Book Reviews

B. Raymond Fink, M.D., Editor

Radiologic Management of the Massively Traumatized Patient. By R. J. Ayella. Baltimore, Williams and Wilkins, 1978. Pages: 297. Price: $40.00.

In recent years, with the rapid evolution of emergency medicine as a distinct specialty and the establishment of regional trauma centers, there has been need for a text succinctly bringing together the contributions that the roentgenologic examination can make in the care of the traumatized patients. Dr. Ayella, who is Chief of the Special Procedures Section in the Department of Radiology at the Maryland Institute for Emergency Medical Services, has undertaken this task.

The book is organized into 16 chapters organized according to important anatomic regions. Chapters on computerized axial tomography of the head, ultrasound, and nuclear medicine are written by contributors from the faculty of the University of Maryland. Each chapter first reviews important anatomic considerations, discusses the method of studying the radiographs, discusses pertinent common variations in roentgenologic anatomy, and finally covers, in some detail, the roentgenographic manifestations of trauma. The radiographic reproductions are of good quality, but rather small. Line drawings complementing the text are clear and easily understood.

The chapter entitled "The Head" is an excellent short review of the major intracranial manifestations of trauma and their radiographic diagnosis. Dr. Ayella has had extensive experience with what he refers to as a "one-shot" carotid arteriogram done percutaneously with an 18-gauge, thin-walled arterial needle. Single radiographs are obtained in the anteroposterior and lateral positions, immediately after rapid intra-arterial injection of radioiodinated water-soluble contrast medium. While this certainly has the distinct advantage of rapidity, it suffers a significantly higher complications rate, even in the best of hands. Percutaneous catheter angiography from the femoral route produces far fewer complications, while CAT scanning has virtually none. The CAT scan is an exquisitively sensitive diagnostic modality, particularly helpful in the trauma situation, as discussed by Dr. John Diaconis in Chapter 4.

The radiographic approach to head trauma depends significantly on such factors as proximity of the diagnostic modalities of CAT scanning, an angiographic suite, and availability of technical assistance, as well as neurosurgical and neuroradiologic expertise. All of these vary widely in different institutions.

The chapter on the cervical spine is important, and should be read by anyone routinely dealing with trauma patients. The importance of routinely examining the cervical spine as the first x-ray study in every victim of a high-speed vehicular accident cannot be over emphasized. A good lateral portable film demonstrating C1–C7 with the patient supine can easily be obtained while various arterial and intravenous lines are inserted. A cervical spine fracture should be assumed to exist until proven otherwise, to avoid the tragic consequences of iatrogenic paralysis. Dr. Ayella covers the anatomy, mechanisms of injury, and systematic approach to radiographic interpretation that will enable the emergency room physician or consultant anesthesiologist confidently to evaluate the potential cervical spine injury in the early hours of the morning, when a staff radiologist is not immediately available.

The discussion of the chest covers the numerous abnormalities that result from trauma, including bone injuries, subcutaneous and mediastinal air, atelectasis, pleural fluid, long contusions, rupture of the bronchus, trachea or diaphragm, pneumothorax, shock lung, and pulmonary embolus. The problems associated with chest tubes, catheters, endotracheal tubes and tracheostomies are considered. The author makes a strong case for taking a true erect anterior–posterior chest x-ray, rather than a supine or semi-erect film, when at all feasible clinically. This is particularly important when there is a question of an aortic disruption, as spurious magnification of mediastinal structures is the rule in supine films and much less of a problem in erect films.

A chapter on Gray B-Scan ultrasound discusses the increasing role of this method in evaluating the late sequelae of trauma. Its role in cases of acute life-threatening is limited. A brief summary of the physics of ultrasound is followed by sections covering its scope in assessing damage to intra-abdominal organs and the abdominal aorta, in identifying intra-abdominal or retroperitoneal hematomas and abscesses, and in sorting out the pathology of diffuse lung capacities. Other chapters discuss the face, aorta and major vessels, the abdomen, kidneys and ureters, the pelvis, and the extremities.

This volume is aimed at physicians whose work primarily involves evaluation of the traumatized patient. Radiologists who only occasionally are called on to evaluate severely injured patients would benefit from having read this book and having it close at hand for quick reference.

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Outpatient Anesthesia. Contemporary Anesthesia Practice. Edited by B. R. Brown, Jr. Philadelphia, F. A. Davis, 1978. Pages: 95. Price: $10.00.

This, the first of a new series of books on "Contemporary Anesthesia Practice," includes nine chapters by 13 contributors, in 95 pages, and suffers noticeably from the "multiple-author syndrome" of uneven quality.

The goals of describing "how to do it" and "what we observed" are achieved, since all the authors possess considerable experience in the art of outpatient anesthesia, but some of them are not experienced in scientific writing and use generic and trade names of drugs indiscriminately. One finds repetitious statements and some contradictory opinions from one chapter to the next, on such issues as the need for endotracheal intubation in patients undergoing laparoscopies and whether one-day surgery should be limited to patients of ASA physical status Class I or Classes I and II.

