Praeparata)

[Indications] Iron deficiency anemia, malnutrition

Zhèn Jīng Wán (Fright-Suppressing Pill, 镇惊丸)

[Source] *Golden Mirror of the Medical Tradition* (Yī Zōng Jīn Jiàn, 医宗金鉴)

[Ingredients] *fú shēn* (Sclerotium Poriae Paradicis), *mài dōng* (Radix Ophiopogonis), *zhū shā* (Cinnabaris), *yuǎn zhì* (Radix Polygalae), *shí chāng pú* (Rhizoma Acori Tatarinowii), *zǎo rén* (Semen Ziziphi Spinosae), *niú huáng* (Calculus Bovis), *huáng lián* (Rhizoma Coptidis), *gōu téng* (Ramulus Uncariae Cum Uncis), *zhēn zhū* (Margarita), *dǎn nán xīng* (Arisaema cum Bile), *tiān zhú huáng* (Concretio Silicea Bambusae), *shuǐ niú jiǎo* (Cornu Bubali), *gān cǎo* (Radix et Rhizoma Glycyrrhizae)

[Indications] Common cold, epilepsy

Zhī Bǎi Dì Huáng Wán (Anemarrhena, Phellodendron and Rehmannia Pill, 知柏地黄丸)

[Source] *Golden Mirror of the Medical Tradition* (Yī Zōng Jīn Jiàn, 医宗金鉴)

[Ingredients] *gān dì huáng* (Radix Rehmanniae Recens), *mǔ dān pí* (Cortex Moutan), *shān zhū yú* (Fructus Corni), *shān yào* (Rhizoma Dioscoreae), *zé xiè* (Rhizoma Alismatis), *fú líng* (Poria), *zhī mǔ* (Rhizoma Anemarrhenae), *huáng bǎi* (Cortex Phellodendri Chinensis)

[Indications] Purpura, glomerulonephritis, frequent micturition, sexual precocity, enuresis

Zhì Bǎo Dān (Supreme Jewel Elixir, 至宝丹)

[Source] *Beneficial Formulas from the Taiping Imperial Pharmacy* (Tài Píng Huì Mǐn Hé Jì Jù Fāng, 太平惠民和剂局方)

[Ingredients] *shuǐ niú jiǎo* (Cornu Bubali), *zhū shā* (Cinnabaris), *xióng huáng* (Realgar), *hǔ pò* (Succinum), *shè xiāng* (Moschus), *lóng nǎo* (Borneolum Syntheticum), *niú huáng* (Calculus Bovis), *ān xī xiāng*

(Benzoinum)

[Indications] Pneumonia, asthma

Zhǐ Shí Dǎo Zhì Wán (Immature Bitter Orange Stagnation-Moving Pill, 枳实导滞丸)

[Source] *Clarifying Doubts about Damage from Internal and External Causes* (Nèi Wài Shāng Biàn Huò Lùn, 内外伤辨惑论)

[Ingredients] dà huáng (Radix et Rhizoma Rhei), zhǐ shí (Fructus Aurantii Immaturus), shén qū (Massa Medicata Fermentata), fú líng (Poria), huáng qín (Radix Scutellariae), huáng lián (Rhizoma Coptidis), bái zhú (Rhizoma Atractylodis Macrocephalae), zé xiè (Rhizoma Alismatis)

[Indications] Dyspeptic disease

Zhú Yè Shí Gāo Tāng (Lophatherum and Gypsum Decoction, 竹叶石膏汤)

[Source] *Treatise on Cold Damage* (Shāng Hán Lùn, 伤寒论)

[Ingredients] zhú yè (Folium Phyllostachydis Henonis), shí gāo (Gypsum Fibrosum), bàn xià (Rhizoma Pinelliae), mài mén dōng (Succus Ophiopogonis), rén shēn (Radix et Rhizoma Ginseng), jīng mǐ (Oryza Sativa L.), gān cǎo (Radix et Rhizoma Glycyrrhizae)

[Indications] Hand-foot-mouth disease, Kawasaki disease

Zī Shēng Jiàn Pí Wán (Life-Promoting and Spleen-Fortifying Pill, 资生健脾丸)

[Source] *Extensive Notes on Medicine from Xian Xing Studio* (Xiān Xīng Zhāi Yī Xué Guǎng Bǐ Jì, 先醒斋医学广笔记)

[Ingredients] rén shēn (Radix et Rhizoma Ginseng), bái zhú (Rhizoma Atractylodis Macrocephalae), fú líng (Poria), biǎn dòu (Semen Lablab Album), chén pí (Pericarpium Citri Reticulatae), shān yào (Rhizoma Dioscoreae), gān cǎo (Radix et Rhizoma Glycyrrhizae), lián zǐ (Semen Nelumbinis), yì yǐ rén (Semen Coicis), shā rén (Fructus Amomi), jié gěng (Radix Platycodonis), huò xiāng (Herba Agastachis), jú hóng (Exocarpium Citri Rubrum), huáng lián (Rhizoma Coptidis), zé xiè (Rhizoma Alismatis), qiàn shí (Semen Euryales), shān zhā (Fructus Crataegi), mài yá (Fructus Hordei Germinatus), bái dòu kòu (Fructus Amomi Kravanh)

[Indications] Acquired immunodeficiency syndrome, malnutrition

Zǐ Xuě Dān (Purple Snow Elixir, 紫雪丹)

[Source] *Beneficial Formulas from the Taiping Imperial Pharmacy* (Tài Píng Huì Mín Hé Jì Jú Fāng, 太平惠民和剂局方)

[Ingredients] shí gāo (Gypsum Fibrosum), hán shuǐ shí (Glauberitum), cí shí (Magnetitum), huá shí (Talcum), xī jiǎo (Cornu Rhinocerotis), líng yáng jiǎo (Cornu Saigae Tataricae), mù xiāng (Radix Aucklandiae), chén xiāng (Lignum Aquilariae Resinatum), xuán shēn (Radix Scrophulariae), shēng má (Rhizoma Cimicifugae), gān cǎo (Radix et Rhizoma Glycyrrhizae), dīng xiāng (Flos Caryophylli), pò xiāo (Mirabilitum), xiāo shí (Saltpeter), shè xiāng (Moschus), zhū shā (Cinnabaris)

[Indications] Pneumonia, asthma, varicella

Zuǒ Guī Wán (Left-Restoring Pill, 左归丸)

[Source] *The Complete Works of [Zhang] Jing-yue* (Jǐng Yuè Quán Shū, 景岳全书)

[Ingredients] shú dì (Radix Rehmanniae Praeparata), shān zhū yú (Fructus Corni), shān yào (Rhizoma Dioscoreae), gǒu qǐ zǐ (Fructus Lycii), tù sī zǐ (Semen Cuscutae), lù jiǎo jiāo (Colla Cornus Cervi), guī bǎn jiāo (Colla Testudinis Plastris), niú xī (Radix Achyranthis Bidentatae)

[Indications] Iron deficiency anemia

Appendix III

Chinese Patent Medicines

A

Ān Gōng Niú Huáng Wán—Peaceful Palace Bovine Bezoar Pill

Each pill contains: *niú huáng* (Calculus Bovis), concentrated powder of *shuǐ niú jiǎo* (Cornu Bubali), *shè xiāng* (Moschus), *zhēn zhū* (Margarita), *zhū shā* (Cinnabaris), *xióng huáng* (Realgar), *huáng lián* (Rhizoma Coptidis), *huáng qín* (Radix Scutellariae), *zhī zǐ* (Fructus Gardeniae), *yù jīn* (Radix Curcumae), and *bīng piàn* (Borneolum Syntheticum).

Artemether

A derivative of Artemisinin.

Artemisinin

A new antimalarial active ingredient extracted from the *Artemisia annua* leaves.

Artesunate

An extract from the *Artemisia annua* plant.

B

Bā Zhèng Sǎn—Eight Corrections Powder

Each bag contains: *qú mài* (Herba Dianthi), *zhī zǐ* (Fructus Gardeniae), *biǎn xù* (Herba Polygoni Avicularis), *mù tōng* (Caulis Akebiae), *chē qián zǐ* (Semen Plantaginis), *huá shí* (Talcum), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *dēng xīn cǎo* (Medulla Junci), and *dà huáng* (Radix et Rhizoma Rhei).

Bái Jīn Wán—Alum and Curcuma Pill

Each pill contains: *yù jīn* (Radix Curcumae) and *míng fán* (Alumen).

Bǎi Líng Jiǎo Nǎng—Hundred Orders Capsules

Each capsule contains: Fermentated cordyceps

Bǎi Zǐ Yǎng Xīn Wán—Arborvitae Heart-Nourishing Pill

Each pill contains: *bǎi zǐ rén* (Semen Platycladi), *dǎng shēn* (Radix Codonopsis), *zhì huáng qí* (Radix Astragali Praeparata cum Melle), *chuān xiōng* (Rhizoma Chuanxiong), *dāng guī* (Radix Angelicae Sinensis), *fú líng* (Poria), *yuǎn zhì* (prepared Radix Polygalae), *suān zǎo rén* (Semen Ziziphi Spinosae), *wǔ wèi zǐ* (steamed Fructus Schisandrae Chinensis) and *zhū shā* (Cinnabaris).

Bǎn Lán Gēn Kē Lì—Radix Isatidis Granules

Each bag contains: *bǎn lán gēn* (Radix Isatidis). Adjuvant is sucrose and dextrin.

Bàn Xià Lù Chōng Jì—Rhizoma Pinelliae Granules

Each bag contains: *shēng bàn xià* (Rhizoma Pinelliae), *pí pá yè* (Folium Eriobotryae), *yuǎn zhì* (infused

Radix Polygalae), *kuǎn dōng huā* (Flos Farfarae), *jié gěng* (Radix Platycodonis), *má huáng* (Herba Ephedrae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *chén pí* (Pericarpium Citri Reticulatae), and oil of *bò he* (Oleum Menthae Dementholatum).

Bǎo Hé Wán—Harmony-Preserving Pill

Each pill contains: *jiāo shān zhā* (Fructus Crataegi), *jiāo shén qū* (Massa Medicata Fermentata Praeparata), *lái fú zǐ* (Semen Raphani), *chén pí* (Aicarpium Citri Reticulatae), *fú líng* (Poria), *bàn xià* (Rhizoma Pinelliae), and *lián qiào* (Fructus Forsythiae).

Bīng Huáng Fū Lè Ruǎn Gāo—Cooling Yellow Comfort the Skin Ointment

Each container of ointment contains: *dà huáng* (Radix et Rhizoma Rhei), *jiāng huáng* (Rhizoma Curcumae Longae), *liú huáng* (Sulphur), *huáng qín* (Radix Scutellariae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *bīng piàn* (Borneolum Syntheticum) and *bò he nǎo* (Mentholum).

Bīng Péng Sǎn—Borneol and Borax Powder

Each bottle contains: *bīng piàn* (Borneolum Syntheticum), *péng shā* (Borax), *xuán míng fēn* (Natrii Sulfas Exsiccatus), and *zhū shā* (Cinnabaris).

Bǔ Zhōng Yì Qì Wán—Center-Supplementing Qi-Boosting Pill

Each pill contains: *zhì huáng qí* (Radix Astragali Praeparata cum Melle), *dǎng shēn* (Radix Codonopsis), *bái zhú* (dry-fried Rhizoma Atractylodis Macrocephalae), *dāng guī* (Radix Angelicae Sinensis), *shēng má* (Rhizoma Cimicifugae), *chái hú* (Radix Bupleuri), *chén pí* (Pericarpium Citri Reticulatae) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle).

C

Chú Shī Zhǐ Yǎng Ruǎn Gāo—Dampness-Removing Itching-Relieving Ointment

Each container of ointment contains: *shé chuáng zǐ* (Fructus Cnidii), *huáng lián* (Rhizoma Coptidis), *huáng bǎi* (Cortex Phellodendri Chinensis), *bái xiān pí* (Cortex Dictamni), *kǔ shēn* (Radix Sophorae Flavescentis), *hǔ zhàng* (Rhizoma Polygoni Cuspidati), *zǐ huā dì dīng* (Herba Violae), *biǎn xù* (Herba Polygoni Avicularis), *yīn chén* (Herba Artemisiae Scopariae), *cāng zhú* (Rhizoma Atractylodis), *huā jiāo* (Pericarpium Zanthoxyli) and *bīng piàn* (Borneolum Syntheticum).

D

Dà Bǔ Yīn Wán—Major Yin-Supplementing Pill

Each pill contains: *shú dì huáng* (Radix Rehanniae Praeparata), *zhī mǔ* (salt-fried Rhizoma Anearrhenae), *huáng bǎi* (salt-fried Cortex Phellodendri Chinensis), *guī jiǎ* (prepared Carapax et Plastrum Testudinis), and pig's spinal cord.

