### Nicholas C. Gourtsoyiannis · Pablo R. Ros (Eds.)

## **Radiologic-Pathologic Correlations**

from Head to Toe

Understanding the Manifestations of Disease

# Radiologic-Pathologic Correlations

# from Head to Toe

Understanding the Manifestations of Disease

With 794 Figures in 1863 Separate Illustrations, 599 in Colour and 38 Tables



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## **Preface**

We are proud to offer this unique textbook, the first in its class presenting state-of-the-art radiologic images of the entire body correlated with underlying pathology. This book is based on a categorical course presented for 3 years at recent European Congresses of Radiology and covers from head to toe, key aspects of human disease lending themselves well to the correlation of modern imaging techniques with microscopic and gross pathology. Obviously, the most suitable candidate for radiologic-pathologic correlation is the study of neoplasms, since they are resected ideally in toto and therefore offer excellent gross-imaging comparisons. Although there is a wealth of educational material based on radiologic-pathologic correlation, not until now has there been a comprehensive textbook that offers in a single source a compendium of topics such as that between these covers.

The concept of radiologic-pathologic correlation was born in 1947 with the establishment of the Radiologic Pathology Department and Registry at the Armed Forces Institute of Pathology in Washington, DC. This method has become a key teaching tool to understand the radiological manifestations of disease, initially on plain films and later with cross-sectional techniques. With the advent of computed tomography and magnetic resonance imaging, precise correlation between imaging and the underlying pathology became possible throughout the entire body. For decades now, generations of radiology residents from North America, and more recently from many other regions of the world, have enjoyed the quiet revolution in radiology teaching offered by radiologic-pathologic correlation, since this method demonstrates not only the "how" but also the "why" of the radiologic findings.

The success of courses on radiologic-pathologic correlations at venues such as the European Congress of

Radiology, The International Congress of Radiology, The Radiological Society of North America Assembly, among others made us believe that radiologists, as well as pathologists and other specialists, would enjoy having in a single source the best of class in this educational method. This book is indeed a global effort since it assembles the leading authorities in all major organ systems who use radiologic-pathologic correlation as a research and teaching method. Many of the chapter authors have dedicated the bulk of their professional life to educating radiologists throughout the world using this method. There are experts from 12 European countries and the USA. All the United States authors and many of the European ones have direct or indirect links with the Armed Forces Institute of Pathology, having served there as full-time faculty, distinguished lecturers or researchers in radiologic-pathologic correlation.

This textbook is divided in the main organ systems including neuroradiology, head and neck, chest, abdominal-gastrointestinal, urogenital, musculoskeletal and breast imaging. In each one of these organ systems the topics most salient to radiologic-pathologic correlation are discussed in a systematic fashion, in many cases emphasizing the study of benign and malignant neoplasms. This book is intended to be used as a working guide to assist radiologists in their daily practice when difficult cases are encountered. It should also help physicians in training to learn imaging findings not by memory but through the knowledge of the pathologic basis of disease. Finally, we hope that the readers will enjoy the high-resolution images and the many color prints of the specimens.

Nicholas C. Gourtsoyiannis, MD Pablo R. Ros, MD, MPH ■ Acknowledgements. We are indebted to the many people who have made this book possible, starting with our 60 contributing authors. All of them are extremely busy people and generously donated their time, knowledge and experience of many years to write well-constructed chapters.

A very special thanks to Ms. Wilma McHugh from Springer Verlag. She kept us focused during the years it has taken to put this book together and bridged distances and time zones so the project could become reality. Special thanks to our assistants in the Departments of Radiology of the University of Crete (Eve Markaki) and Brigham and Women's Hospital/Harvard Medical School

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We are also indebted to the many students, residents, fellows and practicing radiologists that throughout the years have kept alive our interest in radiologic-pathologic correlation with their positive feedback and also have contributed cases for our personal and institutional files.

Finally, special thanks are due to the many pathologists that have interacted with radiologists during the past decades to initially establish and later enhance the teaching and research method of radiologic-pathologic correlation.

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