Throughout this book, the dictum "although there is minor surgery, there is no minor anesthetic" is stressed, along with emphasis on the improvement role of the anesthesiologist in organizing, working in and leading the development of outpatient anesthesia. The development of a busy Pain Clinic in an outpatient, private setting is described. Impressive proportions of patients obtained pain relief, but how long that relief lasted and the numbers of patients treated are not mentioned. The proposed "second wrap" modification for intravenous regional anesthesia of the upper extremity is a maneuver that could be quite useful.

An unusual and enjoyable feature of this book is the editor's comments preceding each chapter, giving an insight into the author's experience on the subject. This series, designed to "show and tell" practical aspects of anesthesia, may well fill a gap that has been apparent for some time to clinical anesthesiologists.

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Critical Care: The Fortieth Hahnemann Symposium. Edited by W. W. Oaks, K. Bharadwaja, and D. A. Major. New York, Grune and Stratton, 1978. Pages: 336. Price: $29.75.

As stated in the preface, the purpose of this symposium is to "be helpful in updating our knowledge of the best methods of handling critically ill patients." It is true that there have been major advances in critical care medicine within the last few years. Unfortunately, this book ignores most of them. Ventilation of the critically ill patient has changed radically with the introduction of high levels of positive end-expiratory pressure and intermittent mandatory ventilation. There has been much controversy over crystalloid versus colloid fluid administration to patients in respiratory failure. The only chapter in this symposium on respiratory disease concerns itself with well-described tests of respiratory function and does not address these newer, more controversial topics. In the cardiovascular field, new vasodilators such as intravenously administered nitroglycerin, phentolamine and nitroprusside and new vasopressors such as dopamine and dobutamine are being used to support the critically ill patient. In the chapter on septic and cardiogenic shock, there is only passing mention of these therapeutic modalities without discussion of their effects on the various organ systems involved in the shock state. There is no chapter on the pathophysiology of acute renal failure, its prevention, or its management by dialysis; nor is information about the rapidly advancing field of parenteral hyperalimentation presented. Finally, there is no discussion of advanced monitoring with flow-guided pulmonary-artery catheters or the measurement of cardiac output by dye or thermodilution.

In short, I did not find this symposium useful.

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Intensive Care Radiology: Imaging of the Critically Ill. Edited by L. R. Goodman and C. E. Putnam. St. Louis, C. V. Mosby, 1978. Pages: 363. Price: $34.50.

The goal of this book is to teach the radiologist enough critical care medicine and the intensivist enough critical care radiology to allow communication for effective use of the expanding number of radiologic techniques to aid in diagnosis and therapy of the critically ill patient. It is an admirable goal and in large measure successfully achieved.

Looking at the book from an intensivist's point of view, there are some minor deficiencies. The critical care medicine is occasionally oversimplified and controversial topics are presented without a full discussion. For example, the chapter "Life Support Techniques" presents a descending limb of the Frank-Starling curve as a simple consequence of excessive preload without a discussion of myocardial ischemia or mitral regurgitation as the cause. Acute respiratory failure in the adult is presented as a specific syndrome with a typical clinical and radiologic course contrary to the experience of many intensivists. The book also assumes some knowledge about radiologic techniques that the intensivist may not have. I would have found useful an early chapter reviewing radiologic terminology, positions and techniques of performing some of the more specialized procedures. This is left to the individual chapters, with spotty coverage resulting. The radiographs could occasionally benefit from an extra arrow highlighting the pathologic or normal anatomy for those not used to reading x-rays daily. I feel an important omission is the lack of discussion of the radiation hazards to patients or ICU personnel from the routine films or the newer radioisotope techniques.

Aside from these concerns, I thoroughly enjoyed this book. There is a large amount of well-organized and well-written information for either the intensivist or radiologist. The book is worth the price alone for the excellent collection of radiographs illustrating the myriad problems the ICU patient can encounter. It has increased my awareness of the newer radiologic techniques and my ability to discuss them with my radiologist colleagues. I recommend it strongly for anyone interested in the care of the critically ill patient.

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Recent Advances in Anaesthesia and Analgesia. Edited by C. Langton Hewer and R. S. Atkinson. Boston, Little, Brown and Company, 1976. Pages: 268. Price: $29.50.

This book consists of ten chapters contributed by ten British authors, originally written in 1975, and presented in the current series, *International Anesthesiology Clinics*, Spring 1978. Because of this lag, the book lacks the recent advances of the last three years. In general, the book reflects current British practice and therefore, it is more suitable for British than American anesthetists. The chapter on new drugs emphasizes drugs commonly used in British practice, such as althesin. Althesin is not available in the United States. The discussion of sodium nitroprusside is inadequate and superficial. The chapter on pain relief lacks diagrams and illustrations. The chapter, "Safety of Anaesthetic Apparatus," is excellent and would be helpful to all anesthesiologists. The writing is clear and concise and there is an abundance of references.

All in all, the book provides the reader with a comprehensive review of the recent advances in anesthesia until 1975. We do recommend that it be read by those preparing for the F.F.A.R.C.S. or the American Board of Anesthesiology examinations.

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Spinal Deformities and Neurological Dysfunction. Edited by S. N. Chou and E. L. Seljeskog. (Seminars in Neurological Surgery Series.) New York, Raven Press, 1978, Pages: 276. Price: $27.00.