Dān Shēn Dī Wán—Salvia Drop Pill

Each pill contains: *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *sān qī* (Radix et Rhizoma Notoginseng) and *bīng piàn* (Borneolum Syntheticum).

Dān Shēn Zhù Shè Yè—Salvia Injection

Each ampule contains: *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae).

**Dān Zhī Xiǎo Yáo Wán—Moutan and Gardenia Free Wanderer Pill**

Each pill contains: *mǔ dān pí* (Cortex Moutan), *zhī zǐ* (dry-fried until scorched Fructus Gardeniae), *chái hú* (wine-fried Radix Bupleuri), *bái sháo* (wine-fried Radix Paeoniae Alba), *dāng guī* (Radix Angelicae Sinensis), *bái zhú* (earth-fried Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *bò he* (Herba Menthae), and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle).

E**Ér Bǎo Kē Lì—Treasured Children's Granules**

Each bag contains: *tài zǐ shēn* (Radix Pseudostellariae), *běi shā shēn* (Radix Glehniae), *fú líng* (Poria), *shān yào* (Rhizoma Dioscoreae), *mài yá* (Fructus Hordei Germinatus), *chén pí* (Pericarpium Citri Reticulatae), *bái sháo* (Radix Paeoniae Alba), *shān zhā* (Fructus Crataegi), *bái biǎn dòu* (Semen Lablab Album), *mài dōng* (Radix Ophiopogonis), and *gé gēn* (Radix Puerariae Lobatae).

Ér Kāng Níng Kǒu Fú Yè—Children's Healthy Well-Being Oral Liquid

Each bottle contains: *jī nèi jīn* (Endothelium Corneum Gigeriae Galli), *shān yào* (Rhizoma Dioscoreae), *fú líng* (Poria), *yì yǐ rén* (Semen Coicis), *dà zǎo* (Fructus Jujubae), *shān zhā* (Fructus Crataegi), *mài yá* (Fructus Hordei Germinatus), *bīng láng* (Semen Arecae), and *chén pí* (Pericarpium Citri Reticulatae).

F**Féi Ér Wán—Childhood Malnutrition-Rectifying Pill**

Each pill contains: *ròu dòu kòu* (roasted Semen Myristicae), *mù xiāng* (Radix Aucklandiae), *shén qū* (dry-fried Massa Medicata Fermentata), *mài yá* (dry-fried Fructus Hordei Germinatus), *hú huáng lián* (Rhizoma Picrorhizae), *bīng láng* (Semen Arecae), *shǐ jūn zǐ rén* (Semen Quisqualis).

Fù Fāng Dān Shēn Zhù Shè Yè—Compound Danshen Injection

Each ampule contains: *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), and *jiàng xiāng* (Lignum Dalbergiae Odoriferae).

Fù Fāng Ē jiǎo Jiāng—Compound Formula Donkey-Hide Gelatin Liquid

Each bottle contains: *ē jiǎo* (Colla Corii Asini), *dǎng shēn* (Radix Codonopsis), *rén shēn* (Radix et Rhizoma Ginseng), *shān zhā* (Fructus Crataegi), and *shú dì huáng* (Radix Rehmanniae Praeparata).

Fù Zǐ Lǐ Zhōng Wán—Aconite Center-Regulating Pill

Each pill contains: *zhì fù zǐ* (Radix Aconiti Lateralis Praeparata), *dǎng shēn* (Radix Codonopsis), *chǎo bái zhú* (dry-fried Rhizoma Atractylodis Macrocephalae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), and *gān jiāng* (Rhizoma Zingiberis).

G**Gǎn Mào Qīng Rè Kē Lì—Common Cold Heat-Clearing Granules**

Each bag contains: *jīng jiè suì* (Spica Schizonepetae), *bò he* (Herba Menthae), *fáng fēng* (Radix Saposhnikoviae), *chái hú* (Radix Bupleuri), *zǐ sū yè* (Folium Perillae), *gé gēn* (Radix Puerariae Lobatae), *jié gēng* (Radix Platycodonis), *kǔ xìng rén* (Semen Armeniacae Amarum), *bái zhǐ* (Radix Angelicae Dahuricae), *kǔ dì dīng* (Herba Corydalis Bungeanae) and *lú gēn* (Rhizoma Phragmitis).

Gé Bàng Hé Jì—Pueraria and Arctium Mixture

Each mixture contains: *gé gēn* (Radix Puerariae Lobatae), *niú bàng zǐ* (Fructus Arctii), *jīng jiè* (Herba Schizonepetae), *bò hé* (Herba Menthae), *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), and *chán tuì* (Periostracum Cicadae).

Gé Gēn Qín Lián Wēi Wán—Pueraria, Scutellaria and Coptis Munute Pellets

Each pill contains: *gé gēn* (Radix Puerariae Lobatae), *huáng qín* (Radix Scutellariae), *huáng lián* (Rhizoma Coptidis) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle).

Gōng Láo Qù Huǒ Piàn—Mahonia Fire-Removing Tablets

Each tablet contains: *gōng láo mù* (Caulis Mahoniae), *huáng qín* (Radix Scutellariae), *huáng bǎi* (Cortex Phellodendri Chinensis), and *zhī zǐ* (Fructus Gardeniae).

Gù Bēn Ké Chuān Piàn—Root-Consolidating Cough and Dyspnea Pill

Each pill contains: *dǎng shēn* (Radix Codonopsis), *bái zhú* (bran-fried Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *mài dōng* (Radix Ophiopogonis), *wǔ wèi zǐ* (vinegar-prepared Fructus Schisandrae Chinensis) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle).

Guì Lóng Ké Chuān Níng Jiāo Náng—Cinnamomi and Os Draconis Releasing Cough and Asthma Capsules

Each capsule contains: *guì zhī* (Ramulus Cinnamomi), *lóng gǔ* (Os Draconis), *bái sháo* (Radix Paeoniae Alba), *mǔ lì* (Concha Ostreae), *huáng lián* (Rhizoma Coptidis), *fā bàn xià* (Rhizoma Pinelliae Praeparatum), *guā lóu pí* (Pericarpium Trichosanthis), *kǔ xìng rén* (dry-fried Semen Armeniacae Amarum), *dà zǎo* (Fructus Jujubae) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle).

Guī Pí Wán—Spleen-Restoring Pill

Each pill contains: *dǎng shēn* (Radix Codonopsis), *zhì huáng qí* (Radix Astragali Praeparata cum Melle), *chǎo bái zhú* (dry-fried Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *lóng yǎn ròu* (Arillus Longan), *yuǎn zhì* (Radix Polygalae), *chǎo suān zǎo rén* (dry-fried Semen Ziziphi Spinosa), *dāng guī* (Radix Angelicae Sinensis), *mù xiāng* (Radix Aucklandiae), and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle).

H**Hé Chē Dà Zào Wán—Placenta Major Supplementation Pill**

Each pill contains: *zǐ hé chē* (Placenta Hominis), *shú dì huáng* (Radix Rehmanniae Praeparata), *tiān mén dōng* (Radix Asparagi), *mài dōng* (Radix Ophiopogonis), *dù zhòng* (Cortex Eucommiae), *niú xī* (Radix Achyranthis Bidentatae), *huáng bǎi* (Cortex Phellodendri Chinensis) and *guī jiǎ* (Carapax et Plastrum Testudinis).

Hēi Dòu Liú Yóu Ruǎn Gāo—Black Legume Nodule Oil Ointment

Each container of ointment contains: *hēi dòu liú yóu* (black legume nodule oil), *bīng piàn* (Borneolum Syntheticum), *ān yóu* (eucalyptus oil) and zinc oxide.

Hǔ Pò Bào Lóng Wán—Amber Hold Dragon Pill

Each bag contains: *shān yào* (Rhizoma Dioscoreae), *zhū shā* (Cinnabaris), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *hǔ pò* (Succinum), *tiān zhú huáng* (Concretio Silicea Bambusae), *tán xiāng* (Lignum Santali Albi), *zhǐ qiào* (Fructus Aurantii), *fú líng* (Poria), *dǎn nán xīng* (Rhizoma Arisaematis Cum Bile), *zhǐ shí* (Fructus Aurantii Immaturus), and *hóng shēn* (Radix et Rhizoma Ginseng Rubra).

**Huān Ēr Jīn (Huái Qǐ Huáng) Kē Lì—Flos Sophorae, Fructus Lycii and Rhizoma Polygonati Granules**

Each bag contains: *Trametes robinioplila* Murr (槐耳菌质), *gǒu qǐ zǐ* (Fructus Lycii) and *huáng jīng* (Rhizoma Polygonati).

Huáng Qí Zhù Shè Yè—Radix Astragali Injection

Each ampule contains: *huáng qí* (Radix Astragali)

Huáng Zhī Huā Kǒu Fú Yè—Scutellaria, Gardenia and Lonicera Oral Liquid

Each bottle contains: *huáng qín* (Radix Scutellariae), *jīn yín huā* (Flos Lonicerae Japonicae), *dà huáng* (Radix et Rhizoma Rhei), and *zhī zǐ* (Fructus Gardeniae).

Huò Xiāng Zhèng Qì Kǒu Fú Yè—Agastache Correcting Qi Oral Liquid

Each bottle contains: oil of *guǎng huò xiāng* (Herba Pogostemonis), *dà fù pí* (Pericarpium Arecae), *bái zhǐ* (Radix Angelicae Dahuricae), the oil of *zǐ sū yè* (Folium Perillae), *fú líng* (Poria), *cāng zhú* (Rhizoma Atractylodis), *shēng bàn xià* (Rhizoma Pinelliae), *chén pí* (Pericarpium Citri Reticulatae), *hòu pò* (ginger-processed Cortex Magnoliae Officinalis) and extract of *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Huò Xiāng Zhèng Qì Yè—Agastache Qi-Correcting Liquid

Each bottle contains: *cāng zhú* (Rhizoma Atractylodis), *chén pí* (Pericarpium Citri Reticulatae), *hòu pò* (Cortex Magnoliae Officinalis), *bái zhǐ* (Radix Angelicae Dahuricae), *fú líng* (Poria), *dà fù pí* (Pericarpium Arecae), *shēng bàn xià* (Rhizoma Pinelliae), the extract of *gān cǎo* (glycyrrhiza extract), the oil of *guǎng huò xiāng* (patchouli oil), and the oil of *zǐ sū yè* (Volatile oil in *Perilla frutescens*).

J

Jí Zhī Táng Jiāng—Acute Bronchitis Syrup

Each bottle contains: *yú xīng cǎo* (Herba Houttuyniae), *jīn qiáo mài* (Rhizoma Fagopyri Dibotryis), *sì jì qīng* (Folium Illicis Purpureae), *má huáng* (Herba Ephedrae), *zǐ wǎn* (Radix et Rhizoma Asteris), *qián hú* (Radix Peucedani), *zhǐ qiào* (Fructus Aurantii) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Jiàn Ēr Qīng Jiě Yè—Children's-Fortifying and Heat-Clearing Liquid

Each bottle contains: *jīn yín huā* (Flos Lonicerae Japonicae), *jú huā* (Flos Chrysanthemi), *lián qiào* (Fructus Forsythiae), *kǔ xìng rén* (Semen Armeniacae Amarum), *shān zhā* (Fructus Crataegi), and *chén pí* (Pericarpium Citri Reticulatae).

Jiàn Pí Bā Zhēn Gāo—Spleen-Fortifying Eight Gem Cake

The cake contains: *dǎng shēn* (dry-fried Radix Codonopsis), *bái zhú* (dry-fried Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *shān yào* (dry-fried Rhizoma Dioscoreae), *yì yǐ rén* (dry-fried Semen Coicis), *lián zǐ* (Semen Nelumbinis), *qiàn shí* (dry-fried Semen Euryales), *bái biǎn dòu* (dry-fried Semen Lablab Album), and *chén pí* (Pericarpium Citri Reticulatae).

Jiàn Pí Wán—Spleen-Fortifying Pill

Each pill contains: *dǎng shēn* (Radix Codonopsis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *chén pí* (Aicarpium Citri Reticulatae), *zhǐ shí* (Fructus Aurantii Immaturus), *jiāo shān zhā* (Fructus Crataegi), *chǎo mài yá* (Fructus Hordei Germinatus Praeparata).

Jīn Guì Shèn Qì Wán—Golden Cabinet Kidney Qi Pill

Each pill contains: *shēng dì huáng* (Radix Rehmanniae), *fú líng* (Poria), *shān yào* (Rhizoma Dioscoreae), *shān zhū yú* (wine-fried Prepared Fructus Corni), *mǔ dān pí* (Cortex Moutan), *zé xiè* (Rhizoma Alismatis), *guì zhī* (Ramulus Cinnamomi), *niú xī* (Radix Achyranthis Bidentatae) top removed, *chē qián zǐ* (salt-fried Semen Plantaginis) and *fù zǐ* (liquid-fried Radix Aconiti Lateralis Praeparata).

