

Bronchopulmonary Diseases

BASIC ASPECTS, DIAGNOSIS AND TREATMENT

by 142 authors

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719 ILLUSTRATIONS



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Bronchopulmonary Diseases

BASIC ASPECTS, DIAGNOSIS AND TREATMENT

To my inspirer and former chief
RICHARD H. OVERHOLT, M.D.
and to other pioneers and indefatigable workers
in the field of thoracic disease

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Foreword

DOCTORS dedicated to the task of prevention and cure of disease are fully conscious of the necessity of keeping abreast of current thought and practice. Unlike a judge or jury who may take days, weeks or even months before handing down a decision, the doctor must quickly gather the evidence and make the wise decision on the spot. We cannot always adjourn our court or postpone settlement to spend great periods in a library to make retrograde studies. It is necessary to prepare in advance for service to persons not yet struck down by disease. When confronted by varied and unpredictable problems, the prepared doctor will be able to hand down the correct decision and give wise counsel immediately.

There are various ways doctors have of trading information in the free "give and take" of the scientific world. The benefits of the most advanced methods of diagnosis and treatment should be made promptly available to all the sick. Information can be sorted out and channeled most directly, and with less delay, at medical meetings by word of mouth. Many times it is difficult to sift out the valuable from the less valuable, although program committees can, in effect, edit the context of the meeting fairly well by a review of abstracts in advance. However, since most medical meetings today serve the various specialty fields, areas of the body are often divided along artificial lines. Distortion of points of view lead to confused thinking and competitive methods of treatment.

Medical journals also serve well to channel information to those in the frontline of treatment. The editing and control of subject matter can be more effectively managed than in the assembly hall. Yet the bulk of the material that flows out through specialty journals may be artificially segregated. Such a medium does not necessarily form the simplified approach to many problems which confront the

doctor. A book or monograph by a single author may best document thought, knowledge and seasoned methods of procedure. However, it is difficult today for one author to "cover the waterfront" of a particular area of the body, prepare the material, follow it through to publication and, at the same time, to have it appear before much of the subject matter is outdated.

The early publication in book form of papers prepared by many authors for an immediate outlet in a journal gives broader coverage than the usual type of book and can be more up to date. By studying the contents of this present volume, the doctor whose future patients will be victims of pulmonary disease may prepare himself for decisions based on very current thought and practice. In fact, the material has been edited doubly. In the first place, authors were selected for a presentation of the subject of bronchopulmonary diseases to be published in special numbers of the *American Journal of Surgery*. This preliminary symposium was so enthusiastically received that it emphasized the need for a book of wider scope to include all the best of current knowledge of the diagnosis and management of pulmonary disease. This entailed not only a further culling and scanning of the original material to select that of greatest usefulness but also required the addition of many new subjects by other authors. As a consequence, subject matter has been covered not by men in one specialty but by those best qualified in all related specialties. A valuable reference library has resulted. The availability of these many points of view and of current methods of management of pulmonary disease freshly presented should help us all to pass on greater benefits of medicine and surgery to victims of pulmonary disease.

RICHARD H. OVERHOLT, M.D.

Preface

DURING the past decade the field of bronchopulmonary disease (BPD) has developed with such rapidity that it has gained importance and recognition as an integral part of internal medicine and thoracic surgery. Until recently our knowledge of BPD has been scanty. Our diagnostic and therapeutic armamentarium has been limited, and countless patients with BPD succumbed to undiagnosed and untreated conditions. Today, however, the picture is considerably brighter; many patients have an excellent chance of becoming completely well while others are offered a new hope for improvement and for prolongation of life. The tremendous progress in our fundamental knowledge and the potentiality for successful therapy make an understanding of the diagnosis and management of BPD of major clinical importance.

The basic motive in preparing this volume has been the need for an up-to-date, compact, authoritative and comprehensive compilation on the diagnosis and management of BPD. In addition, the rapid pace of recent advances justifies a reorientation in presentation and modification in emphasis from that found in standard textbooks on chest diseases. So prominent is the place which BPD holds in the field of medicine that such a demand must surely express the needs of many who look at the problem from different angles.

A unique departure in a book of this type is the emphasis on certain aspects of embryology, anatomy, physiology and pathology that are essential to an understanding of this complex subject, as well as the inclusion of principles of medical and surgical treatment. This is prompted by the fact that these patients not infrequently require protean methods of medical and surgical attention. Thus, the practicing physician should be familiar with all facets of this rapidly developing field, one which calls for the combined efforts of physician, surgeon, radiologist, endoscopist and anesthesiologist.

