Chlamydia trachomatis remains one of the most perplexing pathogens in existence, despite chlamydial infection being...
known about for centuries. Chlamydial infection continues to be one of the common bacterial infections worldwide. The editor has assembled an impressive collection of experts in chlamydia research who present detailed accounts of the current state of chlamydia research, from genomic structure and the immunological response to vaccine development. Chlamydia epidemiology, screening, and treatment recommendations are also addressed, including attention to special populations.

Chlamydial Infection consists of 10 chapters with the majority of content dedicated to the state of basic chlamydial research, despite the subtitle A Clinical and Public Health Perspective. A decent understanding of molecular biology and cellular immunity is necessary to appreciate the bulk of the text. However, several of the chapters focus on more clinical aspects, including epidemiology, prevention, screening, and treatment.

Chapter 1 covers epidemiology and prevention strategies. The authors discuss the current burden of infection, including disparities related to age and race. Also discussed is the development of chlamydia screening recommendations in 1993 and population-based data from the National Health and Nutrition Examination Survey. Epidemiologic trends in chlamydial disease are discussed in the context of advances in chlamydia test technology and changes in screening coverage. However, little attention is paid to the notions of sexual networks, concurrent partnerships, and how these concepts impact disease spread.

Chapter 2 provides a detailed account of disease pathogenesis due to C. trachomatis. The author provides a comprehensive discussion of the infectivity of different chlamydia serovars; how the organism survives in the cell; the different virulence factors that account for infectivity; what is known about innate and acquired immunity and their role in infection resolution, persistence, and disease; and host genetic susceptibility to infection and disease.

Chapter 3 discusses the genetic structure of Chlamydia trachomatis, including the evolution of the genomic structure to depend on an interaction with the host.

Chapter 4, “Chlamydia trachomatis: Molecular Testing Methods,” reviews the expansion of Chlamydia screening capabilities with the development of nucleic acid amplification testing. The author also covers recommendations for populations to be screened and barriers to screening.

Chapter 5 shifts to a clinical discussion of treatment recommendations. The chapter discusses antibiotic choices, the issues of recurrent infection, and treatment of special populations to include pregnant women and treatment of lymphogranuloma venereum (LGV).

Chapters 6 and 7 return to a basic science focus, with discussions of the immunologic response to chlamydia infection and vaccine development, respectively. Chapter 6 covers what is currently known about the immune response to genital chlamydia infections, recognizing that much of what is known comes from animal data. Chapter 7 considers the challenges to development of a human chlamydial vaccine and the objectives of chlamydia vaccine design.

The remaining 3 chapters provide an in-depth discussion of chlamydia infections in special populations, including pregnant women, sexual minorities, and LGV in men who have sex with men (MSM). Chapter 8 comments on the challenges of C. trachomatis infections in pregnancy, including effects on the pregnancy and fetal and neonatal sequelae. The authors’ discussion of screening and treatment recommendations for pregnant women is not entirely accurate. The chapter states that the Centers for Disease Control and Prevention (CDC) has recommended screening of pregnant women at 36 weeks’ gestation since 1989. However, as of 2002, the CDC has recommended screening of pregnant women at their first prenatal visit, with rescreening in the third trimester for women ≤25 years of age and those at increased risk for infection. The discussion of antibiotic choice for pregnant women is also unclear. As of the 2010 CDC guidelines, azithromycin or amoxicillin are first-line antibiotic choices for chlamydia in pregnancy, while erythromycin is an alternate regimen. The authors list erythromycin, amoxicillin, and azithromycin as treatment options with no clear distinction as to first-line regimens. In addition, the authors use the term “preterm” delivery rather than “premature” delivery to refer to delivery before 37 weeks’ gestation.

Chapter 9 gives much-needed attention to the topic of chlamydial infections in sexual minorities, with a discussion of the behavioral factors that may influence chlamydia rates in women who have sex with women and MSM. Chapter 10 discusses the emergence of LGV in the MSM population and unmet needs for screening and treatment of LGV infection.

Overall, this book is very well written and provides a comprehensive resource for students of bacteriology and immunology, clinicians who deal with chlamydia infections, and researchers interested in the current state of chlamydia research, particularly that related to immunology and vaccinology.

Note

Potential conflicts of interest. Author certifies no potential conflicts of interest.

The author has submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

Jill Long
Sexually Transmitted Diseases Branch, Division of Microbiology and Infectious Diseases, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland

Clinical Infectious Diseases 2014;58(8):1201–2
Published by Oxford University Press on behalf of the Infectious Diseases Society of America 2014. This work is written by (a) US Government employee(s) and is in the public domain in the US.
DOI: 10.1093/cid/ciu089