Jīn Yín Huā Lù—Honeysuckle Flower Juice

Each bottle contains: *jīn yín huā* (Flos Lonicerae Japonicae).

Jīng Líng Kǒu Fú Yè—Spirit-Calming Oral Liquid

Each vial contains: *shú dì huáng* (Radix Rehmanniae Praeparata), *shān yào* (Rhizoma Dioscoreae), *fú líng* (Poria), *nǚ zhēn zǐ* (Fructus Ligustri Lucidi), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *mǔ dān pí* (Cortex Moutan), *zé xiè* (Rhizoma Alismatis), *yuǎn zhì* (Radix Polygalae), *lóng gǔ* (Os Draconis), *zhī mǔ* (Rhizoma Anemarrhenae) and *huáng bǎi* (Cortex Phellodendri Chinensis).

K**Kàng Bīng Dú Kǒu Fú Yè—Anti-Virus Oral Liquid**

Each bottle contains: *bǎn lán gēn* (Radix Isatidis), *shí gāo* (Gypsum Fibrosum), *lú gēn* (Rhizoma Phragmitis), *shēng dì huáng* (Radix Rehmanniae), *yù jīn* (Radix Curcumae), *zhī mǔ* (Rhizoma Anemarrhenae), *shí chāng pú* (Rhizoma Acori Tatarinowii), *guāng huò xiāng* (Herba Pogostemonis) and *lián qiào* (Fructus Forsythiae).

Kǒng Shèng Zhēn Zhōng Dān—Confucius Sages Pillow Elixir

Each pellet contains: *yuǎn zhì* (Radix Polygalae), *chāng pú* (Rhizoma Acori Tatarinowii), *guī bǎn* (calcined Plastrum Testudinis), and *lóng gǔ* (Os Draconis).

L**Liáng Fù Wán—Lesser Galangal and Cyperus Pill**

Each pill contains: *gāo liáng jiāng* (Rhizoma Alpiniae Officinarum), and *xiāng fù* (Rhizoma Cyperi).

Líng Yáng Jiǎo Fěn—Antelope Horn Powder

Each packet contains: *líng yáng jiǎo* (Cornu Saigae Tataricae).

Liù Shén Wán—Six Spirits Pill

Each pill contains: *shè xiāng* (Moschus), *niú huáng* (Calculus Bovis), *bīng piàn* (Borneolum Syntheticum), *zhēn zhū* (Margarita), *chán sū* (Venenum Bufonis) and *xióng huáng* (Realgar).

Liù Wèi Dì Huáng Kǒu Fú Yè—Six Ingredients Rehmannia Oral Liquid

Each bottle contains: *shú dì huáng* (Radix Rehmanniae Praeparata), *zhì shān zhū yú* (Fructus Corni Praeparatum), *shān yào* (Rhizoma Dioscoreae), *zé xiè* (Rhizoma Alismatis), *mǔ dān pí* (Cortex Moutan) and *fú líng* (Poria).

Liù Wèi Dì Huáng Wán—Six Ingredients Rehmannia Pill

Each pill contains: *shú dì huáng* (Radix Rehmanniae Praeparata), *shān zhū yú* (Fructus Corni), *mǔ dān pí* (Cortex Moutan), *shān yào* (Rhizoma Dioscoreae), *fú líng* (Poria), and *zé xiè* (Rhizoma Alismatis).

Lóng Dǎn Xiè Gān Wán—Gentian Liver-Draining Pill

Each pill contains: *lóng dǎn cǎo* (Radix et Rhizoma Gentianae), *chái hú* (Radix Bupleuri), *huáng qín* (Radix Scutellariae), *zhī zǐ* (dry-fried Fructus Gardenia), *zé xiè* (Rhizoma Alismatis), *mù tōng* (Caulis Akebiae), *chē qián zǐ* (dry-fried with salt Semen Plantaginis), *dāng guī* (wine-fried Radix Angelicae Sinensis), *shēng dì huáng* (Radix Rehmanniae) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle).

Lóng Mǔ Zhuàng Gǔ Chōng Jì—Dragon and Oyster Bone-Improving Electuary

Each bag contains: *dǎng shēn* (Radix Codonopsis), *fú líng* (Poria), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *huái shān yào* (Rhizoma Dioscoreae), *huáng qí* (Radix Astragali), *wǔ wèi zǐ* (Fructus Schisandrae Chinensis), *lóng gǔ* (Os Draconis), *mǔ lì* (Concha Ostreae), *guī bǎn* (Plastrum Testudinis), *mài dōng* (Radix Ophiopogonis), and Vitamin D.

Luó Hàn Guǒ Zhǐ Ké Táng Jiāng—Momordica Fruit Cough-Relieving Syrup

Each bottle contains: *luó hàn guǒ* (Fructus Momordicae), *pí pá yè* (Folium Eriobotryae), *sāng bái pí* (Cortex Mori), *bái qián* (Rhizoma et Radix Cynanchi Stauntonii), *bǎi bù* (Radix Stemona), *jié gēng* (Radix Platycodonis), and oil of *bó hé* (Oleum Menthae Dementholatum).

M**Míng Mù Dì Huáng Wán—Rehmannia Vision-Promoting Pill**

Each pill contains: *shú dì huáng* (Radix Rehmanniae Praeparata), *zhì shān zhū yú* (Fructus Corni Praeparatum), *mǔ dān pí* (Cortex Moutan), *shān yào* (Rhizoma Dioscoreae), *fú líng* (Poria), *zé xiè* (Rhizoma Alismatis), *gōu qǐ zǐ* (Fructus Lycii), *jú huā* (Flos Chrysanthemi), *dāng guī* (Radix Angelicae Sinensis), *bái sháo* (Radix Paeoniae Alba), *jí lí* (Fructus Tribuli), and *duàn shí jué míng* (Concha Haliotidis Praeparatum).

N**Niào Gǎn Nín Kē Lì—Urinary Infection-Relieving Granules**

Each bag contains: *hǎi jīn shā* (Spora Lygodii), *lián qián cǎo* (Herba Glechomae), *fēng wěi cǎo* (Herba Petridis Multifidae), *zǐ huā dì dīng* (Herba Violae), and *lù cǎo* (Humulus Japonicus).

Niú Huáng Qīng Xīn Wán—Bovine Bezoar Heart-Clearing Pill

Each pill contains: *niú huáng* (Calculus Bovis), *dāng guī* (Radix Angelicae Sinensis), *chuān xiōng* (Rhizoma Chuanxiong), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *shān yào* (Rhizoma Dioscoreae), *huáng qín* (Radix Scutellariae), *kǔ xìng rén* (dry-fried Semen Armeniacae Amarum), *dà dòu huáng juǎn* (Semen Sojae Germinatum), *dà zǎo* (pitted Fructus Jujubae), *bái zhú* (dry-fried Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *jié gēng* (Radix Platycodonis), *fáng fēng* (Radix Saposhnikoviae), *chái hú* (Radix Bupleuri), *ē jiǎo* (Colla Corii Asini), *gān jiāng* (Rhizoma Zingiberis), *bái sháo* (Radix Paeoniae Alba), *rén shēn* (Radix et Rhizoma Ginseng), *liù shén qū* (dry-fried Massa Medicata Fermentata), *ròu guì* (Cortex Cinnamomi), *mài dōng* (Radix Ophiopogonis), *bái liǎn* (Radix Ampelopsis), *pú huáng* (dry-fried Pollen Typhae), artificial secretio moschi, *bīng piàn* (Borneolum Syntheticum), the concentrated powder of *shuǐ niú jiǎo* (Cornu Bubali), *líng yáng jiǎo* (Cornu Saigae Tataricae), *zhū shā* (Cinnabaris), and *xióng huáng* (Realgar).

Niú Huáng Zhèn Jīng Wán—Calculus Bovis Fright-Suppressing Pill

Each pill contains: *niú huáng* (Calculus Bovis) 80 g, *quán xiē* (Scorpion) 300 g, *jiāng cán (chǎo)* (Bombyx Batryticatus) 100 g, *zhēn zhū* (Margarita) 100 g, *shè xiāng* (Moschus) 40 g, *zhū shā* (Cinnabaris) 100 g, *xióng huáng* (Realgar) 100 g, *tiān má* (Rhizoma Gastrodiae) 200 g, *gōu téng* (Ramulus Uncariae cum Uncis) 100 g,

fáng fēng (Radix Saposhnikoviae) 20 g, *hǔ pò* (Succinum) 60 g, *dǎn nán xīng* (Rhizoma Arisaematis Cum Bile) 100 g, *bái fū zǐ (zhì)* (Tuber Typhonii Praeparatum) 100 g, *jiāng bàn xià* (Rhizoma Pinelliae Praeparatum) 100 g, *tiān zhú huáng* (Concretio Silicea Bambusae) 100 g, *bīng piàn* (Borneolum Syntheticum) 40 g, *bò he* (Herba Menthae) 100 g, and *gān cǎo* (Radix et Rhizoma Glycyrrhizae) 400 g.

Q

Qǐ Jú Dì Huáng Wán—Lycium Berry, Chrysanthemum and Rehmannia Pill

Each pill contains: *shú dì huáng* (Radix Rehmanniae Praeparata), *shān zhū yú* (prepared Fructus Corni), *shān yào* (Rhizoma Dioscoreae), *fú líng* (Poria), *mǔ dān pí* (Cortex Moutan), *zé xiè* (Rhizoma Alismatis), *gǒu qǐ zǐ* (Fructus Lycii), and *jú huā* (Flos Chrysanthemi).

Qǐ Pí Wán—Spleen-Activating Pill

Each pill contains: *rén shēn* (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *chén pí* (Pericarpium Citri Reticulatae), *shān yào* (Rhizoma Dioscoreae), *lián zǐ* (Semen Nelumbinis), *shān zhā* (Fructus Crataegi), *shén qū* (Massa Medicata Fermentata), *mài yá* (Fructus Hordei Germinatus), *zé xiè* (Rhizoma Alismatis), and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Qì Zhì Wèi Tòng Chōng Jì—Qi Stagnation Stomachache Granules

The packet contain *chái hú* (Radix Bupleuri), *yán hú suǒ* (Rhizoma Corydalis), *zhǐ qiào* (Fructus Aurantii), *xiāng fù* (Rhizoma Cyperi), *bái sháo* (Radix Paeoniae Alba), and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Qīng Dài Sǎn—Natural Indigo Powder

Each bag of powder contains: *qīng dài* (Indigo Naturalis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *duàn péng shā* (calcined Borax), *bīng piàn* (Borneolum Syntheticum), *bò he* (Herba Menthae), *huáng lián* (Rhizoma Coptidis), *ér chá* (Catechu), and *duàn rén zhōng bái* (calamitas urinae hominis).

Qīng Kāi Líng Kē Lì—Qingkailing Granules

Each granular preparation contains: cholic acid, hyodeoxycholic, *shuǐ niú jiǎo* (Cornu Bubali), baicalin, and *jīn yín huā* (Flos Lonicerae Japonicae).

Qīng Kāi Líng Zhù Shè Yè—Qing Kai Ling Injection

Each ampule contains: *bǎn lán gēn* (Radix Isatidis), *jīn yín huā* (Flos Lonicerae Japonicae), *zhī zǐ* (Fructus Gardeniae), powder of *shuǐ niú jiǎo* (Cornu Bubali), powder of *zhēn zhū mǔ* (Concha Margaritiferae Usta), baicalin, colalin and hyodeoxycholic acid.

Qīng Rè Huà Zhì Kē Lì—Heat-Clearing Stagnation-Resolving Granules

Each bag contains: *jiǔ chǎo dà huáng* (wine-fried Radix et Rhizoma Rhei), *dà qīng yè* (Folium Isatidis), *běi hán shuǐ shí* (Glauberitum), *chǎo mài yá* (fried Fructus Hordei Germinatus), *jiāo shān zhā* (scorch-fried Fructus Crataegi), *jiāo bīng láng* (Semen Arecae Praepareta), *bò he* (Herba Menthae), *huà jú hóng* (Exocarpium Citri Grandis), *cǎo dòu kòu* (Semen Alpiniae Katsumadai), *guǎng huò xiāng* (Herba Pogostemonis), and *qián hú* (Radix Peucedani).

Qīng Rè Jiě Dú Kǒu Fú Yè—Heat-Clearing Toxin-Resolving Oral Liquid

Each bottle contains: *shí gāo* (Gypsum Fibrosum), *jīn yín huā* (Flos Lonicerae Japonicae), *xuán shēn* (Radix Scrophulariae), *dì huáng* (Radix Rehmanniae), *lián qiào* (Fructus Forsythiae), *zhī zǐ* (Fructus Gardeniae),

tián dì dīng (Herba Gueldenstaedtie Multiflorae), *huáng qín* (Radix Scutellariae), *lóng dǎn cǎo* (Radix et Rhizoma Gentianae), *bǎn lán gēn* (Radix Isatidis), *zhī mǔ* (Rhizoma Anemarrhenae), and *mài dōng* (Radix Ophiopogonis). Adjuvant: essence.

