BOOK REVIEWS


One of the most attractive features of this book by Drs. Loeb and Meyer is the extensive list of references dealing with vascular disease of the brain stem and cerebellum. The neuropathologist is fortunate that the authors have assembled such a bibliography of the numerous books, monographs, and articles dealing with this area of cerebrovascular disease. With a few minor exceptions, most of the pertinent literature to, and including, early 1964 is cited. At times, the reader might wish for more selectivity as he plods through the names of authors of the 19th and early 20th century who reported single cases of this syndrome presumably of vascular origin. Although the authors deplore the plethora of eponyms attached to brain stem syndromes, they compound the confusion to a great extent by tedious repetition, qualification, and reinterpretation only to reject certain cases after all. For example, "syndromes" of Goukoski-Giansulli and Gaspertini hardly merit the space given to them. This eponym entanglement, reminiscent of Laecoin, diminishes the value of the chapter on segmental syndromes of the brain stem. At the end of certain chapters the authors have a section entitled "Conclusions". This is a praiseworthy summation of the available data and current concepts. Their discussions of pathogenesis are fair and complete, and in those instances where controversy still remains, they often take a stand based on their own case material and their interpretation. The illustrations are generally good, especially the angiograms. Anatomical diagrams are occasionally too simplified for a text of this caliber (e.g., figures 19 and 20). Almost all of the photomicrographs are too small for one to see any useful histological details. For this reason, and others, the pathologist may find the book less helpful than it might have been unless his major interest is the gross localization of vascular lesions. Two cases with transient neurological deficit studied neuropathologically were described in the chapter on cerebrovascular insufficiency. The authors' findings and their conclusions about these cases are not convincing. The structural pathology, if any, in transient ischemic attacks remains to be demonstrated.

Although not strictly in the realm of the pathologist, one statement in the chapter on arteriography is almost certain to provoke controversy. "In our experience, arteriograms provide definitive diagnosis in about 90 per cent of patients and permit surgical treatment in the vast majority" (p. 221).

Despite these criticisms and minor technical flaws (uneven writing style, misspellings, and typographical errors some of which lead to confusion when the references are searched, e.g. Bawell for Howll on p. 197 and others), the merits of the book outweigh its disadvantages and, as the authors expressed the hope in their preface, it will be useful to physicians concerned with cerebrovascular disease.

John Moosy


In this book there are 82 photographs of the gross brain in various surface views, dissection and section plus 55 photomicrographs of myelin preparations. An index enables the reader to find pertinent plates. The book should be useful to those not already in possession of the well-known publications which cover the same territory.

Fred A. Mettler


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BOOK REVIEWS

W. Doehr, Heidelberg, 1965. viii, 93 pp., 104 figs. (Georg Thieme Verlag, Stuttgart)
DM 45.00. (Subscription DM 31.20).

This is a morphological study concerned with the effects of cerebral hypoxia on the brain of the laboratory rat. The author has employed Levine's experimental anoxo-ischemic technic with one, perhaps significant innovation, he gave up to 9 repeated short exposures to the anoxic gas mixture, interrupted by 10 minute recovery periods. This approach apparently produces lesions more consistently and makes for a higher degree of reproducibility. The result is in essence a selective neuronal necrosis; liquefaction necrosis does not develop with any degree of consistency.

The first 33 pages of the monograph are devoted to a detailed description of light microscopic observations. In the second part, the author presents enzyme histochemical studies in 30 pages and the final 14 pages bring a discussion of the pathogenesis and speculations on the factors which determine local vulnerability.

This is an industrious study based on serial histologic sections from several hundred rat brains. The reader finds valuable information in respect to the variable pathomorphology of ischemic neuronal damage and detailed information on the various types of mechanisms leading to "dark" neurons. For example, cell shrinkage as a late manifestation of hypoxia is rare, whereas early neuronal shrinkage is a fleeting condition which leads to necrosis and dissolution of the cell body within hours. Time periods required in the evolution of ischemic lesions are estimated, and various hypotheses advanced to explain mineralization, and incrustation of ischemically damaged nerve cells are critically illuminated.

The histochemical studies are detailed and confirm observations by others. However, this reviewer was disappointed not to find any attempt to correlate these observations with the classical neuropathological alterations. This, of course, is due to the technical difficulties in obtaining good enzyme preservation on the same tissue treated for optimal preservation of histologic structures. In general, cerebral hypoxia produces decrease in activity of all enzymes throughout the neuropil within hours, whereas the perikarya retain activity for about 1 day. Increased activity occurs in reactive astrocytes and microglia. Many will not agree with the author when he interprets the increased enzymatic activity in axonal retraction bulbs as indicative of a particular metabolic activity which, in his opinion, disproves the concept of centrifugal axoplasmic flow.

The discussion of the findings and the speculations on which factors govern vulnerability make for good reading. Here one finds a wealth of information, most of which is critically discussed and the author is honest in stating that his studies, albeit extensive, did not contribute to a better understanding of processes which determine the distribution of the lesions. He considers a multifactorial system of variables in which cellular vulnerabilities and vascular factors combine. Among the latter, an enormous, obliterating swelling of capillary endothelial cells is mentioned but neither documented nor elaborated upon.

Despite the seemingly tenuous results, this is a valuable opus which contains an enormous amount of basic and specific information and a rather complete bibliography on the subject.

WOLFGANG ZEMAN

OMISSION

The following should have appeared as a footnote on page 479 of the July 1966 issue:

From the Department of Neuropathology, Harvard Medical School, Boston, Mass.
This investigation was supported by a U.S. Public Health Service research grant NB-03190 from the National Institute of Neurological Diseases and Blindness.

The article is Cerebral Infarction in the Human Fetus Near Term, by Manteola, Towbin and Yakovlev.