

Book Reviews

New Drugs for Asthma. Edited by P. J. Barnes, VCH, New York, 1989, 199 pages, ISBN 1-56081-030-0, \$95.00.

This volume is composed of 17 chapters, each of which addresses a drug category or approach to asthma therapy. Pharmaceutical scientists will be interested in the sections on "problems in current asthma therapy" and the "need for improved asthma therapy," addressed in Chapter 1. The conclusion of Chapter 17 states clearly the considerable success of previous and current approaches to the treatment of asthma. It is suggested that the remaining opportunities for treatment are diminishing.

The texts describing the rationale for approaches to asthma therapy requiring the use of beta-adrenergic agonists, xanthines, anticholinergics, and glucocorticosteroids are followed by a review of new approaches or compounds. Arachidonic acid metabolism gives rise to a number of inflammatory mediators. The cyclooxygenase pathway is discussed in chapter 8. Chapter 9 considers the products of the lipoxygenase pathway. Chapter 10 describes platelet aggregating factor (PAF), which is derived from arachidonic acid by an intermediary compound, lyso-PAF. Chapters 13 and 15 consider neural and humoral control of airway resistance. The nonadrenergic, noncholinergic control of airway tone may be brought about by peptides which act in opposition to the cholinergic system. Inflammatory cells produce peptidases which degrade neuropeptides resulting in unopposed cholinergic bronchoconstriction. Immunosuppressive agents may therefore be active in the treatment of asthma. It is also suggested that a fish oil-enriched diet may modulate the humoral and inflammatory components of the allergic response. Calcium ions are involved in stimulating secretions and contraction of smooth muscle. The biochemical pathways governing calcium homeostasis are described in Chapter 5. Potassium channel activators relax bronchial, vascular, and other smooth muscle. These agents have been considered particularly appropriate for the treatment of nocturnal asthma. The pathway governing cyclic nucleotide hydrolysis is mediated by phosphodiesterase isozymes. The possibility of targeting these enzymes using novel antiasthmatic agents and increasing the cellular content of cyclic adenosine monophosphate is discussed in Chapter 7. Chapter 16 focuses on novel delivery systems and highlights progress in the fields of improved delivery from metered-dose, pressure-packaged aerosols and new dry powder generators. The authors of each of the chapters are noted authorities in their respective fields. Each chapter has a list of references which range in number from approximately 30 to over 120. These are contemporary to the publication date of the book and therefore a useful source for the reader.

The growth of the literature addressing the mechanisms of asthma have led to a redefining of the disease state. These circumstances have necessitated a review of drug treatment and the development of new approaches to therapy. As this

is likely to be a burgeoning field in the foreseeable future, this book is recommended to all who are interested in a reference text on asthma therapy.

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Skin Pharmacology and Toxicology—Recent Advances. Edited by Corrado L. Galli, Christopher N. Hensby, and Marina Marinovich. Plenum, New York and London, 1990, ISBN 0-306-43404-0, 318 pp., \$75.00.

This book is the result of the Proceedings of a NATO Advanced Study Institute on Recent Advances in Skin Pharmacology and Toxicology, held on April 9–19, 1989, in Riva del Garda, Italy. It reviews in detail the major scientific areas of interest for research and clinical scientists working in dermatopharmacology and dermatotoxicology.

Excellent chapters are included on dermatological drug development, xenobiotic metabolism, and animal models used in cutaneous pharmacology and toxicology. The first chapter contains a variety of issues pertinent to dermatological therapeutics from a drug developer's perspective. The second chapter reviews in detail the carbohydrate, protein, and lipid metabolism in the skin. In the third chapter, a brief review is presented on the presence of hormones and their receptors in the skin. Among the topics discussed in the chapter titled "Skin Permeability and Models of Percutaneous Absorption" are skin structure, factors affecting skin absorption, and methods used in cutaneous pharmacokinetics.

Topics such as the response of the skin to irritation and injury, the evaluation of cutaneous toxicity, *in vitro* biochemical markers of skin toxicity and proinflammatory mediators, and human skin disease are well covered. Issues such as photoaging and the possible mechanistic role of cellular oncogene activation and the inhibition of intercellular communication in multistage carcinogenesis are also reviewed. Mechanisms and clinical aspects of photosensitization, contact and atopic dermatitis, and studies with cultured human keratinocytes are described very well. Further, a new evaluation method of skin plastoelasticity and an interspecies comparison of skin structure and skin permeability are presented.

The subject index at the end of the book is fairly complete. The references at the end of each chapter are current. The primary criticism of the book is that it is published in original manuscript type, and the content, length, and style varies considerably among authors. A number of typographical errors were not corrected before publication. Sections seem to be organized in random fashion, not grouped together. Specialists in skin tissue methods and percutaneous drug delivery may desire more, but in general, *Skin Pharmacology and Toxicology—Recent Advances* should be ben-