

**METHODS IN PHARMACOLOGY
AND TOXICOLOGY**

Series Editor

James Y. Kang

**Sichuan University and University of Louisville
Prospect, Kentucky, USA**

For further volumes:

<http://www.springer.com/series/7653>


Herbal Medicines

New Horizons

Edited by

Akio Inui

*Department of Psychosomatic Internal Medicine,
Kagoshima University Graduate School of Medical & Dental Sciences,
Kagoshima, Japan*

 **Humana Press**

Editor

Akio Inui

Department of Psychosomatic Internal Medicine
Kagoshima University Graduate School of Medical
& Dental Sciences
Kagoshima, Japan

ISSN 1557-2153 ISSN 1940-6053 (electronic)
Methods in Pharmacology and Toxicology
ISBN 978-1-4939-4000-4 ISBN 978-1-4939-4002-8 (eBook)
DOI 10.1007/978-1-4939-4002-8

Library of Congress Control Number: 2016946606

© Springer Science+Business Media New York 2016

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made.

Printed on acid-free paper

This Humana Press imprint is published by Springer Nature
The registered company is Springer Science+Business Media LLC New York

Preface

Complementary and alternative medicine continues to be used and may be included in cancer treatment with holistic spiritual practice, physical exercise, and herbal medicine for enhanced tumoricidal activity, reduction in treatment-related adverse events, and better quality of life. Herbal medicine has long been practiced in China, Korea, Japan, and other countries to achieve its key goal of restoring the balance of energy in the body.

Throughout the history of representative herbal medicine, traditional Chinese medicine, and other alternatives such as Japanese Kampo, the basic theories and the methods of diagnosis and treatment have differed considerably from those of Western medicine. Western medicine depends on disease-based diagnosis, while traditional Chinese medicine emphasizes patient-based diagnosis. Kampo is based on traditional Chinese medicine but is adapted to the Japanese culture. It can be considered as a simplified, positivistic, and pragmatic version of Chinese herbal medicine. Kampo practitioners treat patients based on the Kampo diagnosis (Sho: the patient's symptoms at a given moment) and choose the most suitable formula. The relationship between these steps is analogous to a lock and key; each pathological condition is related to its prescription. More than 200 Kampo recipes composed of mixtures of 2–15 components have been reported. Approximately 350 different components are used for these recipes. Most of them are medicinal herbs, but fungi, animal components, and minerals are also used. Approximately 120 of these crude drugs are listed in the Japanese Pharmacopoeia, and one-third of them are also listed in WHO monographs.

Herbal medicine continues to evolve in daily lifestyle and the treatment of cancer and many other illnesses. Herbal medicine has a significant effect on reducing fatigue and pain, improving respiratory tract infections and gastrointestinal problems including diarrhea, nausea, and vomiting, protecting liver function, and ameliorating the symptoms of cachexia. The stringent quality control of herbal medicine such as Kampo and reproducibility of preclinical findings, together with few adverse events, have made herbal medicine more and more attractive for the management of intractable diseases as well as common health problems. The multicomponent herbal medicine capable of targeting multiple sites could be useful for future drug discovery. Mechanistic studies and identification of active compounds could lead to new discoveries in biological and biomedical sciences.

This book summarizes the current state and translational aspect of herbal medicine in modern society. It provides a new horizon of herbal medicine to help establishing the rational therapy for the patients.

