Reviews and Resources

BOOKS

HIV Chemotherapy: a Critical Review
Salvatore T. Butera (ed.). Caister Academic Press, 2005, 312 p., $220.00

This book fulfills its title, namely, it is a critical review of HIV chemotherapy. The book is timely and provides a unique blend of basic, preclinical, and clinical chapters which afford the reader with an up-to-date view of the virologic, immunologic, therapeutic, and molecular strategies toward development and implementation of potentially efficacious HIV therapy. The brief reviews by leading authorities provide insight toward understanding HIV/AIDS viral, immunologic, and molecular pathogenesis.

The book is divided into four major sections: issues in clinical management, issues related to drug resistance, implementation in developing countries, and new antiviral targets. The chapters are—for the most part—current, and the references timely, in this rapidly moving field. The major value of this volume is its collection of up-to-date concepts and references. Each of the 11 chapters is highly informative; however, the reader must recognize that these chapters will become rapidly dated. The chapters address major issues in therapy, namely, new antiviral agents, immune-based therapies, and treatment-interruption strategies. The section on drug resistance is highly informative and deals with mutation rates, viral fitness, and phenotypic and genotypic drug resistance. The sections dealing with implementation of therapy in developing countries provide approaches toward use of antiviral drugs as therapy and for prevention of mother-to-child HIV transmission in high-prevalence, resource-poor settings, both major issues globally.

The basic preclinical section deals with four topics under the section “New Antiviral Targets.” These chapters consider entry inhibitors, cellular factors, RNA interference, and clearance of reservoirs. Each of these chapters provides the latest, highly relevant scientific information in these rapidly changing areas of HIV research. It is surprising to this reviewer that the section “New Antiviral Targets” follows the clinical sections of the book. Although this in no way detracts from the overall value and importance of this volume, it would have improved the overall flow of the book if this section were presented first.

Overall, this is an outstanding small volume which is recommended for basic virologists, immunologists, and pathogenesis students of HIV, as well as teachers and clinicians involved in clinical care and teaching of HIV/AIDS. The editors and authors are to be commended for this valuable contribution.

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Modulation of Host Gene Expression and Innate Immunity by Viruses

Viruses characteristically infect host cells directly and have tremendously rapid replicative capacity. For these reasons, an organism’s earliest defenses against viruses are essential for host survival. These responses are referred to as innate and represent the entire repertoire of immunity in phylogenetically less-complex organisms. Innate responses are capable of participating in defense quickly and without the need for rearranging germline DNA to create specificity. Modulation of Host Gene Expression and Innate Immunity by Viruses presents a state-of-the-art dissection of these defense mechanisms as well as strategies that viruses have developed to evade them. Furthermore, influences that viruses have upon host gene expression favoring either the host or the virus are also recounted in the context of innate immunity.

As a focal point, the interferon (IFN) system is given substantial coverage. Separate chapters discuss induction of IFN production, target genes induced by IFN, as well as the IFN response modulation strategies of influenza viruses, paramyxoviruses and emerging RNA viruses. Other topics related to IFN, such as the intracellular signals that generate IFN responses to viruses and the antiviral effector mechanisms of IFN, permeate numerous chapters as well. In-depth coverage of how viruses evade other components of the innate immune response such as natural killer cells, and how host genetic factors such as polymorphic major histocompatibility alleles influence infection, is additionally found in separate chapters. Although the theme of pattern recognition by the host immune system and Toll-like receptors appears in several places, a particularly lucid chapter is specifically devoted to this rapidly expanding field.

