Book Reviews

Vay Liang W. GO et al. (eds.):
 The Pancreas. Biology, Pathobiology, and Disease (Second Edition)
 Raven Press, New York, 1993
 22.0×28.5 cm, 1,176 pages, 461 illustrations.
 US\$283.50

This large volume, "The Pancreas" represents the second edition of "The Exocrine Pancreas", which was published in 1986. The editors of this new volume are the same as the previous ones, except that Dr. F. P. BROOKS, who has since passed away, has been replaced by Dr. H. A. REBER. "The Exocrine Pancreas", providing us with comprehensive information including the structure, function, development and pathophysiology of the exocrine pancreas, was welcomed by both research workers and gastroenterologists. Now this new edition, as its title indicates, deals with not only the exocrine pancreas but also its structural and functional correlations to the endocrine pancreas. This edition features a newly inserted section entitled "Endocrine and Exocrine Pancreatic Relationships" of six chapters, two of which, "The Enteroinular Axis" by W. CREUTZFELDT and R. EBERT and "The Insulin-Acinar Relationship" by J. A. WILLIAMS and Ira D. GOLDFINE were found in the previous edition; they have been revised and moved to this section. The four other chapters were newly prepared: "Normal Function of the Endocrine Pancreas" by M. KORC; "The Microvasculature of the Pancreas, with Emphasis on That of the Islets of Langerhans: Anatomy and Functional Implications" by

S. BONNER-WEIR; "Endocrine Changes in Pancreatic Insufficiency" by C. OWYANG; and "Pancreas and Islet Transplantation" by A. C. FARNEY and D. E. R. SUTHERLAND.

The reviewer appreciates the intention of editors to highlight the Endocrine-Exocrine-Relationship as a new, important topic in our understanding of the pancreas. It must be, however, suggested that this new section does not wholly indicate satisfactorily advances in this field. The article on the microcirculation of the pancreas by BONNER-WEIR is based on insufficient findings in a limited number of animal species, essentially the rat, an animal whose pancreatic microcirculation, from the reviewer's experience, is most variable in patterns and difficult to understand among laboratory animals. The data and interpretations concerning the insulo-acinar portal system and the intrainsular microcirculation would be better enriched and corrected by using various animal species including human pancreas.

This volume, as the previous edition, contains comprehensive information on the structure and function of the pancreas and is recommended as an indispensable reference source for biomedical researchers and gastroenterologists.

Tsuneo FUJITA (Niigata)

Franz-Josef VONNAHME:
 Die Leber des Menschen/The Human Liver
 Rasterelektronenmikroskopischer Atlas/A Scanning Electron Microscopic Atlas
 Karger, Basel-Freiburg-Tokyo, etc., 1993
 28.5×30 cm, 100 pages, 154 figures.
 DM 98.-/SFr.82.-/US\$ 65.75

The liver comprises a complicated microarchitecture. The three-dimensional diagrams of hepatic lobules consisting of the "one-cell-thick" plates of hepatocytes proposed by Elias around 1950 were confirmed, around 1980, by scanning electron microscope (SEM) studies in various mammals. The structure of the liver is further complicated by other cellular elements including endothelial cells, Kupffer cells, Ito cells and lymphocytes; it is only recently that their nature and three-dimensional features have been clarified, although partially.

While a monograph ("The Liver, an Atlas of Scanning Electron Microscopy" by MOTTA, MUTO and FUJITA;

Igaku-Shoin, 1978) has been available in this field, its contents are mainly based on observations of laboratory animals.

The present volume is a valuable collection of SEM images exclusively of human livers. Besides normal structures, typical pathological changes and some images from fetal livers are included. According to the foreword by Dr. R. S. MCCUSKEY, "this achievement resulted from Dr. VONNAHME's close, longterm association at the Medizinische Hochschule Hannover with its liver transplantation team..."

In order to obtain favorable SEM images, thorough

vascular perfusion for the elimination of blood is unavoidable. This method, however, could not be used for small liver pieces obtained by biopsy; a "transparenchymal perfusion" is instead applied to them. The equipment, consisting of a specially devised cannula, an infusion pump and a suction pump is introduced at the beginning of the text, in addition to detailed techniques for puncturing liver parenchyme and perfusion through it. This technical account is followed by general explanations concerning the main normal constituents of the liver and the pathological changes dealt with in this volume.

This volume contains 154 figures, of which most are SEM images of a modest size (two to a page), each accompanied by a concise legend. A few transmission electron micrographs and SEM views of blood vascular casts are included. The figures are carefully and appropriately selected to cover a variety of morphological topics of the liver. Fenestrated endothelium and Kupffer cells in variable dynamic forms are impressively illustrated. Many figures are used to demonstrate the dendritic structure of perisinusoidal cells of Ito. Figures showing fetal liver tissues are of high scientific value.

The author seems to have paid little attention to "pit

cells", which were discovered and so designated by WISSE (1976) and have recently been known to correspond to NK (natural killer) cells (KANEDA and WAKE, 1983). Looking at the lymphocytes so numerous demonstrated in human hepatic sinuses in this atlas, the reviewer was interested in the possibility that a population of them might represent the NK cells, which, if studies would advance further, might become identifiable from their surface view under the SEM.

The pathological changes dealt with in this volume are: 1) steatosis and sinusoidal compression, 2) liver cell necrosis, 3) Budd-Chiari syndrome, 4) sinusoidal haemangioendothelioma, 5) cavernous haemangioma, 6) polycystic disease, 7) liver cell adenoma, 8) hepatocellular carcinoma, 9) hepatoblastoma, 10) angiosarcoma, 11) spindle-shaped sarcoma.

The reviewer respects the enthusiasm and accomplishment of the author in collecting human tissues to produce such a large variety of beautiful and stimulating SEM images. The volume, including the useful list of references, is recommended to histologists, pathologists, physicians and surgeons who are interested in the liver.

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