

BOOK REVIEWS

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The Liver Annual/5. Edited by I. M. Arias, M. Frankel and J. H. P. Wilson. 558 pp. Amsterdam: Elsevier Science Publishers B.V., 1986. \$69.00.

This is the fifth in a series of updates from the clinical and basic science hepatology literature. The editors and the contributing authors, a worldwide cast, have undertaken the difficult task of condensing the world's hepatology literature from 1983 and 1984, both clinical and basic science, into eighteen 20- to 50-page chapters. For the most part they have succeeded. The chapters cover a wide range of pertinent topics including: new findings concerning lipid, protein and carbohydrate metabolism, with an excellent update on insulin receptors and their role and relationships to protein kinases; an important chapter on the ever-expanding knowledge about cellular and molecular aspects of hepadnavirus, immunology and liver disease; an expanded chapter on developments in pediatric liver disease; updates on alcohol and its effects on the liver; and biliary physiology, including a good discussion of recent studies concerning the role of nucleating and antinucleating factors in gallstone formation.

Each chapter is organized with a lead-in summary describing the major subjects of the chapter. This is followed by the subtitled topics and a review of the recent literature concerning them. Most of the topics and discussions emphasize the basic science literature, and many of the discussions include details of research methods. This is not a book for someone looking for a bottom

line review or the summary of a specific, hepatologic topic. It is directed much more to providing a recent update on materials, methods and knowledge to an audience that already has considerable background in the field. Some of the chapters are filled with too much information and loosely organized detail that make for tedious reading. As in any publication of this type, the literature reviewed cannot be totally up to date. Few of the articles reviewed are from 1985. A useful subject index is provided. The editors might consider adding an author index of the publications reviewed in their next edition.

I cannot recommend this book as a first-line purchase for busy clinicians or postdoctoral fellows looking for an easy-to-read summary of a major topic or the recent literature. However, it is a good resource for someone looking for a deeper analysis of the fairly recent literature, especially the basic science and research aspects of hepatology.

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Regulation of Hepatic Metabolism: Intra and Inter-cellular Compartmentation. By R. G. Thurman, F. C. Kauffman and K. Jungerman. 476 pp. New York: Plenum Press, 1986. \$69.50.

The liver is a deceptively homogenous organ. Although heterogeneity between cells has been recognized for decades, heterogeneity of the parenchymal cell population was not recognized until the hepatic acinus as the functional unit of the adult liver was accepted.

This very useful book is a "State-of-the-Art" summary of advances of the last 10 years in which the function of the parenchymal cell from different acinar zones has been examined in the isolated cell preparation or in the perfused organ. The technology which has made this possible is impressive. Sublobular structure and function can be examined in the isolated perfused liver, and zonal differences in NADH fluorescence and oxygen consumption can be measured under various experimental conditions. Methods for isolating preparations from periportal and pericentral zones are well described. Applications of these methods have permitted insight into previously poorly understood questions of cellular physiology. How can a cell perform glycolysis at one time and gluconeogenesis a few hours later? With the discovery that the glycolytic apparatus is located mainly in zone 3, and the

gluconeogenic pathway mainly in zone 1, this question is preempted and new ones arise. Similarly, liponeogenic enzymes are located in centrilobular hepatocytes, whereas the equipment for β -oxidation is found predominantly in the periportal cells. Ammonia is converted to urea in the periportal hepatocytes and to glutamine in the perivenous hepatocytes. While the functional unit of the adult liver is the acinus, for the fetal liver there is as yet no recognized lobular or sublobular functional differentiation. This observation opens a new field for the transformation of the embryonic to the neonatal liver and the mechanisms which control this process.

