Preface to the First Edition

The purpose of *Pathology of Asbestos-Associated Diseases* is to give a detailed description of the pathologic abnormalities associated with exposure to asbestos fibers. The past decade has witnessed substantial advances in our understanding of the pathology of asbestos-associated diseases, as a result of observations using both human and animal tissue samples. A book with this information summarized in a single volume is a valuable resource for pathologists, pulmonologists, radiologists, occupational medicine practitioners, industrial hygienists, and others with an interest in this subject.

Knowledge of asbestos-associated diseases has been derived primarily from three lines of investigation: (1) observations and detailed descriptions of pathologic changes in tissues of individuals exposed through their occupations to airborne asbestos fibers, including quantification of asbestos content; (2) reproduction of these diseases in animals exposed to asbestos fibers under controlled conditions; and (3) epidemiologic observations made of asbestos workers examined as part of either cross-sectional or longitudinal studies. Because these latter two lines of investigation have contributed to knowledge of the pathology of asbestos-associated diseases, they are also summarized in this volume. The chapters dealing with specific diseases include a review of pertinent epidemiologic studies. One entire chapter is devoted to a review of the contributions of experimental animal studies to knowledge of asbestos-associated diseases.

The book is organized into thirteen chapters, each dealing with a specific aspect of asbestos-associated diseases. The first chapter is designed to tell the reader what asbestos is and includes a simplified description of asbestos mineralogy, its sources, and the methods used to detect and identify asbestos fibers. The second chapter describes how individuals are exposed to asbestos, both in the workplace and in the home environment. Chapter 3 gives a detailed description of asbestos bodies, how they are formed, and how they can be distinguished from ferruginous bodies lacking an asbestos core.

The first three chapters give the background for the chapter on asbestosis, a form of pneumoconiosis that has been recognized since

the early decades of this century. This is followed by a chapter dealing with the pathologic features of malignant mesothelioma, a signal neoplasm occurring with alarming regularity in populations exposed to asbestos. An explosion of information regarding the specific features of this neoplasm has greatly increased the reliability of the pathologist's diagnostic armamentarium for distinguishing from other malignancies with which it may be confused. The sixth chapter is devoted to the nonneoplastic alterations in the pleura that may occur in individuals exposed to asbestos.

Chapter 7 is a review of the pathologic and epidemiologic features of carcinoma of the lung related to asbestos exposure. This is a particularly difficult and controversial area, mainly due to the strong and confounding association of the various lung carcinomas with cigarette smoking. Other asbestos-related neoplasms are the topic of the following chapter, an area of investigation that is badly in need of more detailed studies. Chapter 9 reviews the contributions of cytopathology to the diagnosis of asbestos-associated diseases, a source of valuable information often neglected in the past.

A book on the pathology of asbestos-associated diseases would be incomplete without a discussion of the contributions of experimental animal studies. Chapter 10 shows how these models of asbestos-related disease have greatly expanded our understanding of the interactions of asbestos with the respiratory system and the resulting changes that ultimately lead to disease. In addition, they have in a more general sense increased our knowledge of pulmonary pathobiology. With the current rapid progress in molecular biology research, the coming decade should witness even greater progress in understanding the mechanisms at the molecular level, whereby asbestos is able to induce pulmonary fibrosis or effect neoplastic transformation of cells of the lung and pleura.

A great deal of information has also been gained in the past decade with regard to the tissue asbestos levels associated with various asbestos-induced diseases. Although these analytic and quantitative techniques have yet to be standardized, the information provided by different laboratories has been surprisingly consistent. This information is summarized in Chapter 11, including a considerable amount of previously unpublished data from the authors' own laboratories.

The medicolegal repercussions of asbestos-related diseases have affected a large segment of our population through asbestos litigation, and Chapters 12 and 13 deal with the pathologic aspects of asbestos-associated diseases from an attorney's perspective. Both the plaintiff's and the defendant's points of view are presented by prominent attorneys with extensive experience in this litigation.

Each of the chapters also contains a brief historic review to place the discussion in proper perspective. The information in these reviews is largely derived from a few excellent and detailed sources on the historic perspective of asbestos and asbestos-related diseases.

Due to increasing public awareness of asbestos and its effects on health, as well as increasing concern of public health officials on the prevention of future disease, it is important that pathologists have a

working knowledge of the various manifestations of asbestos-related tissue injury. It is hoped that this volume will provide pathologists and other health-care workers with this necessary information.

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