Kagoshima, Japan

Akio Inui

Contents

<i>Preface</i>	v
<i>Contributors</i>	ix
1 Chinese Herbal Medicine Including Historical Aspects..... <i>Shih-Liang Chang</i>	1
2 Kampo Diagnosis Based on Sho..... <i>Mosaburo Kainuma</i>	9
3 Pain and Herbal Medicine: Effectiveness of Japanese Kampo Medicines on Pains Associated with Cancer Patients..... <i>Yasuhito Uezono and Kanako Miyano</i>	19
4 Gastrointestinal Surgery and Herbal Medicine, Including Rikkunshito..... <i>Yasubiro Miyazaki, Shuji Takiguchi, Tsuyoshi Takahashi, Yukinori Kurokawa, Tomoki Makino, Makoto Yamasaki, Kiyokazu Nakajima, Masaki Mori, and Yuichiro Doki</i>	37
5 Constipation and Herbal Medicine..... <i>Norio Iizuka</i>	53
6 Odontopathy and Herbal Medicine..... <i>Kojiro Yamaguchi and Tsuyoshi Sugiura</i>	67
7 Menopausal Symptoms and the Kampo Medicine: Tokishakuyakusan, Kamishoyosan, and Keishibukuryogan..... <i>Masakazu Terauchi and Toshiro Kubota</i>	81
8 Fatigue and Kampo (Japanese Herbal) Medicines: Hochuekkito and Juzentaihoto..... <i>Jun-ichi Yamakawa, Junji Moriya, and Junji Kobayashi</i>	97
9 Atopic Dermatitis and Chinese Medicine..... <i>Hsiewe Ying Tan and George Binh Lenon</i>	113
10 Rikkunshito and Ghrelin..... <i>Hiroshi Takeda, Shunsuke Ohnishi, Koji Nakagawa, Naoto Okubo, Chihiro Yamada, Chiharu Sadakane, Yayoi Saegusa, Miwa Nahata, and Tomohisa Hattori</i>	135
11 Daikenchuto and GI Disorders..... <i>Toru Kono, Mitsuo Shimada, Masahiro Yamamoto, and Yoshio Kase</i>	165
12 Memory/Learning, Dementia, and Kampo..... <i>Kinzo Matsumoto and Hironori Fujiwara</i>	181
13 Inchinkoto and Jaundice..... <i>Junichi Shoda, Eiji Warabi, Kosuke Okada, and Masahiro Yamamoto</i>	207
14 Chinese Herbal Medicine: Perspectives..... <i>Juei-Tang Cheng</i>	225

15	Japanese Kampo Medicine: Perspectives.....	237
	<i>Hajime Suzuki and Akio Inui</i>	
	Erratum	E1
	<i>Index</i>	257

Contributors

- SHIH-LIANG CHANG • *Department of Medical Botanicals and Health Applications, Da-Yeh University, Dacun, Changhua, Taiwan; School of Chinese Medicine, China Medical University, Taichung, Taiwan*
- JUEI-TANG CHENG • *Department of Medical Research, Chi-Mei Medical Center, Tainan City, Taiwan*
- YUICHIRO DOKI • *Department of Gastroenterological Surgery, Osaka University Graduate School of Medicine, Osaka, Japan*
- HIRONORI FUJIWARA • *Division of Medicinal Pharmacology, Department of Bioscience, Institute of Natural Medicine, University of Toyama, Toyama, Japan*
- TOMOHISA HATTORI • *Tsumura Research Laboratories, Tsumura & Co., Ibaraki, Japan*
- NORIO IIZUKA • *Department of Kampo Medicine, Hiroshima university, Ube, Yamaguchi, Japan*
- AKIO INUI • *Department of Psychosomatic Internal Medicine, Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima, Japan*
- MOSABURO KAINUMA • *Community Medicine Education Unit, Graduate School of Medical Science, Kyushu University, Higashi-ku, Fukuoka City, Japan*
- YOSHIO KASE • *Tsumura Research Laboratories, Kampo Scientific Strategies Division, Tsumura & Co., Ibaraki, Japan*
- JUNJI KOBAYASHI • *Department of General Medicine, Kanazawa Medical University, Ishikawa, Japan*
- TORU KONO • *Center for Clinical and Biomedical Research, Sapporo Higashi Tokushukai Hospital, Sapporo, Hokkaido, Japan; Department of Pathophysiology and Therapeutics, Faculty of Pharmaceutical Sciences, Hokkaido University, Sapporo, Hokkaido, Japan; Department of Surgery, Institute of Health Biosciences, The University of Tokushima Graduate School of Medicine, Tokushima, Japan*
- TOSHIRO KUBOTA • *Department of Obstetrics and Gynecology, Tokyo Medical and Dental University, Tokyo, Japan*
- YUKINORI KUROKAWA • *Department of Gastroenterological Surgery, Osaka University Graduate School of Medicine, Osaka, Japan*
- GEORGE BINH LENON • *School of Health and Biomedical Sciences, RMIT University, VIC, Australia*
- TOMOKI MAKINO • *Department of Gastroenterological Surgery, Osaka University Graduate School of Medicine, Osaka, Japan*
- KINZO MATSUMOTO • *Division of Medicinal Pharmacology, Department of Bioscience, Institute of Natural Medicine, University of Toyama, Toyama, Japan*
- KANAKO MIYANO • *Division of Cancer Pathophysiology, National Cancer Center Research Institute, Tokyo, Japan*
- YASUHIRO MIYAZAKI • *Department of Gastroenterological Surgery, Osaka University Graduate School of Medicine, Osaka, Japan*
- MASAKI MORI • *Department of Gastroenterological Surgery, Osaka University Graduate School of Medicine, Osaka, Japan*
- JUNJI MORIYA • *Department of General Medicine, Kanazawa Medical University, Ishikawa, Japan*

