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Book Review

Physiological Pharmaceutics. Biological Barriers to Drug Absorption

Clive G. Wilson and Neena Washington
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As suggested by the title, this book tackles the problem of effective delivery of pharmaceuticals by considering the properties of biological barriers that drugs will encounter when administered to the patient. The book begins with a short overview of features common to all such barriers as a good reference point for the chapters that follow. As the most often used mode of administration for drugs is still the oral route, it is not surprising that over half of the text is devoted to barriers encountered in the 'tube that links the mouth to the anus'—to borrow a phrase from the authors' preface—with a logical sequence of five chapters on the oral cavity, the oesophagus, the stomach, the small intestine and the large intestine. Non-enteral barriers are covered in the final four chapters on the skin, the eye, the nose and the lung.

Each of the nine main chapters begins with a review of the anatomy and physiology of the specific organ, within the context of its normal function. These sections are clearly written and illustrated with standard text-book type diagrams and are followed by discussions of the features more specifically related to the problems of drug absorption. Here the text relies for its examples on the recent research literature, much of it from the laboratories of the authors and their associates.

I found this an excellent book. It can serve as a reliable reference book to the physiology and anatomy of the barriers described, both for the student and for the research worker who may not be a physiologist. The subject matter is sensibly organised into logically separated chapters with each chapter having its own flow unconstrained by artificial sub-headings. Throughout the text the authors—including the guest authors for several chapters—have presented only what the reader really wants to know and avoided the tedium of any sort of catalogue. Examples from the recent literature are well-chosen to illustrate the established wisdom in the field. Contentious research is not ignored, but gently put in perspective. The result is a firm and reliable base for any researcher beginning to enquire into the ways of overcoming, or using, biological barriers to drug absorption.

A mathematical treatment of the absorption through the barriers is not pursued, rightly I believe, in a book of this type. However, there are enough examples of quantitative experiments to allow the reader to appreciate the scale of the phenomena being described; this is not always so in physiological text-books.

The authors, in their preface, excuse the omission of other routes of administration such as subcutaneous, intravenous and vaginal, because of restraints of time and length of the text; this does not detract from the present volume as the thorough treatment given here is preferable to a shallow overview that could result in a wider coverage. Nevertheless, they do state their intention of including these routes in a further text, 'providing they can raise the energy and courage necessary'. A further volume to this high standard would be a welcome addition to the series.

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