

Book reviews

“Dermatological and Transdermal Formulations”

Kenneth A. Walters (Editor), Marcel Dekker, New York, Basel; 2002, 567 pages, US\$ 195; ISBN 0-8247-9889-9

‘Dermatological and Transdermal Formulations’ is volume 119 of the series ‘Drug and the Pharmaceutical Sciences’ by Marcel Dekker. This book is an update and an expansion of the well-known book by Brian Barry ‘Dermatological Formulations – Percutaneous Absorption’ published 20 years ago, and focuses on the fundamentals in the field of dermatological research. The following subjects are addressed over 11 chapters: Chapter 1 describes the structure and function of the skin in a clearly arranged summary. It also encloses the most up-to-date on the subject, especially with regard to biochemistry. The next chapter deals with various skin diseases. Here, some brief information on diagnostics and pathogenesis as well as their topical treatment are given. However, in my opinion this chapter would be better positioned in a book concerning disease treatment. Chapter 3 is related to the basic mathematical principles in skin permeation. Starting with Fick’s laws, solutions for these are shown for different boundary conditions. The chapter includes the most important aspects of diffusion and is illustrated with numerous examples. Related references are well selected. Skin transport theories as well as their practical examples are described in Chapter 4. This chapter is not easy to read; however, many important pieces of information are provided. The complex nature of this chapter depends on the very complex nature of the skin and the involved transport processes. A very interesting short introduction on how to adapt the chemical potential theory to skin transport is given. Chapter 5 addresses methods for studying percutaneous absorption. This chapter is clearly arranged, very well organized and the pros and cons of the different methods are adequately discussed. In many cases, practical advice is quoted. The basics of formulation strategies for modulating skin permeation are given in Chapter 6. For chemical penetration enhancement, the most common examples are discussed and the interaction of vesicular systems with skin is described. Advantages and problems, as well as the rationale to use supersaturated solutions for dermal drug delivery, are mentioned and extended with examples. Chapter 7 is named ‘Drug formulation and transdermal systems’. In this chapter all dermal applied formulations are shortly reviewed. More information is provided in the

clinical use of transdermal systems. Well-determined cross-references to other chapters are given. However, it may be questionable as to whether the clinical aspects fit to the readers’ expectations. One of the hottest topics in the field of dermatological research is covered in detail in Chapter 8, ‘Bioavailability and bioequivalence of dermatological formulations’. In this chapter all relevant aspects concerning dermal bioavailability and bioequivalence are addressed on an up-to-date level. Often references to other chapters are provided. Chapter 9, entitled ‘Scale-up of dermatological dosage forms: a case for multivariate optimization and product homogeneity’, informs us about exemplar applications of factorial design to dermal formulations. Process variables influencing product homogeneity are discussed in detail. Safety aspects are outlined in the Chapters 10 and 11. In these two chapters many overlapping topics are noticeable. In addition, some new aspects concerning phototoxicity and corrosivity, like the OECD guidelines, are missing.

In summary, most of the chapters are well written and represent basic knowledge in the field of dermatopharmaceutics. For deeper information, well-selected references are provided. It is recommendable to anyone who wants to start in this field of research and also to those who want a brief overview of skin research. Undergraduates, as well as graduate students and researchers in industry and academia, will benefit from this book. It is a useful supplement to the dermatopharmaceutics field.

Ulrich Schäfer*

*Department of Biopharmaceutics and Pharmaceutical
Technology, Saarland University, Geb. 8.1, 66123
Saarbrücken, Germany*

* Fax: +49-681-302-4677.

doi:10.1016/S0939-6411(02)00141-8

“Topical Absorption of Dermatological Products”

Robert L. Bronaugh and Howard I. Maibach (Editors), Marcel Dekker, New York, Basel; 2001, 544 pages, US\$ 175; ISBN 0-8247-0626-9

The book ‘Topical Absorption of Dermatological Products’, edited by Robert L. Bronaugh and Howard I.