Sixth Edition

Tuberculosis
and Nontuberculous
Mycobacterial
Infections
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Sixth Edition

Tuberculosis and Nontuberculous Mycobacterial Infections

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ASM Press
Washington, DC
This book is dedicated to the memory of John Weil Uhlmann, who fought valiantly against an implacable foe. His wife, children, grandchildren, and loyal friends miss him profoundly. We hope he is finally at peace.
“The Captain of all these men of death that came against him to take him away, was the consumption; for it was that that brought him down to the grave.”

John Bunyan
*The Life and Death of Mr. Badman*

The weariness, the fever, and the fret
Here, where men sit and hear each other groan;
Where palsy shakes a few, sad, last gray hairs,
 Where youth grows pale, and spectre-thin, and dies;
Where but to think is to be full of sorrow
And leaden-eyed despairs,
Where beauty cannot keep her lustrous eyes,
 Or new love pine at them beyond tomorrow.

John Keats
*Ode to a Nightingale*

There is a dread disease which so prepares its victim, as it were, for death . . . a dread disease, in which the struggle between soul and body is so gradual, quiet, and solemn, and the results so sure, that day by day, and grain by grain, the mortal part wastes and withers away, so that the spirit grows light . . . a disease in which death and life are so strangely blended that death takes the glow and hue of life, and life the gaunt and grisly form of death—a disease which medicine never cured, wealth warded off, or poverty could boast exemption from—which sometimes moves in giant strides, or sometimes at a tardy sluggish pace, but, slow or quick, is ever sure and certain.

Charles Dickens
*Nicholas Nickleby*
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PREFACE

I am pleased to present the sixth edition of *Tuberculosis and Nontuberculous Mycobacterial Infections*. Tuberculosis remains epidemic in much of the world, causing several million deaths each year. Although most of these deaths occur in developing nations, the developed world continues to struggle with tuberculosis, with evolving challenges from drug resistance, immigration, immunosuppression, and the expanding awareness of nontuberculous mycobacterial infection.

The previous structure of this book has been maintained. Section I presents basic concepts of epidemiology, pathophysiology, diagnosis, medical and surgical therapy, resistant tuberculosis, vaccines, tuberculosis in enclosed populations, and the role of the Health Department. Section II describes both classic and more recently described clinical manifestations of tuberculous infection. Virtually every organ system is included, as are the endocrinologic and hematologic complications of tuberculosis. Separate chapters address issues unique to pregnancy, infants and children, human immunodeficiency virus infection, and the immune reconstitution syndrome. Section III comprises nontuberculous mycobacterial infections, with an overview of clinical syndromes produced by these organisms as well as individual chapters on *Mycobacterium avium-intracellulare*, *Mycobacterium fortuitum*, and other rapidly growing mycobacteria; *Mycobacterium kansasii*; *Mycobacterium marinum*; *Mycobacterium scrofulaceum*; and additional, less common, pathogenic mycobacteria.

Three new chapters have been added. “Tuberculosis in History: Did It Change the Way We Live?” explores the influence of tuberculosis on our civilization’s history and culture, “Tuberculosis and Organ Transplantation” defines the challenges of tuberculous infection in the expanding world of transplantation, and “*Mycobacterium bovis* and Other Uncommon Members of the *Mycobacterium tuberculosis* Complex” updates the clinical significance of these mycobacteria.

In addition to the new chapters, every chapter has been thoroughly updated. New clinical data affect our understanding of gamma interferon release assays, the human immunodeficiency virus-tuberculosis interaction, immune reconstitution inflammatory syndrome, and extensively drug-resistant tuberculosis. The protean facets of pulmonary and extrapulmonary tuberculosis continue to challenge the clinician, as does the growing list of nontuberculous mycobacterial pathogens. Epidemiological issues include airline-associated infection, the explosion of tuberculosis in areas of the developing world, and the critical roles of the World Health Organization and departments of public health in tuberculosis control.

I hope that this text continues to provide a complete and user-friendly resource for everyone—clini- cian, scientist, and epidemiologist—involved in the diagnosis and treatment of tuberculosis.

I am grateful for the guidance and support of the editorial staff at ASM Press, particularly Jeff Holtmeier, Ken April, Greg Payne, and John Bell.

David Schlossberg, MD, FACP
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