This book is assembled in sections, the contents of each covering a particular phase of BPD. The first two sections deal with fundamentals. To understand the malformation of organs, it is necessary to know something about their normal development. The increasingly good results obtained with physiologically directed therapy in the management of asthma and emphysema require a knowledge of physiologic principles and physiopathologic mechanisms responsible for the sequence of events that occurs. The use of special drugs in the prevention of BPD, the careful study of diseased resected lungs and lungs from apparently healthy individuals who have died from violence, and the development of such procedures as bronchospirrometry and pulmonary arterial catheterization in the study of pulmonary function necessitate a revaluation of our concept of the pathogenesis and the complications of many forms of BPD.

In the section on diagnosis the clinical and laboratory procedures which help establish correct diagnoses are discussed. The importance of lung biopsy in undiagnosed disseminated disease is emphasized. The section which deals with roentgenology points out the reliability and pitfalls associated with x-ray diagnosis.

Certain subjects of predominant importance are presented as individual monographs. The section on heart and lung disease is included and is sufficiently discussed because disease or insufficiency in one organ is reflected in the other. This creates a problem of differential diagnosis since it is often difficult to assess which is the primary disturbance when heart and lung disease co-exist, as they frequently do. The section on tuberculosis indicates that recent years have witnessed the evolution of our present-day concept of prolonged interrupted therapy with antimicrobial agents and a definite change in our concepts of surgical management. The changes that occur in pulmonary tuberculosis, brought about by chemotherapy, are discussed in detail. In the section on primary bronchogenic carcinoma, which today

constitutes the most common cancer in white males, emphasis is placed on its detection before its clinical recognition. The selection of patients for surgery and the importance of exploratory thoractomy as a diagnostic procedure is reviewed. The treatment of patients with inoperable pulmonary cancer, primary and metastatic, including lymphomatoid lesions, by means of radiation, nitrogen mustard and radioisotope therapy is included. The importance of the small, solitary, circumscribed, asymptomatic, so-called coin lesion is stressed; experiences with this lesion at clinics in different geographic locations are presented.

Other forms of BPD are described in great detail. Ample consideration is given to occupational diseases of the lung since today a large contingent of the adult population is employed in industrial work. The rapidity of modern transportation demands a familiarity with BPD of parasitic etiology. Certain types are prevalent in various parts of the country, particularly in the southeastern states, whereas amebiasis and toxoplasmosis are cosmopolitan in distribution. The subject of cystic disease is considered sufficiently important to include a detailed discussion of each specific type. Since pleural diseases are frequent complications of BPD, an extensive section on pleuropulmonary disorders is included. In another section, the role of bronchoplastic procedures for the preservation of lung tissue is thoroughly considered. The book concludes with a special section which deals with the fundamental considerations in the management of patients with BPD.

Many other diseases too numerous to mention are given due attention. Accepted and experimental methods for treatment are briefly considered.

With few exceptions, no attempt has been made to describe the technics of operation, for these are matters to be found in books on surgery.

To make the discussions of various subjects complete in themselves, a certain amount of repetition has been unavoidable—and desirable. It is hoped that this has been held to a minimum.

The editor feels particularly fortunate for the cooperation received in the preparation of this book. Each chapter has been written by an authority who has devoted years to his particular assigned topic. Thus, it reflects actual experience in the subject under discussion. To the many contributors who have so generously given of their time, the editor is most gratefully indebted.

To Dr. Thurston Scott Welton, Editor of the *American Journal of Surgery*, I wish also to express my thanks. I acknowledge gratefully both the honor and the responsibility of serving as his Guest Editor for the "Symposium on Bronchopulmonary Diseases." To the publishers of the *American Journal of Surgery*, I am most grateful for permission to use such material as formerly appeared in their journal.

To Florence Wey Tracy, for unstinting efforts in the preparation of this book and for many valuable suggestions, I express particular appreciation.

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To the publisher, Mr. Paul B. Hoeber, and to members of his editorial staff, namely, Mrs. Eunice Stevens and Mr. George D. McKinnon, I offer sincere thanks for their unfailing cooperation and courtesy.

Finally, to my brother, Anthony J. Naclerio, without whose devotion and guidance this book would not have been written, and to my wife, Gloria, for her most patient understanding and cooperation, I express heartfelt gratitude.

EMIL A. NACLERIO, M.D.
New York, New York

Bronchopulmonary Diseases

BASIC ASPECTS, DIAGNOSIS AND TREATMENT

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