While the book provides an excellent summary of the current status of the physiological chemistry of the liver, what has not yet been accomplished is even more interesting. Given sophisticated technology, it is easy to determine how normal physiology is modified by "toxic injury." This is still mainly descriptive, and the bridge to clinical medicine for the most part remains to be constructed. This is nowhere more evident than in the study of ethanol. The effect of ethanol on the liver can be described in greater and better detail and has led to a good understanding of the fatty liver, one of the mini-problems of clinical hepatology. A better understanding of the pathogenesis and pathophysiology of the more lethal forms of human liver disease remains to be developed.

The book consists of 16 chapters by 26 contributors. Each of the chapters in this book is at least very good, and many are outstanding. Numerous high-quality illustrations and references are presented. The references are comprehensive up to and including 1984. What is missing and perhaps reflective of the state of the art is a unifying theme which connects each chapter by more than a shared overall objective. The book is therefore no better than the sum of its very good to superb parts. A new edition, 5 or 10 years from now may provide this missing element.

Who then should buy this book? The neophyte hepatologist with an interest in physiological chemistry will find it indispensable. The established worker will recognize that the information will save countless hours of work in the library and should have it accessible. Clinicians, while unlikely to read it from cover to cover, will be stimulated by knowing that there are new ways of looking at ethanol and so-called hepatotoxins. All readers of *Hepatology* will want to know some of what is in this book; some will need to know it all.

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Clinics in Critical Care Medicine. Liver Failure.

Edited by Roger Williams. 230 pp. New York: Churchill Livingstone, Inc., 1986. \$40.00.

When I received my complimentary copy of this book (the generous honorarium provided by *Hepatology* for these reviews), I expected it to be a definitive monograph

on the management of patients with either fulminant hepatitis or chronic liver failure. Unfortunately, these expectations were not realized.

This monograph is a compilation of 12 chapters ranging from "Potential Neural Mechanisms in the Mediation of Hepatic Encephalopathy" by Anthony Jones to "Management of Acute Variceal Bleeding" by Jaime Bosch and Josep Teres. In general, the writing style in each of the chapters is commendable. Included are excellent chapters on cerebral edema (oedema to the British), disturbances in cardiovascular and pulmonary function in fulminant hepatic failure and amino acids in hepatic failure. Also included are a conglomerate of writings on a variety of topics, including charcoal hemoperfusion and experimental evaluations of the artificial liver. Somewhat ironically, considering Williams' prominence in this area, liver transplantation *per se* is not included.

This multiauthored volume contains all the flaws for which such texts are notorious: spottiness in topic selection, unbalanced content among the various chapters and lack of focus for the volume as a whole. This lack of focus is my major criticism of the book. Instead of limiting the scope to either acute or chronic hepatic failure, the authors attempt to cover both topics and, as a consequence, do so poorly. The lack of focus begins with the introduction by Dr. Williams, which presents a confusing classification of various types of liver failure, and continues throughout the book. Some chapters, notably the review of hepatic encephalopathy by Dr. Jones, contain no clinical information. Others are quite practical in content. In addition, the coverage of acute and chronic hepatic failure varies strikingly from chapter to chapter. One notable example is the chapter on coagulation patterns in liver failure by Jessica Lewis and her colleagues from Pittsburgh, in which the discussion is confined to the coagulation disturbances in patients prior to and during liver transplantation. The coagulation disturbances of fulminant hepatitis are not even mentioned! Although this is the most striking example, such unevenness of content pervades the book. Finally, this volume suffers, as do many such texts, from the inclusion of material which has previously been published in almost identical form.

Notwithstanding these negative comments, this book does contain a great deal of useful information that is difficult to find in other sources. I am merely disappointed by what could have been a definitive volume on either acute or chronic hepatic failure. A number of the chapters are excellent, both in content and style. I particularly enjoyed the chapters on cerebral edema and the cardiopulmonary complications of hepatic failure. Each is presented in depth by Dr. Williams and his colleagues with good illustrations and, for me at least, new material that provides a fresh look at each topic. Nevertheless, despite my enjoyment of these chapters, I don't think I'll be nearly as upset when one of our fellows steals this volume as I was when one of them lifted my copy of Zakim and Boyer!

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