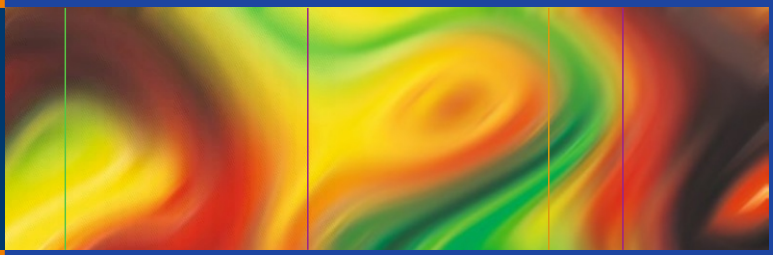
Abdul Qayyum Rana
Lawrence A. Zumo
Valerie Sim



Neuroradiology in Clinical Practice

Springer

Neuroradiology in Clinical Practice

Abdul Qayyum Rana
Lawrence A. Zumo • Valerie Sim

Neuroradiology in Clinical Practice

Springer

Abdul Qayyum Rana
Parkinson's Clinic
of Eastern Toronto
Toronto
ON
Canada

Lawrence A. Zumo
Silver Spring
Cheverly
MD
USA

Valerie Sim
Centre for Prions and Protein
Folding Diseases
University of Alberta
Edmonton
AB
Canada

ISBN 978-3-319-01001-4 ISBN 978-3-319-01002-1 (eBook)
DOI 10.1007/978-3-319-01002-1
Springer Cham Heidelberg New York Dordrecht London

Library of Congress Control Number: 2013945858

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

To Kesselly, Malaika, Abdullah, Ruqqiyah, Muhammad, Safwaan, Zainaab, and Ahmad, all who had to endure mandatory time off whilst the atlas was being prepared and to our beloved spouses, Afshan, Janet, and Dominik, without whose patient support the timely completion of this work would not have been possible.

Preface

This book is designed to provide a review of imaging characteristics of major neurological conditions for medical students during their neurology rotation. It is a *vade mecum* meant to help them and other allied health professionals survive the neurology rotation through the provision of insightful guidelines and relevant images rather than to serve as an oversized reference text. An attempt has been made to keep the structure of every topic similar so as to aid students as they develop their thinking process in a stepwise fashion. A very brief introduction of each case has been provided as well.

This book is primarily intended for medical students; however, general medical residents, allied health professionals, nurse practitioners, physician assistants and other primary medical care providers who need a readily available and easily portable neuroradiology atlas and source book as they navigate through neurology rotations, training and ultimately their own practice, may find this book useful as well.

We do not present an exhaustive list of every possible neuroimaging condition, but provide a rational approach to imaging interpretation, including some fundamental physics of the basis of the different modalities. All of the information presented in this manual has been carefully reviewed for accuracy of the information presented to describe generally accepted practices. However the authors, editor and publisher are not responsible for the errors, omissions or consequences from the application of this information and make no expressed or implied warranty of the contents of this publication. The authors have made every effort to ensure that the explanations set forth in this text are in accordance

with current recommendations and practice at the time of publication. In view of ongoing research and the constant flow of information, the reader is urged to check for regular updates as they become available. Suggestions to improve this publication are welcome and should be directed to the authors.

We are very grateful to our colleagues who archived the images of our mutual patients and retrieved them at request for this project: Dr. Myles Koby, neuroradiologist, Doctor's Community Hospital, Lanham, Maryland; Drs. Hee Lee and Gurmeet Sidhu, neuroradiologists at Prince George's Hospital Center, Cheverly, Maryland. We are also very thankful to our students Omar Syed (Canada), Ahmad Khan (Canada), Ifeoma Okadipo (USA) and intern Dr. Dejene Kasaye (USA), all of whom have worked tirelessly to retrieve the images and assist in the timely completion of this work. Thanks also to Paul Blankenship, RVT (USA), for archiving the ultrasound images of our ward patients.

Toronto, ON, Canada — Abdul Qayyum Rana
Cheverly, MD, USA — Lawrence A. Zumo
Edmonton, AB, Canada — Valerie Sim

Contents