Book Review

Toxicology of the Liver
Second Edition
(Target Organ Toxicology Series)
Edited by Gabriel L. Plaa and William R. Hewitt
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Although presented as a second edition, this book is a completely new volume rather than an update of the original. In view of the vast amount of new data on hepatotoxicity and the advances in technology in the intervening period, this is the most logical way of approaching the subject, as also is the editors' confessed selectivity. The primary focus of the book is on hepatotoxicity of pharmaceutical agents, although some aspects inevitably require discussion of other classes of chemical.

The book is structured into three parts, dealing firstly with the characterization of hepatotoxicity, leading to mechanisms of hepatotoxicity and finally cholestasis. It is primarily aimed at toxicologists and assumes prior knowledge of liver structure, function, etc. The introductory chapter sets the scene by defining the problem—drug-induced hepatic disease—primarily from the clinical viewpoint. The remaining two chapters of the first section deal with manifestations of chemical-induced hepatotoxicity and mechanisms of chemical-induced hepatocarcinogensis, a subject of considerable interest in experimental toxicology.

The second section deals with the latest understanding of selected mechanisms of hepatotoxicity, including oxidative stress, lipid peroxidation, immunologically-mediated effects and the role of nonparenchymal cells and inflammatory macrophages. Each of these chapters draws on examples of the effects of different chemicals as appropriate. In addition, two separate chapters deal specifically with peroxisome proliferation and paracetamol. Again, I found this selection logical and appropriate, given the large amount of research focussed in these two areas. Both chapters attempt to reconcile different theories related to their mechanisms of effect. The chapter on peroxisome proliferation also focuses on the human relevance of this phenomenon.

The final section reviews current knowledge of cholestasis, including mechanisms of effect of steroid glucuronoids and bile acids, animal models of cholestasis and causes of bile duct proliferation.

Given the dual approaches of focussing in some instances on a particular biochemical mechanism, and in others on the effects of a given substance, or class of substance, there is relatively little repetition between chapters. Some of the subjects involve reviews of a large body of information, and this is reflected in the extensive lists of references. Most chapters include in excess of 200 citations, ranging from original observations to the most recent developments.

Overall, I found this book well structured and easy to use, providing useful overviews and readily identifying sources of more detailed information.

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