Qīng Wèi Huáng Lián Wán—Coptis Stomach-Clearing Pill

Each pill contains: *huáng lián* (Rhizoma Coptidis), *shí gāo* (Gypsum Fibrosum), *zhī mǔ* (Rhizoma Anemarrhenae), *huáng qín* (Radix Scutellariae), *huáng bǎi* (Cortex Phellodendri Chinensis), *zhī zǐ* (Fructus Gardeniae), *lián qiào* (Fructus Forsythiae), *xuán shēn* (Radix Scrophulariae), *tiān huā fēn* (Radix Trichosanthis), *shēng dì* (Radix Rehmanniae), *jié gěng* (Radix Platycodonis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *mǔ dān pí* (Cortex Moutan), and *chì sháo* (Radix Paeoniae Rubra).

Qīngfú Plaster

Each plaster contains: *qīng dài* (Indigo Naturalis), *dà huáng* (Radix et Rhizoma Rhei), *bàn xià* (Rhizoma Pinelliae), *dǎn nán xīng* (Arisaema cum Bile), *chuān wú* (Radix Aconiti), *cǎo wú* (Radix Aconiti Kusnezoffii), *péng shā* (Borax), *máng xiāo* (Natrii Sulfas), *bèi mǔ* (Bulbus Fritillaria), and *tiān huā fēn* (Radix Trichosanthis).

R

Rén Shēn Guī Pí Wán—Ginseng Spleen-Restoring Pill

Each pill contains: *rén shēn* (Radix et Rhizoma Ginseng), *bái zhú* (bran-fried Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *zhì huáng qí* (Radix Astragali Praeparata cum Melle), *dāng guī* (Radix Angelicae Sinensis), *lóng yǎn ròu* (Arillus Longan), *suān zǎo rén* (dry-fried Semen Ziziphi Spinosae), *yuǎn zhì* (plumule-removed and licorice-fried Radix Polygalae), *mù xiāng* (Radix Aucklandiae) and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle). Adjuvant is *fēng mì* (Mel).

Rén Shēn Yǎng Róng Wán—Ginseng Supporting and Nourishing Pill

Each pill contains: *rén shēn* (Radix et Rhizoma Ginseng), *tǔ chǎo bái zhú* (earth-fried Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *zhì huáng qí* (Radix Astragali Praeparata cum Melle), *dāng guī* (Radix Angelicae), *shú dì huáng* (Radix Rehmanniae Praeparata), *fū chǎo bái sháo* (bran-fried Radix Paeoniae Alba), *chén pí* (Pericarpium Citri Reticulatae), *zhì yuǎn zhì* (prepared Radix Polygalae), *ròu guì* (Cortex Cinnamomi), *jiǔ zhēng wǔ wèi zǐ* (wine-steamed Fructus Schisandrae Chinensis), and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle).

Rú Yì Jīn Huáng Sǎn—Satisfied Golden Yellow Powder

Each bag contains: *jiāng huáng* (Rhizoma Curcumae Longae), *dà huáng* (Radix et Rhizoma Rhei), *huáng bǎi* (Cortex Phellodendri Chinensis), *cāng zhú* (Rhizoma Atractylodis), *hòu pò* (Cortex Magnoliae Officinalis), *chén pí* (Pericarpium Citri Reticulatae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *tiān nán xīng* (Rhizoma Arisaematis), *bái zhǐ* (Radix Angelicae Dahuricae), and *tiān huā fēn* (Radix Trichosanthis).

S

Sài Jīn Huà Dú Sǎn—Effective Toxin-Resolving Powder

Each bag contains: *rǔ xiāng* (Olibanum), *huáng lián* (Rhizoma Coptidis), *mò yào* (Myrrha), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae), *chì sháo* (Radix Paeoniae Rubra), *xióng huáng* (Realgar), *bīng piàn* (Borneolum Syntheticum), *tiān huā fēn* (Radix Trichosanthis), *niú huáng* (Calculus Bovis), *zhēn zhū* (Margarita) and *dà huáng* (Radix et Rhizoma Rhei).

Sāi Xiàn Yán Piàn—Mumps Tablets

Each tablet contains: *liáo dà qīng yè* (Folium polygoni Tinctorii), *bǎn lán gēn* (Radix Isatidis), *lián qiào* (Fructus Forsythiae), *pú gōng yīng* (Herba Taraxaci), *xià kǔ cǎo* (Spica Prunellae) and *niú huáng* (Calculus Bovis).

Sān Huáng Èr Xiāng Sǎn—Three Yellows Two Sweets Powder

Each powder contains: *huáng lián* (Rhizoma Coptidis), *huáng bǎi* (Cortex Phellodendri Chinensis), *shēng dà huáng* (Radix et Rhizoma Rhei), *rǔ xiāng* (Olibanum), and *mò yào* (Myrrha).

Shān Zhā Huà Zhì Wán—Chinese Hawthorn Fruit Stagnation-Resolving Pill

Each agent contains: 500 g of *shān zhā* (Fructus Crataegi), 100 g of *mài yá* (Fructus Hordei Germinatus), 100 g of *shēn qū* (Massa Medicata Fermentata), 50 g of *bīng láng* (Semen Arecae), 50 g of *lái fú zǐ* (Semen Raphani) and 50 g of *qiān niú zǐ* (Semen Pharbitidis).

Shèn Fù Kāng Jiāo Náng—Kidney Recovering Capsules

Each capsule contains: *tǔ fú líng* (Rhizoma Smilacis Glabrae), *huái huā* (Flos Sophorae), *bái máo gēn* (Rhizoma Imperatae), *yì mǔ cǎo* (Herba Leonuri), and *huò xiāng* (Herba Agastachis).

Shēn Fù Zhù Shè Yè—Ginseng and Aconite Injection

Each ampule contains: *hóng shēn* (Radix et Rhizoma Ginseng Rubra) and *fù zǐ* (Radix Aconiti Lateralis Praeparata).

Shēn Líng Bái Zhú Wán—Ginseng, Poria and Atractylodes Macrocephalae Pill

Each pill contains: *rén shēn* (Radix et Rhizoma Ginseng), *bái zhú* (bran-fried Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *shān yào* (Rhizoma Dioscoreae), *yì yǐ rén* (dry-fried Semen Coicis), *lián zǐ* (Semen Nelumbinis), *bái biǎn dòu* (dry-fried Semen Lablab Album), *shā rén* (Fructus Amomi), *jié gēng* (Radix Platycodonis) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Shēn Mài Zhù Shè Yè—Ginseng and Ophiopogon Injection

Each ampule contains: *hóng shēn* (Radix et Rhizoma Ginseng Rubra) and *mài dōng* (Radix Ophiopogonis).

Shèn Qì Wán—Kidney Qi Pill

Each pill contains: *gān dì huáng* (Radix Rehmanniae Recens), *shǔ yù* (Rhizoma Dioscoreae), *shān zhū yú* (Fructus Corni), *fú líng* (Poria), *zé xiè* (Rhizoma Alismatis), *mǔ dān pí* (Cortex Moutan Radicis), *guì zhī* (Ramulus Cinnamomi), and *fù zǐ* (processed Radix Aconiti Lateralis Preparata).

Shēn Yán Jiě Rè Piàn—Nephritis Antipyretic Heat-Clearing Tablets

Each tablet contains: *bái máo gēn* (Rhizoma Imperatae), *lián qiào* (Fructus Forsythiae), *jīng jiè* (Herba Schizonepetae), *xìng rén* (dry-fried Semen Armeniacae Amarum), *chén pí* (Pericarpium Citri Reticulatae), *dà fù pí* (Pericarpium Arecae), *zé xiè* (salt-processed Rhizoma Alismatis), *fú líng* (Poria), *guì zhī* (Ramulus Cinnamomi), *chē qián zǐ* (dry-fried Semen Plantaginis), *chì xiǎo dòu* (Semen Phaseoli), *shēng shí gāo* (Gypsum Fibrosum), *pú gōng yīng* (Herba Taraxaci), and *chán tuì* (Periostracum Cicadae).

Shēn Yán Kāng Fù Piàn—Nephritis-Treating Tablets

Each tablet contains: *xī yáng shēn* (Radix Panacis Quinquefolii), *rén shēn* (Radix et Rhizoma Ginseng), *shēng dì huáng* (Radix Rehmanniae), *dù zhòng* (Cortex Eucommiae), *shān yào* (Rhizoma Dioscoreae), *tǔ fú líng* (Rhizoma Smilacis Glabrae), *bái huā shé shé cǎo* (Herba Hedyotis Diffusae), *dān shēn* (Radix et Rhizoma



Salviae Miltiorrhizae), and *zé xiè* (Rhizoma Alismatis).

Shèn Yán Sì Wèi Piàn—Nephritis Four Ingredients Tablets

Each tablet contains: *hú zhī zǐ* (Lespedeza bicolor Turcz), *huáng qín* (Radix Scutellariae), *shí wéi* (Folium Pyrrosiae), and *huáng qí* (Radix Astragali).

Shēng Mài Yǐn—Pulse-Engendering Beverage

Each ampule contains: *rén shēn* (Radix et Rhizoma Ginseng), *mài dōng* (Radix Ophiopogonis) and *wǔ wèi zǐ* (Fructus Schisandrae Chinensis).

Shēng Mài Yǐn Kǒu Fú Yè—Pulse-Engendering Oral Liquid

Each bottle contains: *rén shēn* (Radix et Rhizoma Ginseng), *mài dōng* (Radix Ophiopogonis) and *wǔ wèi zǐ* (Fructus Schisandrae Chinensis).

Shēng Mài Zhù Shè Yè—Pulse-Engendering Injection

Each ampule contains: *hóng shēn* (Radix et Rhizoma Ginseng Rubra), *mài dōng* (Radix Ophiopogonis), and *wǔ wèi zǐ* (Fructus Schisandrae Chinensis).

Shī Dú Qīng Jiāo Náng—Damp-Toxin Clearing Capsules

Each capsule contains: *bái xiān pí* (Cortex Dictamni), *chán tuì* (Periostracum Cicadae), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *dāng guī* (Radix Angelicae Sinensis), *dì huáng* (Radix Rehmanniae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *huáng qín* (Radix Scutellariae), *kǔ shēn* (Radix Sophorae Flascveentis), and *tǔ fú líng* (Rhizoma Smilacis Glabrae).

Shí Hú Yè Guāng Wán—Caulis Dendrobii Noctilucent Pill

Each pill contains: *shí hú* (Caulis Dendrobii), *shú dì huáng* (Radix Rehmanniae Praeparata), *gǒu qǐ zǐ* (Fructus Lycii), *tù sī zǐ* (Semen Cuscutae), *niú xī* (Radix Achyranthis Bidentatae), *jú huā* (Flos Chrysanthemi), *yán chǎo bái jí lí* (salt-fired Fructus Tribuli), *qīng xiāng zǐ* (Semen Celosiae), *jué míng zǐ* (Semen Cassiae), the concentrated powder of *shuǐ niú jiǎo* (Cornu Bubali), *líng yáng jiǎo* (Cornu Saigae Tataricae), and *gān cǎo* (Radix et Rhizoma Glycyrrhizae), etc.

Shí Quán Dà Bǔ Wán—Perfect Major Supplementation Pill

Each pill contains: *dǎng shēn* (Radix Codonopsis), *chǎo bái zhú* (dry-fried Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *shú dì huáng* (Radix Rehmanniae Praeparata), *dāng guī* (Radix Angelicae Sinensis), *jiǔ chǎo bái sháo* (wine-fried Radix Paeoniae Alba), *chuān xiōng* (Rhizoma Chuanxiong), *zhì huáng qí* (Radix Astragali Praeparata cum Melle), *ròu guì* (Cortex Cinnamomi), and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle).

Shuāng Huáng Lián Kǒu Fú Yè—Double Rhizoma Coptidis Oral Liquid

Each bottle contains: *jīn yín huā* (Flos Lonicerae Japonicae), *huáng qín* (Radix Scutellariae), and *lián qiào* (Fructus Forsythiae).

Suō Quán Jiāo Náng—Stream-Reducing Capsules

Each capsule contains: *shān yào* (Rhizoma Dioscoreae), *yì zhì rén* (dry-fried with salt Fructus Alpiniae Oxyphyllae), and *wū yào* (Radix Linderae).

Suō Quán Wán—Stream-Reducing Pill

Each pill contains: *shān yào* (Rhizoma Dioscoreae), *yì zhì rén* (dry-fried with salt Fructus Alpiniae Oxyphyllae) and *wū yào* (Radix Linderae).