- MIWA NAHATA • *Tsumura Research Laboratories, Tsumura & Co., Ibaraki, Japan*
- KOJI NAKAGAWA • *Pathophysiology and Therapeutics, Hokkaido University, Faculty of Pharmaceutical Sciences, Sapporo, Hokkaido, Japan*
- KIYOKAZU NAKAJIMA • *Department of Gastroenterological Surgery, Osaka University Graduate School of Medicine, Osaka, Japan*
- SHUNSUKE OHNISHI • *Gastroenterology and Hepatology, Hokkaido University Graduate School of Medicine, Sapporo, Hokkaido, Japan*
- KOSUKE OKADA • *Division of Medical Sciences, Institute of Clinical Medicine, University of Tsukuba, Tsukuba, Ibaraki, Japan*
- NAOTO OKUBO • *Pathophysiology and Therapeutics, Hokkaido University, Faculty of Pharmaceutical Sciences, Sapporo, Hokkaido, Japan*
- CHIHARU SADAKANE • *Tsumura Research Laboratories, Tsumura & Co., Ibaraki, Japan*
- YAYOI SAEGUSA • *Tsumura Research Laboratories, Tsumura & Co., Ami, Ibaraki, Japan*
- MITSUO SHIMADA • *Department of Surgery, Institute of Health Biosciences, The University of Tokushima Graduate School of Medicine, Tokushima, Japan*
- JUNICHI SHODA • *Division of Medical Sciences, Institute of Clinical Medicine, University of Tsukuba, Tsukuba, Ibaraki, Japan*
- TSUYOSHI SUGIURA • *Research Field in Dentistry, Medical and Dental Science Area, Research and Education Assembly, Kagoshima University Graduate School, Kagoshima, Japan*
- HAJIME SUZUKI • *Department of Psychosomatic Internal Medicine, Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima, Japan*
- TSUYOSHI TAKAHASHI • *Department of Gastroenterological Surgery, Osaka University Graduate School of Medicine, Osaka, Japan*
- HIROSHI TAKEDA • *Pathophysiology and Therapeutics, Hokkaido University, Faculty of Pharmaceutical Sciences, Sapporo, Hokkaido, Japan; Gastroenterology and Hepatology, Hokkaido University Graduate School of Medicine, Sapporo, Hokkaido, Japan*
- SHUJI TAKIGUCHI • *Department of Gastroenterological Surgery, Osaka University Graduate School of Medicine, Osaka, Japan*
- HSIEWE YING TAN • *School of Health and Biomedical Sciences, RMIT University, VIC, Australia*
- MASAKAZU TERAUCHI • *Department of Women's Health, Tokyo Medical and Dental University, Tokyo, Japan*
- YASUHITO UEZONO • *Division of Cancer Pathophysiology, National Cancer Center Research Institute, Tokyo, Japan; Division of Supportive Care Research, Exploratory Oncology Research and Clinical Trial Center, National Cancer Center, Tokyo, Japan; Innovation Center for Supportive, Palliative and Psychosocial Care, National Cancer Center Hospital, Tokyo, Japan*
- EIJI WARABI • *Division of Biomedical Sciences, Faculty of Medicine, University of Tsukuba, Tsukuba, Ibaraki, Japan*
- CHIIHIRO YAMADA • *Tsumura Research Laboratories, Tsumura & Co., Ibaraki, Japan*
- KOJIRO YAMAGUCHI • *Research Field in Dentistry, Medical and Dental Science Area, Research and Education Assembly, Kagoshima University Graduate School, Kagoshima, Japan*

JUN-ICHI YAMAKAWA • *Department of General Medicine, Kanazawa Medical University,
Ishikawa, Japan*

MASAHIRO YAMAMOTO • *Tsumura Research Laboratories, Kampo Scientific Strategies
Division, Tsumura & Co., Ibaraki, Japan*

MAKOTO YAMASAKI • *Department of Gastroenterological Surgery, Osaka University
Graduate School of Medicine, Osaka, Japan*