

BOOK REVIEWS

Edward Lowenstein, M.D., Editor

Complications in Anesthesiology. EDITED BY FREDERICK K. ORKIN, LEE H. COOPERMAN. Philadelphia, J. B. Lippincott, 1983. Pages: 765. Price: \$95.00.

Much of the clinical practice of anesthesia focuses on the prevention and treatment of the complications that may ensue from the use of potent drugs, the vulnerable state of our patients, and the patient-equipment interface. To date, no text has been oriented specifically to this aspect of our field. Drs. Orkin and Cooperman have attempted to fill this gap by compiling contributions from 60 respected authors, who report on complications touching on almost every aspect of anesthesia care. Each of the contributors was asked to address a given problem and present information on the etiology, management, and prevention of these complications. For the most part, the authors succeeded in this endeavor.

The text is organized into 13 sections. The first section provides an excellent overview of anesthesia-related complications. Included are chapters by Dr. Keats on the role of anesthesia in surgical mortality, followed by a chapter on epidemiologic methods. Discussion of legal considerations is lacking, and this section would have provided a good forum for such a discussion. The second section consists of a chapter on drug interactions and on the effects of prior drug therapy on anesthesia. The bulk of this chapter is presented in a large table of drug interactions, which could have benefited from more elaboration. Section Three deals with regional anesthesia and is highlighted by superb chapters by Drs. Raj and Winnie on local anesthetic toxicity and a chapter by Dr. Vandam on spinal and epidural anesthesia. The middle sections, four through nine, provide a system oriented approach to complications encompassing respiratory, circulatory, neurologic, renal, gastrointestinal, and hematologic problems. In general, these chapters are quite good. However, certain problems receive more coverage than necessary, while other more pertinent problems are underemphasized. There are entire chapters devoted to trichlorethylene-induced cranial nerve injury and salivary gland enlargement, while pulmonary edema, bronchospasm, and anaphylaxis are discussed only briefly. In the renal section, three consecutive chapters open with discussions of renal concentrating mechanisms, which easily could have been covered just once, yet primary renal oliguria is given less than a page of text. Part Ten on obstetric anesthesia and neonatology opens with an excellent chapter by Dr. Smith on teratogenicity. The final sections cover special techniques, equipment problems, and hazards to the anesthesiologist. Particularly good are the chapters on muscle relaxants by Dr. Katz and the chapter on extracorporeal circulation by Dr. Orkin. Although complications of hemodynamic monitoring are discussed briefly, the book would have been improved by an entire chapter on that subject.

Among the strongest points of this textbook are the extensive current reference lists at the end of each chapter and the complete index. The text is well-edited and relatively free of errors. Overall, in spite of the problems posed by the broad scope of the topic and the multiple author format, the editors have provided a welcome addition to the anesthesia literature.

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To Make the Patient Ready for Anesthesia: Medical Care of the Surgical Patient, Second Edition. EDITED BY LEROY D. VANDAM. Menlo Park, California, Addison-Wesley Publishing, 1984. Pages: 302, hardbound. Price: \$32.50.

This second edition, encouraged by the publisher, takes its cue from the automobile manufacturers: it arrived in November of 1983 bearing a 1984 copyright date. And like new automobiles, it is largely a facelift. The first nine chapters, unaltered in outline, are expanded by the equivalent of but nine new pages. The changes are largely short additions (*e.g.*, ASA Physical Status *vs.* Goldman Class comparisons), deletions of references to paleoanesthetic practice (*e.g.*, diethyl ether, cyclopropane, and Innovar), and minor polishing of spelling and clichés. The approximation of the alveolar air equation has been corrected, the legibility of several tables improved in format, and a few marginal notes changed or deleted (*e.g.*, on Halothane Hepatitis). Most chapters have several recent references from 1979–1982 added. The helpful pagination of subheadings in the contents regrettably has been reduced.

The three new chapters are welcome additions, in the style of, and to the high standards of, the earlier nine chapters. The shortest, on the gastrointestinal system, is if anything too terse and succinct. The major thrust has to do with gastrointestinal bleeding and its cardiovascular consequences. This is not duplicative of Chapter 1, The Heart and Circulation, although obviously related. The weakest section is labeled "The Stress Response," which in the author's mind is largely erosion gastritis and ulcer, to be treated with antacids. This could have been an opportunity to flesh out the growing concepts of anesthesia and hormonal reaction to surgical stress not covered in the chapter on endocrinology.

The allergic patient is discussed in a chapter very clinically oriented, addressing care of the asthmatic patient. The detailed algorithm for perioperative care of the asthmatic is a valuable study, contrasting with a brief protocol for anaphylaxis. Basic science aspects of immunology must be sought elsewhere.

The chapter entitled nutritional considerations is, in my view, sufficient justification for a second edition in itself. This discipline is based on much that is so old it is nearly unknown, *e.g.*, the protein sparing effect of a limited glucose supplement. There is a renaissance of surgical interest in nutrition and, for many whose medical education and graduate training overlooked it, here is an excellent introduction that will inform without boring. Aside from the full page devoted to exposition of ASA Physical Status, which is contorted to suggest that a consideration of risk is inappropriate, the chapter is jammed with useful concepts, facts, and therapies.