T**Tán Rè Qīng Zhù Shè Yè—Phlegm-Heat Clearing Injection**

Each ampule contains: *huáng qín* (Radix Scutellariae), *xióng dǎn* (Ursi Fel), *shān yáng jiǎo* (Radix et Rhizoma Sophorae Tonkinensis), *jīn yín huā* (Flos Lonicerae Japonicae), and *lián qiào* (Fructus Forsythiae). Adjuvant is propylene glycol.

Tōng Xuān Lǐ Fèi Wǎn—Smooth and Disperse Lung Pill

Each pill contains: *zǐ sū yè* (Folium Perillae), *qián hú* (Radix Peucedani), *jié gěng* (Radix Platycodonis), *kǔ xìng rén* (Semen Armeniacae Amarum), *má huáng* (Herba Ephedrae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *chén pí* (Pericarpium Citri Reticulatae), *bàn xià* (processed Rhizoma Pinelliae), *fú líng* (Poria), *chǎo zhī qiào* (dry-fried Fructus Aurantii), *huáng qín* (Radix Scutellariae) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

W**Wǔ Fú Huà Dú Wán—Five Fu Toxin-Dissipating Pill**

Each pill contains: *shuǐ niú jiǎo* (Cornu Bubali), *lián qiào* (Fructus Forsythiae), *qīng dài* (Indigo Naturalis), *huáng lián* (Rhizoma Coptidis), *niú bàng zǐ* (Fructus Arctii), *xuán shēn* (Radix Scrophulariae), *dì huáng* (Radix Rehmanniae), *jié gěng* (Radix Platycodonis), *máng xiāo* (Natrii Sulfas), *chì sháo* (Radix Paeoniae Rubra) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Wū Jī Bái Fèng Kǒu Fú Yè—Black Chicken White Phoenix Oral Liquid

Each bottle contains: *wū jī* (Black-boned chicken), *lù róng* (Cornu Cervi Pantotrichum), *rén shēn* (Radix et Rhizoma Ginseng), *huáng qí* (Radix Astragali), *shān yào* (Rhizoma Dioscoreae), *dāng guī* (Radix Angelicae Sinensis), *shú dì huáng* (Radix Rehmanniae Praeparata), *bái sháo* (Radix Paeoniae Alba), *chuān xiōng* (Rhizoma Chuanxiong), *tiān dōng* (Radix Asparagi), *dì huáng* (Radix Rehmanniae), *qīng hāo* (Herba Artemisiae Annuae), *yín chái hú* (Radix Stellariae), *sāng piāo xiāo* (Oötheca Mantidis), *mǔ lì* (Concha Ostreae), *qiàn shí* (bran-fried Semen Euryales), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *xiāng fù* (Rhizoma Cyperi) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae). The adjuvant is refined honey.

Wū Jī Bái Fèng Wán—Black Chicken White Phoenix Pill

Each pill contains: *lù jiǎo jiāo* (Colla Cornus Cervi), *zhì biē jiǎ* (Carapax Trionycis Praeparata), *duàn mǔ lì* (calcined Concha Ostreae), *sāng piāo xiāo* (Oötheca Mantidis), *rén shēn* (Radix et Rhizoma Ginseng), *huáng qí* (Radix Astragali), *dāng guī* (Radix Angelicae Sinensis), *bái sháo* (Radix Paeoniae Alba), *xiāng fù* (Rhizoma Cyperi), *tiān dōng* (Radix Asparagi), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *shēng dì huáng* (Radix Rehmanniae), *shú dì huáng* (Radix Rehmanniae), *lù jiǎo jiāo* (Colla Cornus Cervi), *zhì biē jiǎ* (Carapax Trionycis Praeparata), *duàn mǔ lì* (calcined Concha Ostreae), *sāng piāo xiāo* (Oötheca Mantidis), *rén shēn* (Radix et Rhizoma Ginseng), *huáng qí* (Radix Astragali), *dāng guī* (Radix Angelicae Sinensis), *bái sháo* (Radix Paeoniae Alba), *xiāng fù* (Rhizoma Cyperi), *tiān dōng* (Radix Asparagi), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *shēng dì huáng* (Radix Rehmanniae), *shú dì huáng* (Radix Rehmanniae Praeparata), *chuān xiōng* (Rhizoma Chuanxiong), *yín chái hú* (Radix Stellariae), *dān shēn* (Radix et Rhizoma Salviae Miltiorrhizae), *shān yào*



(Rhizoma Dioscoreae), *qiàn shí* (Semen Euryales), and *lù jiǎo shuāng* (Cornu Cervi Degelatinatum).

Wǔ Shí Chá Kē Lì—Noon Tea Granules

Each bag contains: *cāng zhú* (Rhizoma Atractylodis), *chái hú* (Radix Bupleuri), *qiāng huó* (Rhizoma et Radix Notopterygii), *fáng fēng* (Radix Saposhnikovia), *bái zhǐ* (Radix Angelicae Dahuricae), *chuān xiōng* (Rhizoma Chuanxiong), *huò xiāng* (Herba Agastachis), *qián hú* (Radix Peucedani), *lián qiào* (Fructus Forsythiae), *chén pí* (Pericarpium Citri Reticulatae), *shān zhā* (Fructus Crataegi), *zhǐ shí* (Fructus Aurantii Immaturus), *chǎo mài yá* (dry-fried Fructus Hordei Germinatus), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *jié gěng* (Radix Platycodonis), *jiāo liù qū* (Massa Medicata Fermentata Praeparata), *zǐ sū yè* (Folium Perillae), *hòu pò* (Cortex Magnoliae Officinalis) and black tea.

Wǔ Zǐ Yǎn Zōng Wán—Five-Seed Progeny Pill

Each pill contains: *gǒu qǐ zǐ* (Fructus Lycii), *tù sī zǐ* (dry-fried Semen Cuscutae), *wǔ wèi zǐ* (steamed Fructus Schisandrae Chinensis), *chē qián zǐ* (dry-fried with salt Semen Plantaginis) and *fù péng zǐ* (Fructus Rubi).

X

Xī Guā Shuāng—Prepared Mirabilite

Each bottle contains: *xī guā shuāng* (Mirabilitum Praeparatum), *péng shā* (Borax), *huáng bǎi* (Cortex Phellodendri Chinensis), *huáng lián* (Rhizoma Coptidis), *shān dòu gēn* (Radix et Rhizoma Sophorae Tonkinensis), *shè gān* (Rhizoma Belamcandae), *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii), *qīng dài* (Indigo Naturalis), and *dà huáng* (Radix et Rhizoma Rhei).

Xī Guā Shuāng Pēn Jì—Watermelon Frost Spray

Each bottle contains: *xī guā shuāng* (Mirabilitum Praeparatum), *péng shā* (Borax), *huáng bǎi* (Cortex Phellodendri Chinensis), *huáng lián* (Rhizoma Coptidis), *shān dòu gēn* (Radix et Rhizoma Sophorae Tonkinensis), *shè gān* (Rhizoma Belamcandae), *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii), *qīng dài* (Indigo Naturalis), *dà huáng* (Radix et Rhizoma Rhei), etc.

Xī Lèi Sǎn—Tin-Like Powder

Each powder contains: *yá xiè* (Dental scrap), *qīng dài* (Indigo Naturalis), *bì qián càn* (Uroctea compactilis Koch), *rén zhǐ jiā* (prepared with talcum powder Unguis Hominis), *zhēn zhū* (Margarita), *bīng piàn* (Borneolum Syntheticum), and *niú huáng* (Calculus Bovis).

Xiāng Shā Liù Jūn Zǐ Wán—Costusroot and Amomum Six Gentlemen Decoction

Each pill contains: *rén shēn* (Radix et Rhizoma Ginseng), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *chén pí* (Pericarpium Citri Reticulatae), *bàn xià* (Rhizoma Pinelliae), *shā rén* (Fructus Amomi), *mù xiāng* (Radix Aucklandiae), and *shēng jiāng* (Rhizoma Zingiberis Recens).

Xiāng Shā Zhǐ Zhū Wán—Aucklandia, Amomum, Immature Bitter Orange and Atractylodes Macrocephala Pill

Each pill contains: *mù xiāng* (Radix Aucklandiae), *fū chǎo zhǐ shí* (bran-fried Fructus Aurantii Immaturus), *shā rén* (Fructus Amomi), and *fū chǎo bái zhú* (bran-fried Rhizoma Atractylodis Macrocephalae).

Xiǎo Chái Hú Kē Lì—Minor Bupleurum Granules

Each bag contains: *chái hú* (Radix Bupleuri), *dà zǎo* (Fructus Jujubae), *dǎng shēn* (Radix Codonopsis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *huáng qín* (Radix Scutellariae), *jiāng bàn xià* (Rhizoma Pinelliae Praeparatum), and *shēng jiāng* (Rhizoma Zingiberis Recens).

Xiào Chuǎn Níng Kē Lì—Asthma-Relieving Granules

Each bag contains: *huáng qín* (Radix Scutellariae), *mǔ dān pí* (Cortex Moutan), *guì zhī* (Ramulus Cinnamomi), and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Xiǎo Ér Fèi Rè Ké Chuǎn Kǒu Fú Yè—Children's Lung Heat-Clearing Cough and Wheezing-Relieving Oral Liquid

Each bottle contains: *má huáng* (Herba Ephedrae), *kǔ xìng rén* (Semen Armeniacae Amarum), *shí gāo* (Gypsum Fibrosum), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *zhī mǔ* (Rhizoma Anemarrhenae), *huáng qín* (Radix Scutellariae), *bǎn lán gēn* (Radix Isatidis), *mài dōng* (Radix Ophiopogonis) and *yú xīng cǎo* (Herba Houttuyniae).

Xiǎo Ér Gǎn Mào Kē Lì—Common Cold Granules for Children

Each bag contains: *huò xiāng* (Herba Agastachis), *jú huā* (Flos Chrysanthemi), *lián qiào* (Fructus Forsythiae), *dà qīng yè* (Folium Isatidis), *bǎn lán gēn* (Radix Isatidis), *shēng dì huáng* (Radix Rehmanniae), *dì gǔ pí* (Cortex Lycii), *bái wēi* (Radix et Rhizoma Cynanchi Atrati), *bò hé* (Herba Menthae) and *shí gāo* (Gypsum Fibrosum).

Xiǎo Ér Huà Dú Sǎn—Children's Toxin-Resolving Powder

Each bag contains: *rén gōng niú huáng* (Calculus Bovis Artifactus), *zhēn zhū* (Margarita), *xióng huáng* (Realgar), *dà huáng* (Radix et Rhizoma Rhei), *huáng lián* (Rhizoma Coptidis), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *tiān huā fěn* (Radix Trichosanthis), *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae), *chì sháo* (Radix Paeoniae Rubra), *rǔ xiāng* (Olibanum), *mò yào* (Myrrha), and *bīng piàn* (Borneolum Syntheticum).

Xiǎo Ér Huí Chūn Dān—Children's Return-of-Spring Elixir

Each pill contains: *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae), *chén pí* (Pericarpium Citri Reticulatae), *mù xiāng* (Radix Aucklandiae), *bái dòu kòu* (Fructus Amomi Kravanh), *zhǐ qiào* (Fructus Aurantii), *fǎ bàn xià* (Rhizoma Pinelliae Praeparatum), *chén xiāng* (Lignum Aquilariae Resinatum), *tiān zhú huáng* (Concretio Silicea Bambusae), *jiāng cán* (Bombyx Batryticatus), *quán xiē* (Scorpionn), *tán xiāng* (Lignum Santali Albi), *niú huáng* (Calculus Bovis), *shè xiāng* (Moschus), *dǎn nán xīng* (Arisaema cum Bile), *gōu téng* (Ramulus Uncariae Cum Uncis), *dà huáng* (Radix et Rhizoma Rhei), *tiān má* (Rhizoma Gastrodiae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae) and *zhū shā* (Cinnabaris).

Xiǎo Ér Jīn Dān Piàn—Children's Gold Elixir

Each tablet contains: *zhū shā* (Cinnabaris), *jú hóng* (Exocarpium Citri Rubrum), *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae), *dǎn nán xīng* (Arisaema cum Bile), *qián hú* (Radix Peucedani), *xuán shēn* (Radix Scrophulariae), *qīng bàn xià* (Rhizoma Pinelliae Concisum), *dà qīng yè* (Folium Isatidis), *guān mù tōng* (Caulis Aristolochiae Manshuriensis), *jié gēng* (Radix Platycodonis), *jīng jiè suì* (Spica Schizonepetae), *qiāng huó* (Rhizoma et Radix Notopterygii), *xī hé liǔ* (Cacumen Tamaricis), *dì huáng* (Radix Rehmanniae), *zhǐ qiào* (Fructus Aurantii), *chì sháo* (Radix Paeoniae Rubra), *gōu téng* (Ramulus Uncariae Cum Uncis), *gé gēn* (Radix Puerariae Lobatae), *niú bàng zǐ* (Fructus Arctii), *tiān má* (Rhizoma Gastrodiae), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *fáng fēng* (Radix Saposhnikovia), *bīng piàn* (Borneolum Syntheticum), the concentrated powder of *shuǐ niú jiǎo* (Cornu Bubali), powdered *líng yáng jiǎo* (Cornu Saigae Tataricae) and *bò hé nǎo*

(Mentholum).