The book is organized into 12 chapters, the first of which is authored by the editor and provides an overview of the subject matter and material covered in the chapters that follow. Individual contributions are organized using numbered sections, with the first containing an introduction and the last containing conclusions. An outline of these sections and their respective subsections for each of the chapters in aggregate is listed in the table of contents at the beginning of the book and serves as a useful reference. Most chapters contain tables, as well as black-and-white or grayscale figures, which are generally quite helpful in understanding the material. The chapters are all adequately referenced, and a generous index to all contributions in aggregate is provided at the end of the book.
The subject matter of the book is current, and the discussions are timely and up to date. There are some redundancies, but the different perspectives provided justify their inclusions. The book will serve as a useful resource for a microbiologist or immunologist wishing to understand this quickly evolving field. It would also serve as excellent primer upon which to base a graduate level course devoted to the subject.

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Clinical Laboratory Management


Clinical Laboratory Management is a comprehensive book about modern management tools useful both as practical information and as guidelines for all those who work in the clinical laboratory and in health care management. The book is also of great value for students in health care administration, medical laboratory technology, and other allied health disciplines. Fifty-eight practicing laboratorians have compiled extensive information on various topics related to clinical laboratory management, including management principles and practices, regulatory issues, financial aspects, personnel issues, and strategic planning, as well as current trends and future anticipated developments impacting the disciplines of pathology and laboratory medicine.

The book is divided into 10 sections with a total of 50 chapters that describe in great detail what clinical laboratory management is all about. The reader is introduced in Section I to the principles of management, the different management functions, the relevant economic and business concepts, the financial challenges, and the impact of regulatory requirements, as well as the changes in the health care environment and in the practice of medicine. Section II is about managerial leadership; this section includes discussions on different leadership styles, the needs and wants of employees, the importance of motivation, the delegation of authority, issues related to communication and holding effective meetings, as well as conflict management and changes in management. The third section is about personnel management and includes discussions on employee selection, performance and competency assessments, staffing and scheduling, successful team building, and labor relations. In the fourth section, the reader is introduced to the basic requirements for effective laboratory management, including quality management, laboratory information systems, point-of-care testing, selection and implementation of new equipment and procedures, laboratory safety, and emergency management.

The fifth through eighth sections deal with the financial aspects of clinical laboratory management. More specifically, the reader learns the importance of strategic planning, proper cost accounting, budgeting, and financial decision making (Section V), the correct coding, charging, and fee application of billable services in the clinical laboratory (Section VI), the rules and regulations in reimbursement and issues related to compliance and determination of profitability (Section VII), and the topics of outside marketing and expansion (Section VIII). The ninth section defines and provides measures for the standards of success in clinical laboratory management and discusses the benefits and appropriateness of laboratory benchmarking; this section also includes information about the concepts and tests of clinical relevance and cost-effectiveness.

The final section (Section X) provides the reader with interesting information about the future of clinical laboratories. The authors discuss current and future political, social, economic, and regulatory factors (e.g., CLIA ’88, HIPPA, liability considerations, restrictive patents, bioterrorism, and the issue of stem cell research) that affect clinical laboratory management. The authors also discuss the future of the workforce in the clinical laboratory, the impact of computers, the concepts of knowledge support, and current trends as well as future anticipated developments of instrumentation and technology that affect key clinical laboratory areas such as chemistry, hematology, coagulation, microbiology, molecular diagnostics, and bioelectronics.

The book is well illustrated and each of the chapters contains a summary, a list of key points, a glossary, a list of references, and an appendix with website addresses, questionnaire forms, synopses of methods, and case studies. This volume also contains at the end a complete glossary and an index section covering all chapters. The structure of this book significantly helps the clinical laboratory scientist to better understand the often-difficult subject matter of business administration and policy, in particular topics such as management concepts, accounting and finance, human resource management, and business and health care policies. I recently completed a dual business degree (M.B.A./M.I.M.) and found that this book contains many of the concepts I learned in the business curriculum successfully applied to clinical laboratory management. In my opinion, the reader of this book receives information which might be offered in a course called “Mini-M.B.A. in Clinical Laboratory Management and Healthcare Administration.” I would highly recommend this book and would not be surprised if it will soon be considered the “Bible of Clinical Laboratory Management.”

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