HERBERT P. WIEDEMANN, MD, EDITOR

RETROVIRUS BIOLOGY AND HUMAN DISEASE

Edited by Robert C. Gallo and Flossie Wong-Staal
Marcel Decker, Inc.

The first human retrovirus, human t-leukemia virus type I (HTLV-I), was discovered in 1979. HTLV-1 was the forerunner of several human retroviruses which were isolated and characterized in the 1980s, the most prominent of these being human immunodeficiency virus type 1 (HIV-1, the AIDS virus). Although only recently identified as human pathogens, retroviruses have been long known and studied as pathogens in species as diverse as mice, cats, horses, and cattle, where they cause hematologic, neurologic, and immunologic disorders, as well as cancers of various types. Indeed, much of the credit for the rapid advances in human retrovirology can be attributed to the pioneering work done on animal retroviruses during the first three quarters of this century.

In *Retrovirus Biology and Human Disease*, the editors have drawn together an excellent series of minireviews written by experts in the field of retrovirus biology. The lead chapter provides a historical perspective, and sets the stage for other chapters that discuss animal retroviruses whose biology has particular relevance to human retroviruses. Chapters are devoted to each human retrovirus that has been recognized and studied to date. These and other chapters review the putative origins of retroviruses and their relationships to one another, their molecular biology, their structure, the functions of their genes, their epidemiology, their immunology, and the conditions and diseases with which they are associated. Throughout, the importance of the molecular biology of these viruses is evident. References to the pathogenic consequences of interplay between viral regulatory gene products and other viral and cellular genes make fascinating reading and bring to life aspects of molecular virology and cellular biology that make the study of viral pathogenesis captivating and rewarding.

Several chapters focus on HIV-1, including one on antiviral drugs and one on prevention of infection, and references to this virus are woven throughout other chapters as well. This emphasis is understandable in view of the medical importance of HIV and the intense effort that has gone into understanding its pathogenesis. Whereas most of the chapters are quite current, the pace of retrovirus research ensures that some information is already dated or soon will be. This is, of course, a common fault with books which review rapidly advancing fields. The book is well edited, concise, interesting, and generally well written. The editors bring together a vast amount of information on a timely subject and present it in a readable and understandable format. The book should appeal to a wide audience of scientists, students, physicians, and others interested in knowing more about an intriguing and medically important family of viruses.

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HEART-LUNG INTERACTIONS IN HEALTH AND DISEASE

Edited by Steven M. Scharf and Sharon S. Cassidy
Marcel Dekker, Inc.

The series, Lung Biology in Health and Disease (chief editor Claude L'Enfant), strives to combine basic physiology with clinical medicine. The present volume, number 42 in the series, is true to this goal and is unique in its scope. Editors Scharf and Cassidy strive to "provide the reader with a rational basis for understanding the ways in which cardiac and pulmonary systems interact." They attain this goal and provide a sense of the controversy and need for future study in this emerging field.

The book is divided into three sections: basic physiology, pathophysiology, and clinical applications. Most of the chapters are written by investigators active in their fields. The basic physiology section includes chapters on gas transport, pulmonary circulation, mechanical function of the cardiorespiratory system, and indirect heart-lung interactions. Particularly good chapters include "How Changes in Pleural and Alveolar Pressures Cause Changes in Afterload and Preload," "Mechanical Effects of Intrathoracic Pressure

on Ventricular Performance," and "Mechanical Heart-Lung Interactions." The section on indirect heart-lung interactions includes topics (eg, humoral and metabolic functions of the lungs) that could have been deleted.

The pathophysiology section, "Integrative Responses," includes some unusual but good discussions on heart-lung interactions in aerospace medicine and cardiopulmonary resuscitation. Scharf's contribution on the effects of normal and stress inspiration on cardiovascular function reflects his research interest. The usually confusing literature on cardiovascular effects of positive end expiratory pressure (PEEP) in animals is very well organized and presented by Cassidy and Schwiep.

The excellent final section, "Clinical Applications," includes chapters on "Circulatory Effects of PEEP in Patients with Acute Lung Injury," "The Hemodynamic Management of Acute Respiratory Failure," and "The Management of Acute and Chronic Cor Pulmonale."

This book is highly recommended for physicians caring for patients in the intensive care unit setting and for basic investigators in these fields, but its cost and length preclude its utility as a home reference book for residents or medical students. However, in this era of cell biology, a text that combines basic physiology with practical clinical research is a valuable addition to the critical care literature.

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ESSENTIAL PATHOLOGY

By Emanuel Rubin, MD, John L. Farber, MD, and contributors
JB Lippincott

This volume is a condensed form of the text titled *Pathology* by the same authors. It is aimed at allied health students studying pathology and medical students who want a relatively quick review of the subject—although with 850 pages it is by no means a quick read.

The book is organized in the traditional fashion and is divided into general and systemic sections. The sections on general pathology cover such topics as neoplasia and inflammation. The systemic sections deal with diseases of specific organ systems.

The text is straightforward and well written. The style is consistent from one chapter to the next with a notable lack of variability usually found in books with multiple authors.

The paragraphs are short and highlighting is used extensively to emphasize key phrases and concepts. This makes for a text that is easy to read and to quickly skim through when looking for specific items.

Abundant illustrations are a strong point. Many pages contain two or three photographs or drawings, and nearly every page contains at least one. Most of the photos are black and white but numerous color photos are also used. The reproduction of the color photos is excellent, less so with the black and white, making it difficult to identify details.

The real strength of the book is in the medical illustrations by Dimitri Karetnikov. The illustrations in the original text, many of which are reproduced here, received an award from the American Medical Writers Association. They are so good that a study of the illustrations and their legends is an education in itself. By a process of selective elimination the authors were able to abbreviate the text while retaining the descriptions of key concepts, the graphics, and the characteristics which have made the parent text so successful.

The beautiful illustrations make this book a joy to browse through, but it is really intended for allied health and medical students and is therefore of limited value to the practicing physician and pathologist.

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