Xiǎo Ér Líng Yáng Sǎn—Children's Antelope Powder

Each bag contains: *líng yáng jiǎo* (Cornu Saigae Tataricae), concentrated powder of *shuǐ niú jiǎo* (Cornu Bubali), *rén gōng niú huáng* (Calculus Bovis Artificatus), *huáng lián* (Rhizoma Coptidis), *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *xī hé liǔ* (Cacumen Tamaricis), *niú bàng zǐ* (Fructus Arctii), *gé gēn* (Radix Puerariae Lobatae), *fú píng* (Herba Spirodela), *zǐ cǎo* (Radix Arnebiae), *chì sháo* (Radix Paeoniae Rubra), *tiān zhú huáng* (Concretio Silicea Bambusae), *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae), *zhū shā* (Cinnabaris), *bīng piàn* (Borneolum Syntheticum) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Xiǎo Ér Qīng Rè Jiě Dú Kǒu Fú Yè—Infantile Heat-Clearing Toxin-Resolving Oral Liquid

Each bottle contains: *shí gāo* (Gypsum Fibrosum), *zhī mǔ* (Rhizoma Anemarrhenae), *zǐ huā dì dīng* (Herba Viola), *jīn yín huā* (Flos Lonicerae Japonicae), *mài dōng* (Radix Ophiopogonis), *huáng qín* (Radix Scutellariae), *xuán shēn* (Radix Scrophulariae), *lián qiào* (Fructus Forsythiae), *lóng dǎn cǎo* (Radix et Rhizoma Gentianae), *shēng dì* (Radix Rehmanniae), *zhī zǐ* (Fructus Gardeniae) and *bǎn lán gēn* (Radix Isatidis).

Xiǎo Ér Rè Sù Qīng Kǒu Fú Yè—Children's Rapid Heat-Clearing Oral Liquid

Each bottle contains: *chái hú* (Radix Bupleuri), *huáng qín* (Radix Scutellariae), *bǎn lán gēn* (Radix Isatidis), *gé gēn* (Radix Puerariae Lobatae), *jīn yín huā* (Flos Lonicerae Japonicae), *shuǐ niú jiǎo* (Cornu Bubali), *lián qiào* (Fructus Forsythiae) and *dà huáng* (Radix et Rhizoma Rhei).

Xiǎo Ér Xiāng Jú Dān—Infant Spiced Orange Pill

Each pill contains: *cāng zhú* (Rhizoma Atractylodis), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *gān cǎo* (Radix et Rhizoma Glycyrrhizae), *shān yào* (Rhizoma Dioscoreae), *bái biǎn dòu* (Semen Lablab Album), *yì yǐ rén* (Semen Coicis), *lián zǐ* (Semen Nelumbinis), *zé xiè* (Rhizoma Alismatis), *chén pí* (Pericarpium Citri Reticulatae), *shā rén* (Fructus Amomi), *mù xiāng* (Radix Aucklandiae), *fǔ bàn xià* (Rhizoma Pinelliae Praeparatum), *xiāng fù* (Rhizoma Cyperi), *zhǐ shí* (Fructus Aurantii Immaturus), *hòu pò* (Cortex Magnoliae Officinalis), *shén qū* (Massa Medicata Fermentata), *mài yá* (Fructus Hordei Germinatus), and *shān zhā* (Fructus Crataegi).

Xiǎo Ér Xiāng Jú Wán—Infant's Spiced Orange Pill

Each pill contains: *mù xiāng* (Radix Aucklandiae), *chén pí* (Pericarpium Citri Reticulatae), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *fú líng* (Poria), *shān zhā* (Fructus Crataegi), and *fǔ bàn xià* (Rhizoma Pinelliae Praeparatum).

Xiǎo Ér Xiāo Shí Piàn—Infant's Digestion-Promoting Tablet

Each tablet contains: *chǎo jī nèi jīn* (stir-fried Endothelium Corneum Gigeriae Galli), *shān zhā* (Fructus Crataegi), *chǎo shén qū* (stir-fried Massa Medicata Fermentata), *chǎo mài yá* (stir-fried Fructus Hordei Germinatus), *bīng láng* (Semen Arecae), and *chén pí* (Pericarpium Citri Reticulatae).

Xiǎo Ér Xuān Fèi Zhǐ Ké Kē Lì—Children's Lung-Ventilating Cough-Relieving Granules

Each bag contains: *má huáng* (Herba Ephedrae), *zhú yè* (Folium Phyllostachydis Henonis), *fáng fēng* (Radix Saposhnikovia), *huáng qín* (Radix Scutellariae), *jié gěng* (Radix Platycodonis), *bái jiè zǐ* (Semen Sinapis), *kǔ xìng rén* (Semen Armeniacae Amarum), *tíng lì zǐ* (Semen Lepidii), *mǎ lán* (Herba seu Radix Kalimeridis Indicae), *huáng qí* (Radix Astragali), *shān yào* (Rhizoma Dioscoreae), *shān zhā* (Fructus Crataegi),

and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

***Xiǎo Ēr Zǐ Cǎo Wán*—Children's Arnebiae Pill**

Each pill contains: *zǐ cǎo* (Radix Arnebiae), *xī hé liǔ* (Cacumen Tamaricis), *shēng má* (Rhizoma Cimicifugae), *qiāng huó* (Rhizoma et Radix Notopterygii), *jú huā* (Flos Chrysanthemi), *jīn yín huā* (Flos Lonicerae Japonicae), *zǐ huā dì dīng* (Herba Violae), *qīng dài* (Indigo Naturalis), *xióng huáng* (Realgar), *rǔ xiāng* (Olibanum), *mò yào* (Myrrha), *niú huáng* (Calculus Bovis), *xuán shēn* (Radix Scrophulariae), *zhū shā* (Cinnabaris), *hǔ pò* (Succinum), *shí jué míng* (Concha Haliotidis), *bīng piàn* (Borneolum Syntheticum), *zhè bèi mǔ* (Bulbus Fritillariae Thunbergii), *hé táo rén* (Semen Juglandis) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

***Xiǎo Jiàn Zhōng Hé Jì*—Minor Center-Fortifying Mixture**

Each mixture contains: *guì zhī* (Ramulus Cinnamomi), *bái sháo* (Radix Paeoniae Alba), *dà zǎo* (Fructus Jujubae), *shēng jiāng* (Rhizoma Zingiberis Recens), and *zhì gān cǎo* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle).

***Xiǎo Qīng Lóng Kǒu Fú Yè*—Small Green Dragon Oral Liquid**

Each bottle contains: *má huáng* (Herba Ephedrae), *guì zhī* (Ramulus Cinnamomi), *bái sháo* (Radix Paeoniae Alba), *gān jiāng* (Rhizoma Zingiberis), *xì xīn* (Radix et Rhizoma Asari), *gān cǎo* (ginseng-fried Radix et Rhizoma Glycyrrhizae), *bàn xià* (Rhizoma Pinelliae), and *wǔ wèi zǐ* (Fructus Schisandrae Chinensis).

***Xīng Nǎo Jīng Zhù Shè Yè*—Brain-Awakening Injection**

Each ampule contains: *shè xiāng* (Moschus), *zhī zǐ* (Fructus Gardeniae), *yù jīn* (Radix Curcumae), and *bīng piàn* (Borneolum Syntheticum).

Y

***Yán Suān Chuān Xiōng Qín Zhù Shè Yè*—Szechwan Lovage Rhizome Injection**

Each ampule contains: Ligustrazine Hydrochloride.

***Yáng Xián Fēng Wán*—Epilepsy Pill**

Each agent contains: *bái fán* (Alumen) 300 g, *yù jīn* (Radix Curcumae) 120 g, *jīn méng shí* (calcined Lapis Micae Aureus) 300 g, *quán xiē* (Scorpion) 600 g, *huáng lián* (Rhizoma Coptidis) 300 g, and *wū méi* (Fructus Mume) 240 g.

***Yǎng Yīn Qīng Fèi Kǒu Fú Yè*—Yin-Nourishing Lung-Clearing Liquid**

Each bottle contains: *shēng dì huáng* (Radix Rehmanniae), *chuān bèi mǔ* (Bulbus Fritillariae Cirrhosae), *mài dòng* (Radix Ophiopogonis), *bái sháo* (Radix Paeoniae Alba), *xuán shēn* (Radix Scrophulariae), *bò he* (Herba Menthae), *mǔ dān pí* (Cortex Moutan), and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

***Yī Qīng Kē Lì*—Yī Qīng Granules**

Each bag contains: *dà huáng* (Radix et Rhizoma Rhei), *huáng qín* (Radix Scutellariae) and *huáng lián* (Rhizoma Coptidis).

***Yín Huáng Kǒu Fú Yè*—Lonicera and Scutellaria Oral Liquid**

Each bottle contains: *jīn yín huā* (Flos Lonicerae Japonicae) and *huáng qín* (Radix Scutellariae).

**Yín Qiào Jiě Dú Kē Lì—Lonicera and Forsythia Toxins-Resolving Granules**

Each bag contains: *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *bò he* (Herba Menthae), *jīng jiè* (Herba Schizonepetae), *dàn dòu chǐ* (Semen Sojae Praeparatum), *niú bàng zǐ* (Fructus Arctii), *jié gěng* (Radix Platycodonis), *dàn zhú yè* (Herba Lophatheri) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Yín Qiào Sǎn—Lonicera and Forsythia Powder

Each bag contains: *jīn yín huā* (Flos Lonicerae Japonicae), *lián qiào* (Fructus Forsythiae), *jié gěng* (Radix Platycodonis), *bò he* (Herba Menthae), *niú bàng zǐ* (Fructus Arctii), *jīng jiè* (Herba Schizonepetae), *zhī mǔ* (Rhizoma Anemarrhenae), *lú gēn* (Rhizoma Phragmitis), *zhú yè* (Folium Phyllostachydis Henonis), *dàn dòu chǐ* (Semen Sojae Praeparatum), and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Yīn Zhī Huáng Zhù Shè Yè—Virgate Wormwood, Gardenia and Scutellaria Injection

Each ampule contains: *yīn chén* (Herba Artemisiae Scopariae), *zhī zǐ* (Fructus Gardeniae), *huáng qín* (Radix Scutellariae), and *jīn yín huā* (Flos Lonicerae Japonicae).

Yòu Guī Wán—Right-Restoring Pill

Each pill contains: *shú dì huáng* (Radix Rehmanniae Praeparata), *fù zǐ* (Radix Aconiti Lateralis Praeparata), *ròu guì* (Cortex Cinnamomi), *tù sī zǐ* (Semen Cuscutae), *gǒu qǐ* (Fructus Lycii), *dù zhòng* (Cortex Eucommiae), *huái shān yào* (Sclerotium Poriae Paradicis), *shān zhū yú* (Fructus Corni), *jiǔ chǎo dāng guī* (wine-fried Radix Angelicae Sinensis), and *lù jiǎo jiāo* (Colla Cornus Cervi).

Yù Píng Fēng Kē Lì—Jade Wind-Barrier Granules

Each bag contains: *huáng qí* (Radix Astragali), *bái zhú* (Rhizoma Atractylodis Macrocephalae) and *fáng fēng* (Radix Saposhnikoviae).

Yù Píng Fēng Kǒu Fú Yè—Jade Wind-Barrier Oral Liquid

Each bottle contains: *huáng qí* (Radix Astragali), *fáng fēng* (Radix Saposhnikoviae), and *bái zhú* (dry-fried Rhizoma Atractylodis Macrocephalae).

Yù Píng Fēng Sǎn—Jade Wind-Barrier Powder

Each bag contains: *huáng qí* (Radix Astragali), *bái zhú* (Rhizoma Atractylodis Macrocephalae), and *fáng fēng* (Radix Saposhnikoviae).

Z**Zhī Bǎi Dì Huáng Wán—Anemarrhena, Phellodendron and Rehmannia Pill**

Each pill contains: *zhī mǔ* (Rhizoma Anemarrhenae), *huáng bǎi* (Cortex Phellodendri Chinensis), *shú dì huáng* (Radix Rehmanniae Praeparata), *shān zhū yú* (prepared Fructus Corni), *mǔ dān pí* (Cortex Moutan), *shān yào* (Rhizoma Dioscoreae), *fú líng* (Poria) and *zé xiè* (Rhizoma Alismatis). Adjuvants are *huá shí fēn* (Pulvis Talci), *chóng bái là* (Cera Chinensis) and starch.