As in the first edition, the content is overwhelmingly textual, with few tables, fewer equations, and downright scarce illustrations (the chapter on dental and oral surgical problems being a remarkable exception). Minor weaknesses in the first edition persist, in my opinion. The marginal notes are of varying quality and value: most are simply lifted from the text, while some direct the reader to important points. The new section on management of the diabetic stresses avoidance of hypoglycemia rather than "tight control." The section on use and misuse of blood products still reads as if the author has never been closer to an operating room than the transfusion committee reviewing single unit transfusions. He quotes, as an advantage of red blood cell concentrates, the reduction in "potassium load," apparently not understanding that this potassium came from the red cells during cold storage. With warming and energy supplies, potassium will be taken

back into those red cells from either the warm plasma or, in the case of washed RBCs, the recipient's pool of labile potassium. The single paragraph on plasma products for volume expansion is grossly inadequate. He quotes 21 days as the shelf life of blood and red blood cell concentrates. Coagulation factors are given Arabic numerals in the liver chapter and Roman numerals in the hematology chapter.

I can't imagine why any anesthesia resident or practicing anesthesiologist has not already purchased a copy of the first edition. Any who have not should rush out and buy the second edition. The problem the second edition poses is for the proud possessor of the first. Should he update? In view of the nearly unchanged text of the first nine chapters, I would hesitate to recommend automatic purchase unless the reader, having scanned the new chapter 12 on nutrition, believes this alone worth the price. Of course, departmental libraries, hospital libraries, and compulsive bibliophiles also will want a copy. That's how I got mine.

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Management of Epidural Analgesia in Childbirth, Second Edition.
By B. A. WALDRON. New York, Churchill Livingstone, 1983. Pages: 86. Price: \$4.95.

This small (86-page) book was written to give a basic explanation of all aspects of epidural anesthesia to the nonanesthetist (midwife, obstetrician) or the anesthetist in training.

The book begins with a brief history of epidural analgesia and obstetric methods for pain relief. The neural pathways for obstetric pain are described. Epidural block produces physiologic effects, in addition to providing pain relief. These effects are reviewed. Indications and contraindications for epidural anesthesia—both absolute and relative—are presented. The techniques of lumbar epidural and caudal epidural are described, along with a listing of the doses and drugs to be used. Common problems and neurologic complications are presented. The book concludes with a description of epidural anesthetic records and protocols to be used by midwives for "top up" doses.

The text is written clearly and contains figures that are easy to understand, although I would recommend holding the epidural needle by a hand that is in continuous contact with the back to allow better control of the needle.

I would have expected a more complete discussion of intravenous fluids management, with emphasis on acute hydration with crystalloid before the first injection of local anesthetic. Common American practice is to give at least 1,000 ml nondextrose-containing crystalloid before an epidural for vaginal delivery and at least 1,500 ml before an epidural for Cesarean delivery, in order to decrease the incidence of hypotension and supine hypotension syndrome.

Despite the shortcomings described above, the book does contain useful information for the nonanesthetist or the anesthetist in training. For the anesthetist with experience in epidural anesthesia, this book appears too elementary.

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Control of Respiration. EDITED BY D. J. PALLOT. New York, Oxford University Press, 1983.

The nine chapters of this book do not provide a comprehensive coverage of the regulation of respiration (as the title might suggest); selected topics are covered. Depth of coverage and style vary. Some of the chapters do provide an overall review of circumscribed areas for the nonspecialist, as promised in the preface; others are rigorous and detailed reviews of interest to those doing research in the particular area under review (e.g., Central Chemoreceptors by H. Loeschcke, or Respiratory Reflexes by A. Trzebski). In some chapters, references are given to original papers published in 1983. This impressive speed of producing the book, unfortunately, is reflected in poor editing of the text in some chapters, in many typographic errors, and in deficient legends to some graphs.

Some chapters in the book will be of interest to researchers in the field of regulation of breathing; for the nonspecialist, there are better and more comprehensive sources to consult for overview (e.g., *Regulation of Breathing*, edited by T. F. Hornbein).

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Chest Medicine. BY R. B. GEORGE, R. W. LIGHT, R. A. MATTHAY, New York, Churchill Livingstone, Inc., 1982. Pages: 657. Price: \$49.50.

This multiauthored text (13 contributors) is stated to be ". . . designed for use by medical, nursing, respiratory therapy students as well as housestaff physicians and (pulmonary) fellows in training. . . ." In their attempt to be all things to all people, the authors may have created an insurmountable problem. For example, in the chapter, Structure of the Respiratory System, we read that "the adenoids, tonsils, and eustachian tubes are located in the nasopharynx." A few chapters later, we read that the Henderson-Hasselbach equation can be quoted as

$$[\text{HCO}_3^-] = 0.0301 \text{ PaCO}_2 \times 10^{\text{pH}} - 6.1''$$

Overall, the text probably is best suited to the general internist not specializing in pulmonary medicine. For the anesthesiologist, it offers a useful reference for matters relating to chest diseases but it is not sufficiently detailed for those specially interested in respiration.

Twenty-four chapters are divided into three sections, entitled Pulmonary Structure and Function, Collecting the Data Base, and Clinical Patterns of Lung Disease. There are particularly good chapters on acid-base balance, chest radiography, pulmonary function testing, diffuse interstitial disease, and pulmonary vascular disease.

In some instances, one finds information in a strange setting. For instance, a cookbook approach to the ER management of smoke inhalation is included in the chapter on Occupational and Environmental Lung Diseases, rather than as a part of Respiratory Failure. Although dyspnea is described as an important symptom in the chapter on History and Physical Examination, one has to go to the chapter on Exercise, Exercise Testing, and Disability Evaluation to find a useful classification of grades of dyspnea.

Omissions noted include a description of sputum examination. There was no account of smear preparation and staining or pictures of commonly seen bacteria. Interstitial emphysema is not covered, although there is a brief reference to mediastinal emphysema in the section on Diseases of the Mediastinum. In the chapter on Respiratory Infections,