

## ■ BOOK REVIEWS

Carol A. Hirshman, M.D., Editor

**Clinical Anaesthetic Pharmacology.** Edited by J. W. Dundee, R. S. J. Clarke, and W. McCaughey. New York, Churchill Livingstone, 1991. Pages: 627. Price: \$89.00.

*Clinical Anaesthetic Pharmacology* is written largely by anesthesiologists and colleagues of the Belfast Anaesthetics Department, Northern Ireland. Thus, it is aimed at candidates sitting for the UK specialty board examination, the F.R.C. Anacs. Despite this, the book should have appeal for anesthesiologists and residents in the United States. The first section of the book describes basic pharmacologic principles and includes chapters on basic chemistry, pharmacodynamics, pharmacokinetics, and factors affecting variability of drug response such as age and disease. The chapters on pharmacokinetics and pharmacodynamics outline the basic principles in a clear and concise manner and are very easy to understand. There is little derivation or explanation of pharmacokinetic equations, and the use of original data in the form of tables or figures is infrequent. However, for the examination candidate, the fundamentals are clearly outlined, and these are excellent chapters; but the more advanced reader requiring greater detail and more recent reference sources will have to amplify their reading with other texts.

The second section of the book gives a systematic description of drugs acting on the central nervous system and includes chapters concerning the mechanisms of general anesthesia, volatile inhalational agents, intravenous anesthetics, and opioids. The chapter on the mechanisms of general anesthesia is well written and summarizes a complex and controversial area; but the best chapters in the book, as to be expected from editors who have spent much of their academic lives studying intravenous anesthetic agents and hypnotics, are the chapters on barbiturates, non-barbiturate intravenous anesthetics, and the benzodiazepines and other sedatives and hypnotics. These chapters are particularly good and are well written and comprehensive. The chapter on opioids is also good, outlining the opioid receptors and describing the pharmacokinetics and pharmacodynamics of the opioid agonists and antagonists. There follows a chapter on nonsteroidal antiinflammatory analgesics, which are increasingly being used by anesthesiologists in their daily practice. After describing drugs and the central nervous system, the authors then discuss drugs acting on the peripheral nervous system, and chapters concerning local anesthetic drugs, neuromuscular blocking agents, and anticholinergic drugs follow.

The final sections of the book include drugs acting on the cardiovascular system and respiratory system and some special drug problems, such as drug interactions. Most drugs are included in a brief and systematic manner, but the style reminds me of a hospital formulary or pharmacopeia. The choice of a particular agent for a specific indication is lacking and may leave the reader unsatisfied.

In summary, this is a good textbook of anesthetic pharmacology and includes treatises on both old and newly available drugs that might be administered by the anesthesiologist. However, it is a book aimed at the examination candidate, and for original data and more detailed information, the specialist anesthesiologist will have to search farther afield.

Margaret Wood, M.D.  
Professor of Anesthesiology

Associate Professor of Pharmacology  
Department of Anesthesiology  
Vanderbilt University  
Nashville, Tennessee 37232-2125

**Hemoglobin-based Red Cell Substitutes.** By Robert M. Winslow. Baltimore, Johns Hopkins University, 1992. Pages: 235. Price: \$65.00.

This monograph is of great interest to anesthesiologists. It is written by a leading authority on red cell substitutes who was formerly chief of the Blood Research Division at the Letterman Army Institute of Research. Dr. Winslow has devoted his research efforts to finding alternatives to red cell transfusion. In the current climate of interest in this area, his introductory chapter on "Historical Background," chapter 8 on "The Toxicity of Hemoglobin," and chapter 10 on "Clinical Trials" put today's efforts in the context of the more than 350 yr of attempts to produce blood substitutes.

What is of particular interest is how the monograph puts the whole picture together, dealing as it does with the structure and function of hemoglobin (chapter 3), metabolism of hemoglobin (chapter 7), O<sub>2</sub> transport by hemoglobin (chapter 4), and modification of hemoglobin (chapter 5) to change its O<sub>2</sub> affinity and prevent its dissociation into  $\alpha$  and  $\beta$  dimers. For those investigators involved in clinical trials of red cell substitutes, the chapters on "Evaluation of Products" (chapter 9) and "Clinical Trials" (chapter 10) provide excellent material for designing protocols and assessing the likely requirements of the Food and Drug Administration in approving such products for phase I studies in humans.

The only missing information is an in-depth consideration of nitric oxide and its reaction with free hemoglobin. Nitric oxide receives only scant mention. Issues related to coagulopathies and platelet, red cell, and white cell reactions with free hemoglobin also would benefit from further discussion. However this is slight criticism for a fascinating book. Nowhere else is such a gold mine of information on red cell substitutes available in such an authoritative and readable text.

Colin F. Mackenzie, M.D.  
Professor of Anesthesiology  
Associate Professor of Physiology  
Department of Anesthesiology  
University of Maryland Medical Systems  
22 South Greene Street  
Baltimore, Maryland 21201

**Clinical Anesthesia.** Edited by P. G. Barash, B. F. Cullen, and R. K. Stoelting. Philadelphia, J. B. Lippincott, 1992. Pages: 1,760 with 591 illustrations. Price: \$135.00

A general textbook such as *Clinical Anesthesia* is expected to fill multiple roles: residents may depend on it as a primary source of information about the specialty; practitioners may refer to it when