Zhī Bǎi Dì Huáng Wán—Anemarrhena, Phellodendron and Rehmannia Pill

Each pill contains: *shú dì huáng* (Radix Rehmanniae Praeparata), *shān zhū yú* (processed Fructus Corni), *shān yào* (Rhizoma Dioscoreae), *mǔ dān pí* (Cortex Moutan), *fú líng* (Poria), *zé xiè* (Rhizoma Alismatis), *zhī*

mǔ (Rhizoma Anemarrhenae), and *huáng bǎi* (Cortex Phellodendri Chinensis).

Zhǐ Shí Dǎo Zhì Wán—Immature Bitter Orange Stagnation-Moving Pill

Each pill contains: *dà huáng* (Radix et Rhizoma Rhei), *zhǐ shí* (Fructus Aurantii Immaturus), *jiāo shén qū* (Massa Medicata Fermentata Praeparata), *huáng lián* (Rhizoma Coptidis), *fú líng* (Poria), *bái zhú* (Rhizoma Atractylodis Macrocephalae), *huáng qín* (Radix Scutellariae), and *zé xiè* (Rhizoma Alismatis).

Zhǐ Zǐ Jīn Huā Wán—Fructus Gardeniae and Honeysuckle Flower Pill

Each pill contains: *zhǐ zǐ* (Fructus Gardeniae), *jīn yín huā* (Flos Lonicerae Japonicae), *huáng qín* (Radix Scutellariae), *huáng bǎi* (Cortex Phellodendri Chinensis), *dà huáng* (Radix et Rhizoma Rhei), *huáng lián* (Rhizoma Coptidis), *zhī mǔ* (Rhizoma Anemarrhenae), and *tiān huā fēn* (Radix Trichosanthis).

Zhū Huáng Sǎn—Yellow Pearl Powder

Each bottle contains: *zhēn zhū* (Margarita), and *niú huáng* (Calculus Bovis).

Zhú Lì (Bamboo Juice)

Zǐ Xuě Dān—Purple Snow Elixir

Each bottle contains: *shí gāo* (Gypsum Fibrosum), *shēng má* (Rhizoma Cimicifugae), *hán shuǐ shí* (Glauberitum), *dīng xiāng* (Flos Caryophylli), *huá shí* (Talcum), *máng xiāo* (Natrii Sulfas), *cí shí* (Magnetitum), *xiāo shí* (saltpeter, potassium nitrate) *xuán shēn* (Radix Scrophulariae), *shuǐ niú jiǎo* (Cornu Bubali), *mù xiāng* (Radix Aucklandiae), *líng yáng jiǎo* (Cornu Saigae Tataricae), *chén xiāng* (Lignum Aquilariae Resinatum), *shè xiāng* (Moschus), *zhū shā* (Cinnabaris) and *gān cǎo* (Radix et Rhizoma Glycyrrhizae).

Zǐ Xuě Jiāo Náng—Purple Snow Capsules

Each capsule contains: *shí gāo* (Gypsum Fibrosum), *hán shuǐ shí* (Glauberitum), *huá shí* (Talcum), *cí shí* (Magnetitum), *xuán shēn* (Radix Scrophulariae), *mù xiāng* (Radix Aucklandiae), *chén xiāng* (Lignum Aquilariae Resinatum), *shēng má* (Rhizoma Cimicifugae), the concentrated powder of *shuǐ niú jiǎo* (Cornu Bubali), *líng yáng jiǎo* (Cornu Saigae Tataricae), *shè xiāng* (Moschus), and *zhū shā* (Cinnabaris).

Zuǒ Guī Wán—Left-Restoring Pill

Each pill contains: *shú dì huáng* (Radix Rehmanniae Praeparata), *chǎo shān yào* (dry-fried Rhizoma Dioscoreae), *shān zhū yú* (Fructus Corni), *tù sī zǐ* (Semen Cuscutae), *lù jiǎo jiāo* (Colla Cornus Cervi), *guī jiǎ jiāo* (Colla Carapax et Plastrum Testudinis), *gǒu qǐ zǐ* (Fructus Lycii), *chǎo niú xī* (dry-fried Radix Achyranthis Bidentatae), and *fú líng* (Poria).

Appendix IV

Cross-Reference of Disease Names in Chinese and Western Medicine

Part II Lung Diseases

Names used in Chapters	Chinese medicine	Western medicine
Common Cold (<i>Gǎn Mào</i>)	Seasonal Common Cold	Acute Infections of the Upper Respiratory Tract
	Influenza	Influenza
Cough (<i>Ké Sòu</i>)	Cough	Tracheitis
		Bronchitis
Pneumonia (<i>Fèi Yán Chuǎn Sòu</i>)	<i>Fèi Yán Chuǎn Sòu</i>	Pneumonia
Asthma (<i>Xiào Chuǎn</i>)	Asthma	Bronchial Asthma
Recurrent Respiratory Infections (<i>Fǎn Fù Hū Xī Dào Gǎn Rǎn</i>)	<i>Tǐ Xū Gǎn Mào</i>	Recurrent Respiratory Infections
	<i>Xū Rén Gǎn Mào</i>	

Part III Spleen Diseases

Names used in Chapters	Chinese medicine	Western medicine
Thrush (<i>É Kǒu Chuāng</i>)	Thrush	Thrush
Aphthae (<i>Kǒu Chuāng</i>)	<i>Kǒu Chuāng</i>	Stomatitis
		Ulcerative Stomatitis
		Herpetic Gingivostomatitis
		Catarrhal Gingivostomatitis
		Angular Stomatitis
Stomach-Epigastric Pain (<i>Wèi Wǎn Tòng</i>)	<i>Wèi Wǎn Tòng</i>	Acute or Chronic Gastritis
		Duodenitis
		Gastroduodenal Ulcer
		Functional Dyspepsia
Anorexia (<i>Yǎn Shí</i>)	Anorexia	Anorexia
Diarrhea (<i>Xiè Xiè</i>)	<i>Xiè Xiè</i>	Diarrhea

Continued

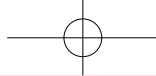
Names used in Chapters	Chinese medicine	Western medicine
Food Accumulation (<i>Jī Zhì</i>)	Food Accumulation	Digestive Disorder
Infantile Malnutrition (<i>Gān Zhèng</i>)	Infantile Malnutrition	Protein-Energy Malnutrition
Nutritional Iron Deficiency Anemia (<i>Quē Tiě Xìng Pín Xuè</i>)	Blood Deficiency	Nutritional Iron Deficiency Anemia

Part IV Heart-Liver Diseases

Names used in Chapters	Chinese medicine	Western medicine
Sweating Syndrome (<i>Hàn Zhèng</i>)	Sweating Syndrome	Dysfunction of the Autonomic Nervous System
Attention Deficit Hyperactivity Disorder (<i>Zhù Yì Lì Quē Xiàn Duō Dòng Zhàng Ài</i>)	Visceral Anxiety (<i>Zàng Zào</i>)	Syndromes of Attention Deficit Defects
	Restless Movement	Hyperactive Syndrome
	Poor Memory	Childhood Hyperkinetic Syndrome
	A Loss of Intelligence	Minimal Brain Damage and Minimal Brain Dysfunction Syndrome (MBD)
Tourette Syndrome (Multiple Tic Disease) (<i>Duō Fā Xìng Chōu Chù Zhèng</i>)	Chronic Infantile Convulsion	Tourette's Syndrome
	Convulsion Disorder	Gilles de la Tourette Syndrome
Infantile Convulsions (<i>Jīng Fēng</i>)	Infantile Convulsions	Convulsive Disorders
		Seizure Disorders
Epilepsy (<i>Diān Xián</i>)	Epilepsy	Epilepsy

Part V Kidney Diseases

Names used in Chapters	Chinese medicine	Western medicine
Acute Glomerulonephritis (<i>Jí Xìng Shèn Xiǎo Qiú Shèn Yán</i>)	Edema (<i>Shuǐ Zhǒng</i>)	Acute Glomerulonephritis
	Hematuria (<i>Niào Xuè</i>)	
Nephrotic Syndrome (<i>Shèn Bìng Zōng Hé Zhēng</i>)	Edema Disease	Nephrotic Syndrome
	Yin Edema	
Frequent Urination (<i>Niào Pín</i>)	Strangury	Frequent Urination



Continued

Names used in Chapters	Chinese medicine	Western medicine
Enuresis (Yí Niào)	Enuresis	Enuresis
		Nocturnal Enuresis
Cerebral Palsy (Nǎo Xíng Tān Huàn)	Five Stiffnesses (Wǔ Yǐng)	Cerebral Palsy
	Five Retardations (Wǔ Chí)	
	Five kinds of Flaccidity (Wǔ Rǎn)	
Sexual Precocity (Xíng Zǎo Shú)	Breast Hypertrophy (Rǔ Lì)	Sexual Precocity

Part VI Infectious Diseases

Names used in Chapters	Chinese medicine	Western medicine
Epidemic Parotitis/Mumps (Liú Xíng Xíng Sāi Xiàn Yán)	Zhà Sāi	Epidemic Parotitis /Mumps
Exanthema Subitum (Roseola Infantum) (Yòu Ér Jí Zhěn)	Fake Measles	Exanthema Subitum
	Milk Measles	
	Fever Rash	
Measles (Má Zhěn)	Measles	Measles
		Rubeola
Chickenpox (Shuǐ Dòu)	Chickenpox	Chickenpox
		Varicella
Malaria (Nüè Jí)	Malaria	Malaria
Hand, Foot and Mouth Disease (Shǒu Zú Kǒu Bìng)	Hand, Foot and Mouth Disease	Hand, Foot and Mouth Disease
Rubella (Fēng Zhěn)	Rubella	Rubella
AIDS (Ài Zī Bìng)	AIDS	Acquired Immune Deficiency Syndrome

Part VII Neonatal Diseases

Names used in Chapters	Chinese medicine	Western medicine
Fetal Feebleness (<i>Tāi Qiè</i>)	Fetal Feebleness	Fetal Feebleness
Sclerema Neonatorum	Sclerema Neonatorum	Neonatal Cold Injury Syndrome
Neonatal Scleredema (<i>Yīng Zhǒng Zhèng</i>)	Neonatal Scleredema	Neonatal Sebum Sclerosis
Neonatal Jaundice (<i>Tāi Huáng</i>)	<i>Tāi Huáng</i> (Yellow Fetus)	Neonatal Jaundice
	<i>Tāi Dan</i> (Jaundiced Fetus)	

Part VIII Other Diseases

Names used in Chapters	Chinese medicine	Western medicine
Anaphylactoid Purpura (<i>Guò Mǐn Xìng Zǐ Diān</i>)	Purpura	Anaphylactoid Purpura
		Henoch-Schonlein Purpura (HSP)
Mucocutaneous Lymph Node Syndrome (Kawasaki Disease) (<i>Pí Fū Nián Mó Lín Bā Jié Zōng Hé Zhēng</i>)	Warm Disease	Mucocutaneous Lymph Node Syndrome
		Kawasaki Disease
Vitamin D Deficiency Rickets (<i>Wéi Shēng Sù Dì Quē Fá Xìng Gōu Lóu Bìng</i>)	Night Terrors	Rickets
	Sweating Syndrome	
	Five kinds of Retardation	
Infantile Eczema (<i>Yīng Ér Shī Zhěn</i>)	Milk Dermatitis	Infantile Eczema
	Fetal Sores	

