



Microbiología y Parasitología Médicas

G. PRATS

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In clinical and basic microbiology, as in other fields of knowledge, the speed that characterizes modern societies and the vast amount of information available increasingly leaves behind illustrative aspects of the origins of ideas and discoveries as well as the bases and foundations of our current “wisdom.” This gap is obvious in university curricula, which must adhere to plans that are for the most part bureaucratically designed, with criteria not always efficient or integrative. Such programs inevitably lead to superficial academic training, as they fail to recognize that the ability to relate facts and ideas is an essential quality of all forms of learning.

Today, students know where to find the information they need; the Internet and specialized search engines immediately answer their questions. This same mechanism allows teachers to resolve doubts and to incorporate recent data into their teaching. The usefulness and advantages of the system are obvious; but we need something else, including criteria to select what is being sought, and to assess the information that is retrieved.

Focusing on clinical microbiology, there is a vast amount of information that is spread over a large amount of media: books, scientific journals, magazines, and specialized reports both printed and online. The abundance of information may be overwhelming for students, who do not always know how to separate the wheat from the chaff. For this reason, textbooks such as *Microbiología y Parasitología Médicas* are to be valued. This richly illustrated, 582-page book gathers all the essential contents that physicians and medical students need to know regarding the many subjects that make up such a

vast science as microbiology. Microbiology and parasitology study the causative agents of infectious diseases, as well as the mechanisms that trigger disease and the defense reactions of the host. They also deal with the diagnostic techniques used to identify the organisms that cause infections, and with the treatments that are available.

Guillem Prats, author of the book, is Emeritus Professor of Microbiology and Parasitology at the Autonomous University of Barcelona. He is a member of the Research Spanish Net in Infectious Pathology and has devoted all of his professional life to research, medical practice, and academic training, as evidenced by his having authored or coauthored several other textbooks and manuals (*Microbiología clínica; Microbiología médica. Cuadernos de prácticas y demostraciones; Guía de terapéutica antimicrobiana*). This *Microbiología y parasitología médicas*, however, is a much more ambitious work. It covers a wide range of subjects and as such will be of great benefit to medical science students. The author’s experience and the collaboration of 41 experts in different branches of microbiology and medicine, who have reviewed the various sections and chapters of the book, guarantee the quality and scientific rigor of this work.

The book is divided into four parts or sections. The first, (I. Introduction to Microbiology), presents the basics of medical microbiology and outlines the main clinical syndromes with an infectious etiology, their pathogenicity, the defense mechanisms used by the body to combat them, and the techniques that allow for their etiologic diagnosis. The causative agents of human infectious diseases are discussed in the following

part (II. Descriptive Microbiology), which includes a chapter on the drugs to fight them. The fundamentals and concepts of innate and adaptive resistance to antibiotics are discussed in the third part, which includes also a chapter on vaccines (III. Antimicrobials and vaccines). In the last part (IV. Microbiological diagnosis of infective syndromes), the major infectious syndromes are discussed, with descriptions of their etiologic agents, sampling methods, and diagnostic tests. This last part is intended to be used as reference material by students in the preparation of seminars to discuss clinical cases.

The book contains learning aids, self assessment exercises, and supplementary material to facilitate the reader's understanding of the topics covered. There are also tables and boxes that broaden the information in the text, and appendices and summaries that review aspects of general interest. As for teachers, the book has a website that will be updated with useful materials for classes, presentations or seminars, and clinical cases. The author recognizes the collaboration of several coauthors of specific chapters, and reviewers of chapters or sections, all of them experts in the field, and with a broad experience in both research and teaching.

Disease is a concept that has been changing since we stopped considering microorganisms only as pathogens and began to regard them in an environmental context. But there is still a long way to go. An appreciation by health science professionals of the role of microorganisms in main-

taining human health and physiological stability, and the recognition that changes in either one may promote the activity of pathogenic microorganisms would lead to a better understanding of disease and of ways to treat patients with infectious diseases.

Wherever there is life, there are microorganisms, and their study is crucial to understanding the biology of all other living beings. Microbiology provides us with insights into all kinds of life on Earth, from prokaryotes, whose origin dates back 3800 million years, as the first and only inhabitants of our planet for a great part of its history, until eukaryotes, which evolved much later, some 1500 million years ago. The study of infectious diseases in humans, which is now considered to be a practical application of microbiology, was indeed at the origin of this science.

In summary, *Microbiología y parasitología médicas* is an excellent textbook on medical microbiology, that can be most useful to students and teachers in the schools of medicine and pharmacy, and also to students and teachers in nursing and biomedical sciences. In addition, it will be of great help to professional physicians or biologists who wish to update their knowledge in the intricate and continuously changing field of infectious diseases.

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