BOOK REVIEWS


This book is an encyclopedic accomplishment by experienced and highly regarded authors. It is divided into 26 chapters, with 35 contributors guided by an Editorial Review Board of 16 members. Readers can be assured of the quality of this book. It is presented in a large-format page of 2 columns with easy print for reading. Illustrations are uniformly excellent, with cogent photomicrographs distributed through the text in a user-friendly manner. The bibliography is very complete and current, with a comprehensive index. In a multiauthored text, there is always the possibility of variable quality. The editors have done an admirable job in maintaining a uniform high level of quality. Although I tried hard to find loopholes in the text or problems with the illustrations, I was unable to do so.

The mouse will apparently never disappear from the toxicology scene. With huge databases of information, these animals will remain loved by investigators and regulatory agencies. With the advent of designer mice from the wizards of genetic manipulation, it is especially valuable to have an exhaustive text such as this as an authoritative source for comparison purposes. This book is a necessity for all toxicologic pathologists and biologists who must deal with the pathology of the mouse. The editors and contributors are to be congratulated on the accomplishment of this heroic work. As a text and atlas, it will become a gold standard for future publications.

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The subtitle of this book is “A Tragic Story of Water Pollution,” and this volume will become a classic text for toxicologic pathologists, neuroscientists, and epidemiologists. There is now a National Institute for Minamata Disease, which continues to explore the problems raised by this human catastrophe at a variety of levels. Minamata disease represents a special class of food-borne methylmercury intoxication in humans as typified by the outbreak that began in 1953 in Minamata, Japan, and its vicinity. The source of methylmercury pollution was industrial waste dumping. As such, the pathology is similar to that seen in other types of methylmercury poisoning caused by accidental ingestion. There was another outbreak of this disease in 1965 in Niigata, Japan.

The book is divided into 4 parts: Prefatory Chapters, Pathology of Minamata Disease, Closing Remarks, and Appendices. The photomicrographs and illustrations are excellent, although I would have preferred more color. However, the color pictures of gross and microscopic pathology are wisely selected and enhance the text. Over the last 40 yr, there have been numerous papers on this subject in the peer-reviewed literature, and an extensive bibliography is included. Even at this date, the mechanisms responsible for the unique neurotoxicity of methylmercury are not entirely clear. Methylmercury-induced damage to the nervous system can be devastating in the brain and peripheral nerves. Clinical cases have been classified according to duration of exposure, appearance in pregnant and nonpregnant women, and severity of the pathology. Concentrations of mercury were measured in tissues obtained at autopsy, and dose responses were examined.

The authors portray how a study of this kind needs to be done in keeping with current standards of science. Deficiencies are cited and future requirements are discussed. Research is directed towards elucidating the remarkable selectivity of methylmercury for neurons, the role of apoptosis, reactive oxygen species, and vascular changes. There are very few environmental diseases that have been studied continuously for more than four decades. For the pathologist, there are riches to be mined from the data and an amazing example of the role of toxicologic pathology in understanding human disease.

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