

BOOK REVIEWS

Edward Lowenstein, M.D., Editor

Perioperative Cardiac Dysrhythmias. BY JOHN L. ATLEE, III. Chicago, Year Book Medical Publishers, 1985. Pages: 451. Price: \$49.95.

At last we have a comprehensive, authoritative review of the field of cardiac dysrhythmia written by an anesthesiologist for anesthesiologists. Although much of the material has been provided in cardiology texts, Dr. Atlee's book clearly describes the pathophysiology, diagnosis, and management of the clinically important dysrhythmias. More importantly, a timely discussion of the effects of anesthetic agents and ancillary drugs on perioperative dysrhythmia is presented, filling a conspicuous gap in the literature.

The text begins with a historical perspective on the incidence of perioperative dysrhythmia. Normal cardiac electrophysiology is reviewed, followed by a detailed discussion of electrophysiologic mechanisms thought to be responsible for dysrhythmia. Basic electrocardiography is then presented as well as a potpourri of cardiographic abnormalities seen with various drugs and pathologic states.

The "meat" of the book is an up-to-date, encyclopedic review of proarrhythmic and antiarrhythmic actions of the anesthetics and other drugs used by the anesthesiologist. Volatile anesthetic "sensitization" to epinephrine arrhythmias is discussed, as are the effects of electrolyte abnormalities, hypercarbia, and hypoxemia. The material cannot easily be found elsewhere.

Recognition and management of specific dysrhythmias is then presented in a clear, crisp fashion. Particularly noteworthy is the discussion of pacemakers and direct current cardioversion.

Perioperative Cardiac Dysrhythmias has shortcomings. Noticeably missing is a discussion on implantable defibrillators and surgical therapy for severe dysrhythmia. More importantly, anesthetic management of patients with such poorly controlled dysrhythmia is not mentioned.

As a single-authored text, the style is uniformly readable and uncluttered by repetition. Bibliographic citations are abundant and current. Finally, the figures are adequate but not stellar.

FRED A. ROTENBERG, M.D.
Department of Anesthesia
Massachusetts General Hospital
Boston, Massachusetts 02114

Decision Making in Critical Care. BY HILLARY DON, M.D. St. Louis, CV Mosby, 1985. Pages: 205. Price: \$44.00.

This well-constructed text resembles an organized and complete set of personal study notes. Hillary Don, M.D., has presented the most common critical-care problems by organ system. Each problem is approached with a decision-tree algorithm format on one page accompanied by another single page of background information, explanation, and references. The algorithms are clear, concise, and unexpectedly comprehensive. They represent a valuable tool for teaching medical students and residents to think in an orderly fashion. This format lends itself to incorporation in computer data base and logic systems. It is especially appropriate in this era of cost containment and cost-benefit analysis.

This text is well referenced, indexed, and organized. It will be a valuable addition to any medical library, and an excellent reference volume for a personal library.

MARK D. JOHNSON, M.D.
Department of Anesthesia
Brigham and Women's Hospital
75 Francis Street
Boston, Massachusetts 02115

New Concepts in Cardiac Imaging—1985. EDITED BY G. M. POHOST, C. B. HIGGINS, J. MORGANROTH, J. L. RITCHIE, AND H. R. SCHELBERT. Boston, GK Hall Medical Publishers, 1985. Pages: 310. Price: \$49.95.

Research in cardiovascular imaging is advancing rapidly in many areas such as noninvasive assessment of ventricular function, quantification of infarcted or ischemic myocardium, and increase in the sensitivity and specificity of the early diagnosis of ischemic heart disease. However, the wide variety of technologies being employed in this area makes critical evaluations of these techniques difficult. To this end, *New Concepts in Cardiac Imaging* represents the first volume of an annual series to be devoted to critical reviews of cardiac-imaging techniques.

In this book, Dr. Pohost, his fellow editors, and an additional 27 contributors have collected 12 succinct reviews of current ultrasound, radionuclide, x-ray, and magnetic resonance techniques. Included are discussions of progress in the diagnosis of valvular lesions by conventional and Doppler echocardiography and experimental work on the echocardiographic diagnosis of myocardial ischemia and infarction. The use of single-photon emission computed tomography and positron emission computed tomography to measure regional myocardial perfusion and substrate metabolism is reviewed in a section on radionuclear techniques. Subsequent sections discuss the role of digital subtraction angiography, cardiac computerized tomography, and magnetic resonance in assessing ventricular function and detecting coronary artery disease.