Appendix V

Answer Key

Chapter 1

1. A 2. C 3. A 4. E 5. D

Chapter 2

1. A 2. E

Chapter 3

1. A 2. B 3. A 4. C 5. D

Chapter 4

1. C 2. B 3. E 4. D 5. A

Chapter 5

1. A 2. D 3. C 4. A 5. E

Chapter 6

1. C 2. D 3. A 4. B 5. E

Chapter 7

1. A 2. D 3. C 4. E 5. B

Chapter 8

1. C 2. A 3. D 4. E 5. C

Chapter 9

1. D 2. C 3. B 4. E 5. A

Chapter 10

1. B 2. E 3. E 4. B 5. C 6. E

Chapter 11

1. A 2. D 3. D 4. A 5. C

Chapter 12

1. A 2. D 3. D 4. C 5. A

Chapter 13

1. D 2. E 3. C

Chapter 14

1. A 2. B 3. C 4. B

Chapter 15

1. E 2. B 3. D 4. B

Chapter 16

1. C 2. A 3. A

Chapter 17

1. E 2. B 3. D 4. A 5. E

Chapter 18

1. D 2. C 3. B 4. E 5. D

Chapter 19

1. B 2. A 3. B 4. A 5. C

Chapter 20

1. C 2. B 3. B 4. C 5. A

Chapter 21

1. C 2. D 3. E 4. A 5. B

Chapter 22

1. B 2. D 3. E 4. C 5. A

Chapter 23

1. A 2. E 3. C 4. B 5. D

Chapter 24

1. B 2. A 3. B 4. C 5. C 6. E 7. C 8. D

Chapter 25

1. C 2. C 3. A 4. B 5. E

Chapter 26

1. B 2. C 3. B 4. E 5. C

Chapter 27

1. C 2. C 3. B 4. E 5. C

Chapter 28

1. E 2. A 3. C 4. A 5. D

Chapter 29

1. B 2. A 3. D 4. B 5. C

Chapter 30

1. B 2. A 3. E 4. B 5. B

Chapter 31

1. D 2. C 3. D 4. C 5. A

Chapter 32

1. B 2. A 3. D 4. C 5. E

Chapter 33

1. D 2. C 3. B

Chapter 34

1. C 2. D 3. B 4. B

Chapter 35

1. A 2. A 3. E 4. B

Chapter 36

1. C 2. B 3. D 4. E 5. A

Chapter 37

1. A 2. C 3. E 4. B

Chapter 38

1. B 2. D 3. C 4. E

Chapter 39

1. A 2. D 3. B

Chapter 40

1. E 2. D 3. B

Chapter 41

1. B 2. A 3. A

Chapter 42

1. E 2. C 3. D

Chapter 43

1. D 2. C 3. E 4. B 5. A

Chapter 44

1. A 2. C 3. E 4. C 5. B

Chapter 45

1. B 2. D 3. A 4. C 5. A

Chapter 46

1. B 2. C 3. E 4. D 5. D



Index

A

acquired immune deficiency
 syndrome 742
acute gastritis 283
acute glomerulonephritis 508
acute infantile convulsions 456
ài zī bìng 742
AIDS 742
anaphylactoid purpura 808, 818
anorexia 300
asthma 212
attention deficit hyperactivity
 disorder 420

B

Bā Zhēn Tāng 370
Bā Zhèng Sǎn 552, 570, 578
bǎi huì 466, 498, 760
Bái Tōng Tāng 651
Bái Tóu Wēng Tāng 464
bǎn mén 710, 753, 760
Bǎo Hé Wán 162, 325, 345
Bǎo Yuán Tāng 772
Bì Wēn Dān 17
Biē Jiǎ Yīn 735, 739, 740
Bù Huàn Jīn Zhèng Qì Sǎn 304
Bǔ Shèn Dì Huáng Wán 243,
 770, 844
Bǔ Zhōng Yì Qì Tāng 587

C

cerebral malaria 724

Chái Hú Gé Gēn Tāng 709
Chái Hú Shū Gān Sǎn 290
cháng qiáng 497
chickenpox 676, 678
chronic gastritis 283
chronic infantile convulsions
 468
chronic malaria 735
common cold 146, 657
cough 168

D

Dà Bǔ Yīn Wán 618
Dà Chái Hú Tāng 715
dà cháng 197, 753, 760
Dà Dìng Fēng Zhū 447, 473
Dà Qīng Lóng Tāng 222
Dá Yuán Yīn 732
dà zhuī 461, 609, 611, 731, 733,
 760
Dān Zhī Xiāo Yáo Sǎn 624
Dāng Guī Sì Nì Tāng 783, 789
Dāng Guī Yīn Zǐ 750
Dǎo Chì Sǎn 578
Dí Tán Tāng 491
diān xián 482
diarrhea 315, 743
Dìng Xián Wán 492

E

edema 375, 508, 533
enuresis 580
epidemic parotitis 704

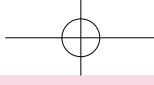
epilepsy 482
Èr Chén Tāng 160, 608, 614
èr rén shàng mǎ 498
Èr Zhì Wán 523
exanthema subitum 655, 657

F

falciparum malaria 723, 724,
 726
Fáng Jǐ Fú Líng Tāng 542
Fáng Jǐ Huáng Qí Tāng 375, 541,
 549
Féi Ēr Wán 366, 752
fèi jīng 175, 197, 669, 670, 710,
 829
fèi shù 175, 226, 842
fēng chí 600, 643
fēng lóng 497
fēng zhěn 665
fetal feebleness 743, 775, 766
finger venules 100
five kinds of flaccidity 599, 743
five retardations 599
five stiffnesses 599
food accumulation 338
frequent urination 566
Fú Zhèng Sǎn 563
Fù Zǐ Lǐ Zhōng Tāng 328, 752
Fù Zǐ Xiè Xīn Tāng 521, 735

G

gān jīng 428, 710, 712
Gān Lù Xiāo Dú Dān 551, 692



Gé Gēn Huáng Qín Huáng Lián
Tāng 321, 752
glomerulonephritis 819
Gù Zhēn Tāng 471
Guī Lù Èr Xiān Gāo 847
Guī Pí Tāng 392, 428, 815, 856
Guī Sháo Dì Huáng Tāng 527
Guì Zhī Jiā Lóng Gǔ Mǔ Lì Tāng
628
Guì Zhī Tāng 629

H

hàn zhèng 406
Hé Chē Bā Wèi Wán 496
hé gǔ 461, 756, 760
hematuria 508, 527, 820
Henoch-Schonlein purpura 808
HFMD 687
hòu xī 497
Hǔ Pò Bào Lóng Wán 466
Huá Gài Sǎn 192
Huà Tán Sǎn Jié Fāng 626
Huǎn Gān Lǐ Pí Tāng 470
Huáng Lián Jiě Dú Tāng 198,
464, 755
Huáng Lián Wēn Dǎn Tāng
430
Huáng Qí Guì Zhī Wǔ Wù Tāng
241, 543
Huáng Qí Jiàn Zhōng Tāng
292
Huò Xiāng Zhèng Qì Sǎn 323
hyperlipidemia 533
hypoproteinemia 533

I

impetigo 678
infantile cerebral palsy 599

infantile convulsions 454
infantile eczema 850, 859
infantile malnutrition 743
influenza 146, 727

J

Jǐ Jiāo Lì Huáng Wán 520, 550
Jié Nüè Qī Bǎo Yīn 729
Jīn Guì Shèn Qì Wán 228
Jīng Fáng Bì Dú Sǎn 152
Jīng Fèi Cǎo Sǎn 173

K

kǎn gōng 153
Kawasaki disease 824

L

Lián Qiào Bì Dú Sǎn 812
Liáng Fù Wán 286
Liáng Gé Sǎn 271
life pass 100
Líng Jiǎo Gōu Téng Tāng 203,
463, 519, 648, 694, 734, 798
liù fǔ 155, 221, 464, 670, 731,
829
Liù Jūn Zǐ Tāng 179, 495
Liù Wèi Dì Huáng Wán 274, 546,
605, 819, 820
Lóng Dǎn Xiè Gān Tāng 519, 588,
714

M

Má Huáng Lián Qiào Chì Xiǎo
Dòu Tāng 515
Má Huáng Tāng 548
Má Xíng Shí Gān Tāng 194, 198,
220, 695, 755
má zhěn 634

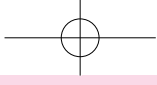
Mài Wèi Dì Huáng Wán 229
malaria 738
malignant tertian malaria 724
malnutrition in children 356
màn pí fēng 454
measles 634
Mǔ Lì Sǎn 410
mucocutaneous lymph node
syndrome 824
mumps 704, 718, 743

N

nèi bā guà 221, 226, 290, 309,
348, 474, 760
neonatal scleredema 778, 780,
781, 788
nephrotic syndrome 533
Niú Huáng Qīng Xīn Wán 203
nocturnal enuresis 584
nüè jí 722
nutritional iron deficiency anemia
383

P

peptic ulcers 283
pí jīng 201, 293, 369, 474, 760,
771, 842, 844, 845
pneumonia 187, 636, 743, 784
polyuria 566
precocious puberty 627
primary nephrotic syndrome
533
proteinuria 508, 820
Pǔ Jì Xiǎo Dú Yīn 159, 710
pulmonary tuberculosis 727
pure yang 52
purpura 818, 820

**Q**

Qǐ Jú Dì Huáng Wán 427
qi pass 100
Qīng Gān Dá Yù Tāng 443
Qīng Jiě Tòu Biǎo Tāng 642
Qīng Jīn Huà Tán Tāng 176
Qīng Rè Tòu Shā Tāng 672
Qīng Wèi Jiě Dú Tāng 681
Qīng Wēn Bào Dú Yīn 462, 693,
712, 757, 830, 835
Qīng Yíng Tāng 824, 825
Qīng Zhàng Tāng 732
Qīng Zhōng Tāng 289
Quán Chóng Tāng 750
quartan malaria 729

R

recurrent respiratory infections
237
Rén Shēn Wú Méi Tāng 330
Rén Shēn Wú Wèi Zǐ Tāng 200,
227, 841
rén zhōng 461, 465
rickets 837, 847
roseola infantum 655
rubella 665

S

Sān Ào Tāng 160, 177
sān guān 201, 753
Sān Rén Tāng 676
Sāng Jú Yīn 174
sclerema neonatorum 778, 781,
787, 788
Shā Shēn Mài Dōng Tāng 180,
199, 831, 835
Shēn Fù Lóng Mǔ Jiù Nì Tāng

696

Shēn Fù Tāng 520, 784
shèn jīng 428, 760, 771
Shēn Líng Bái Zhú Sǎn 524, 542,
752, 805
Shēng Mài Sǎn 331
Shí Hú Yè Guāng Wán 372
Shí Pí Yīn 544
Shí Quán Dà Bǔ Tāng 735
Shí Wèi Wēn Dǎn Tāng 445
shí xuān 461, 731
shuǐ gōu 497, 498
sì fèng 135, 723
Sì Jūn Zǐ Tāng 819, 820
Sì Shén Wán 328, 752
stomach-epigastric pain 279
Sū Zǐ Jiàng Qì Tāng 224
Suō Quán Wán 572, 587
sweating syndrome 406

T

tài chōng 461
tāi qiè 766
tài yáng 153
Táo Hóng Sì Wù Tāng 553, 820
tertian malaria 729
thrush 743
tiān hé shuǐ 464, 643, 669, 710,
712, 731, 844
tiān shū 731
Tiáo Yuán Sǎn 607
Tōng Qiào Huó Xuè Tāng 494,
608, 614
tongue 91
tongue coating 92
Tourette syndrome 438
Tù Sī Zǐ Wán 586

U

urinary stones 566
urinary tract infections 566

V

vitamin D deficiency rickets
837

W

wài láo gōng 226
wèi jīng 290, 348, 369, 712
Wēn Dǎn Tāng 521, 554, 735
wind papules 665
wind pass 100
Wú Hǔ Tāng 196
Wǔ Líng Sǎn 375, 541
wǔ rǎn 599
Wǔ Wèi Xiǎo Dú Yīn 517, 551
wǔ yìng 599
wǔ zhǐ jié 498

X

Xī Jiǎo Dì Huáng Tāng 813,
818
Xiāng Shā Zhǐ Zhú Wán 740
Xiǎo Chái Hú Tāng 729
Xiǎo Ēr Huà Shī Tāng 854
Xiāo Fēng Dǎo Chì Tāng 853
Xiāo Fēng Sǎn 749
Xiǎo Jì Yīn Zǐ 517, 527
Xiǎo Luǒ Wán 754
Xiāo Rǔ Wán 345
Xiè Huáng Sǎn 414
Xiè Xīn Dǎo Chì Sǎn 272
Xīn Jiā Xiāng Rú Yīn 156
Xuān Dú Fā Biǎo Tāng 641, 650
Xuè Fǔ Zhú Yū Tāng 754, 797



Y

yáng líng quán 497

Yǎng Wèi Zēng Yè Tāng 308

Yì Gōng Sǎn 44, 306

yí niào 580

Yì Wèi Tāng 293

Yīn Chén Hāo Tāng 795, 803

Yīn Chén Lǐ Zhōng Tāng 805

yin edema 533

Yín Qiào Huǒ Yù Tāng 663

Yín Qiào Sǎn 154, 159, 194, 269,
460, 548, 562, 658, 663, 668, 676,
680, 828

yìng zhǒng zhèng 778

Yòu Guī Wán 395

Yù Píng Fēng Sǎn 242, 410, 821,
846

Z

zhà sāi 704

Zhèn Jīng Wán 163, 490

Zhēn Wǔ Tāng 543

Zhī Bǎi Dì Huáng Tāng 596

Zhī Bǎi Dì Huáng Wán 258, 523,
528, 545, 574, 623, 816, 820

Zhǐ Shí Xiǎo Pǐ Wán 739, 740

Zhú Hán Dàng Jīng Tāng 471

Zhú Yè Shí Gāo Tāng 825

Zī Shēng Jiàn Pí Wán 363, 752

zú sǎn lǐ 731, 733, 760, 773, 799,
844

Zuǒ Guī Wán 394