A Clinician’s Dictionary of Pathogenic Microorganisms

James H. Jorgensen and Michael A. Pfeller, authors
ASM Press, Washington, DC
Pages: 273, Price: US $29.95

This dictionary of pathogenic microorganisms, published by the American Society for Microbiology, is simple and useful. This book is divided into four sections, bacteria, fungi, parasites, and viruses. Each organism is presented alphabetically in its section. Older names are mentioned and connected with current names. A brief bibliography is also provided at the end of each chapter.

The emergence of new infectious agents in the last 2 decades makes it difficult for clinicians to recognize new diseases and new names. A memorandum to address this matter would have been useful. Moreover, the genomic revolution has caused a taxonomic revolution; this is specifically true for bacteriology. For example, 16S rRNA sequencing allowed reclassification of many pathogenic organisms and descriptions of many others. These advances in genomic knowledge have brought about many changes in the names of pathogenic microorganisms, evidenced here by the authors devoting the largest part of the book to bacteria.

The information provided, although very brief, is usually complete enough to provide a basic understanding of the microorganism. Many new organisms such as Ehrlichia and monkeypox viruses, as well as emerging diseases such as severe acute respiratory syndrome, are included.

This book provides basic information clinicians need for a quick reference book. It largely succeeds in this attempt and may be very useful as a pocket book for nonspecialists at the patient’s bedside. I recommend it for general practitioners and health professionals.

Didier Raoult
*Unité des Rickettsies, Marseille, France

Address for correspondence: Didier Raoult, Faculté de Médecine, Unité des Rickettsies, 27 bd Jean Moulin, 13005 Marseille, France; fax: 33-491-38-77-72; email: didier.raoult@medecine.univ-mrs.fr

Cryptosporidium: from Molecules to Disease

R.C. Andrew Thomson, Anthony Armson, and Una M. Ryan, editors
Elsevier, Amsterdam
Pages: 422, Price US $139.00

The protozoan parasite, Cryptosporidium, has recently emerged as a human pathogen. It was unidentified or unrecognized as a cause of illness in humans until 1976. Since then, it has caused gastrointestinal illness around the world. Its small size, low infectious dose, resistance to chlorination, and durability in the environment have made it a uniquely challenging organism for environmental scientists and public health professionals.

This book includes full text of abstracts and invited papers from an international conference held in Australia in October 2001. More than 100 scientists from more than 15 countries contributed to the conference.

The “from molecules” aspect of the book, which addresses molecular and
biochemical features of the life cycle, infection, and detection of Cryptosporidium, gives a complete picture with detailed papers and abstracts of subjects, including pathogenesis and immune response, cell culture methods, detection methods, and molecular taxonomy. The main focus of the book is on descriptions and evaluations of traditional and novel methods to detect and differentiate Cryptosporidium. Papers are also included that describe methods of detecting Cryptosporidium in environmental water samples, detail surveys that determine the occurrence of Cryptosporidium in water supplies, and explain how to acquire laboratory accreditation for testing water samples.

The book focuses less on understanding the public health aspects of Cryptosporidium, its epidemiology, and treatment for the illness it causes. Notably absent are descriptions of serologic assays used for detecting Cryptosporidium in surveillance and epidemiologic studies. Recent studies have identified a high seroprevalence in the general population, which indicates that infection may be widespread (1–5). Including examples of quantitative microbial risk assessments would have been useful (6). These assessments are logical extensions of the valuable human infectivity studies described in several papers in the book. The treatment portion presents interesting results of randomized trials of nitroimidazole therapy but is otherwise limited.

The organization and grouping of the papers and abstracts were confusing. An introduction and summary for each section to help the reader identify and assimilate the information in an organized manner would have been helpful.

Despite these shortcomings, this book assembles and summarizes an impressive array of recent advances in Cryptosporidium research. I recommend this book for laboratory scientists, microbiologists, laboratory technicians, and water-quality professionals. Medical professionals involved with research to detect and differentiate Cryptosporidium will likely find this book useful. Because of the technical nature of the papers and the emphasis on microbiologic methods, the book will be less useful for public health professionals, risk managers, and epidemiologists. Because of the rapid progress of Cryptosporidium research, I recommend using this book as one reference but also conducting a broad search of current literature for new studies or additional advances.

**Timothy J. Wade**

*U.S. Environmental Protection Agency, Chapel Hill, North Carolina, USA

**References**


Address for correspondence: Timothy J. Wade, USEPA, MD 58C, Research Triangle Park, NC 27711, USA; fax: 919-966-0655; email: wade.tim@epa.gov
This has to some extent overshadowed the fact that Cryptosporidium is also an important pathogen of domestic animals and wildlife. In recent years, the application of molecular biology and culture techniques have had an enormous impact on our understanding of the aetiological agents of cryptosporidial infections and our ability to study the causative agents in the laboratory. It is thus very timely to bring together in this book the international research community involved to review the major advances in research and identify the important research priorities for the future, thus enabling as wide an audience as possible to benefit from and share in this comprehensive look at Cryptosporidium and cryptosporidiosis. Cryptosporidium is considered as reference pathogen for the enteric protozoan pathogens (see 1.3). In this document, Quantitative Microbial Risk Assessment is used as tool to quantify the risks associated with Cryptosporidium in water supply. In the WHO GDWQ the concept of reference pathogens is introduced: it is neither possible nor necessary to consider all pathogens in order to design and operate safe drinking-water supplies. Waterborne pathogens vary in size, in their ability to survive in the environment, through different water treatment processes and in the distribution system; they also vary in their infectivity and in the severity of the diseases they cause. Guadalupe Ortega-Pierres, Simone M. Cacciò, Ronald Fayer, Theo G. Mank, Huw V. Smith, R.C. Andrew Thompson February 2009 Giardia and Cryptosporidium are both parasites of considerable global interest due to the gastrointestinal problems the organisms can cause in humans as well as domestic and wild animals. Guadalupe Ortega-Pierres, Simone M. Cacciò, Ronald Fayer, Theo G. Mank, Huw V. Smith, R.C. Andrew Thompson February 2009 Giardia and Cryptosporidium are both parasites of considerable global interest due to the gastrointestinal problems the organisms can cause in humans as well as domestic and wild animals. This book presents a comprehensive overview of recent research. Cryptosporidium: From Molecules to Disease (Thompson RCA, Armson A and Ryan UM, eds), pp. 121-146. Elsevier, Amsterdam. Zhou L, Fayer R, Trout JM, Ryan UM, Schaefer FW III and Xiao L (2004) Genotypes of Cryptosporidium species infecting fur-bearing mammals differ from those of species infecting humans. Appl. Environ. Microbiol. 70: 7574-7577. New book: Cryptosporidium: From Molecules to Disease Released: 2003. ISBN 0-444-51351-5. $139.00 USD Editors: Thompson, R.C.A., Armson, A., and Ryan, U.M. Publisher: Elsevier Science B.V. Contents: Proceedings of the meeting entitled "Cryptosporidium: from Molecules to Disease." 07-12 October 2001, Fremantle, Western Australia. Full papers and extended abstracts. Anotherwards, Tyzzer was differentiating the genus Cryptosporidium from coccidian oocysts because it was structurally distinct. Coccidian oocysts usually have sporozoites encased in smaller spores termed "sporocysts," notably absent in this new organism. In recent years, other species of Cryptosporidium have been found in humans.