Each review is expertly written, illustrated, and referenced. Clinical investigations are emphasized strongly, but laboratory studies are discussed in detail when data in humans are controversial or lacking. Only literature published prior to 1984 is discussed, however, and this lag is especially noticeable during discussions of rapidly advancing areas such as magnetic resonance. Also, anesthesiologists will be disappointed that esophageal echocardiography is not reviewed. Future volumes should help to fill these gaps.

This book is a valuable introduction to the use of new imaging techniques in the diagnosis of cardiovascular diseases. It will be of interest to anesthesiologists because many medical centers are already beginning to use these techniques to evaluate their patients' cardiovascular status.

WILLIAM E. HURFORD, M.D.
Clinical and Research Fellow in
Anesthesia and Nuclear Medicine
Massachusetts General Hospital
Boston, Massachusetts 02114

The Surgical Neonate: Evaluation and Care. BY HOWARD C. FILSTON AND ROBERT J. IZANT, JR. East Norwalk, CT, Appleton-Century-Crofts, 1985. Pages: 300. Price: \$34.95.

The clinical care of newborn infants undergoing surgery has received increasing attention in recent years, particularly due to the improved survival rate of neonates with complex congenital malformations and also due to the large number of surviving preterm neonates who may require surgery for necrotizing enterocolitis, patent ductus arteriosus, or inguinal hernia. Because these recent advances may be attributed to the work of pediatrician/neonatologists, anesthesiologists, pediatric surgeons, obstetricians, and nursing personnel, the care of the surgical neonate in different centers may be entrusted to all or any combination of these disciplines. In some situations, there may be considerable disagreement among the experts of these different fields, depending on their different approaches to particular problems.

The Surgical Neonate: Evaluation and Care is most appropriately considered a primer for harassed and bewildered residents who find themselves suddenly entrusted with the care of preterm and mature babies. The text consists of lucid and brief descriptions of the relevant clinical matter, presented under several headings and subheadings and illustrated with numerous photographs, radiographs, and diagrams. The book is divided into three sections: the first deals with the general management of neonates; the second describes the diagnostic approach to congenital anomalies presenting with respiratory distress or gastrointestinal obstruction; and the third provides a "quick reference" for the management of common surgical procedures in newborn infants.

The principles of fluid and electrolyte therapy in the first section have been formulated primarily with reference to 1-year-old infants rather than preterm or term neonates. These principles have, to a large extent, been superseded by recent research focusing on the renal physiology and metabolic homeostasis of preterm and term neonates. The generous use of lactated Ringer's solution for the fluid therapy of various surgical conditions may contribute to a metabolic acidosis in neonates who have a lowered capacity for gluconeogenesis (e.g., preterm neonates, term neonates less than 2 weeks of age, or neonates in whom hepatic metabolism or blood flow may be decreased due to various reasons). In addition, although there is a short but adequate section on the total parenteral nutrition of neonates undergoing sur-

gery, the changes in fuel metabolism produced by surgery (or by parenteral nutrition, *per se*) have not been touched on. The other chapters in this section give the broad guidelines for clinical management of neonates, together with excellent descriptions of the techniques required for the insertion of arterial and venous catheters, endotracheal and tracheostomy tubes, *et cetera*.

The major strength of this book lies in the descriptions of the management of neonatal surgical problems. These are presented in sufficient detail that even an inexperienced resident would be able to provide optimum care. Sections relating to transportation requirements and prognosis are particularly important, because they may not be specifically dealt with even in the classic texts of pediatric surgery.

This book is recommended for students, residents, nurses, and other health care personnel who are concerned with the clinical management of neonates undergoing surgery. However, fluid and electrolyte therapy should be based on recent reports specifically describing the requirements of preterm and term neonates.

KANWAL J. S. ANAND, M.B., B.S., D. PHIL.
Department of Anesthesia
Children's Hospital Medical Center
300 Longwood Ave.
Boston, Massachusetts 02115