

REVIEWS OF EDUCATIONAL MATERIAL

Trauma Anesthesia and Critical Care of Neurological Injury. Edited by K. J. Abrams and C. M. Grande. Futura Publishing Company, 1997. Pages: 553. Cost: \$98.00.

Trauma Anesthesia and Critical Care of Neurological Injury is an issue of the Trauma Care Series and includes 18 chapters written by a multiauthor team largely composed of anesthesiologists. This newly written textbook is an interesting attempt to propose a comprehensive and up-to-date review of the emergency and critical care of patients with neurologic injury. This subject is of particular importance because trauma is the leading cause of death in the first four decades of life and is the third leading cause of death overall. Approximately half of these deaths result from traumatic brain injury, which is also a major cause of postinjury morbidity. Historically, the care of patients with traumatic brain or spinal cord injury has consisted of the evacuation of intracranial blood collections and supportive treatment. However, our comprehension of the mechanisms of traumatic brain and spinal injury has evolved rapidly during the past decade. Also, it has become apparent from large epidemiologic studies that the development of systemic arterial hypotension, hypoxia, or both during the early phase after traumatic neurologic injury is an important factor of comorbidity, which strongly affects the survival and the quality of life of these patients.

The scope of this book reaches far beyond the intraoperative management of the patient with head injury because it also discusses important issues regarding prehospital care, transport from a regional hospital to a tertiary center where the definitive care will be provided, immediate resuscitation in the emergency room, and issues of the critical care of those patients, such as monitoring of the brain function, diagnostic evaluation, nutritional support after neurotrauma, rehabilitation of neurologic injuries, and finally brain death and organ procurement.

Some chapters are excellent and include useful tables and figures that summarize well the information the reader needs to know. For example, chapter 1 contains a comprehensive review of the prehospital care of neurologic trauma. Although in many cities of the United States the transport time between the site of the injury and the trauma center where definitive care will be delivered is brief, this is not the case when the injury occurs in a remote location. In this particular situation, the prehospital care becomes critical for the survival of the patient with neurotrauma. To prevent the development of secondary brain injury during the transport of the patient to the hospital, several therapeutic strategies have been developed that are well summarized in the chapter written by Norwegian colleagues who have extensive experience in these issues. Also, the last chapter provides an excellent overview of the difficult problems facing the critical care physician making the diagnosis of brain death and dealing with organ procurement. In particular, this chapter discusses some of the confounding factors that may make the diagnosis of brain death difficult and proposes clear guidelines to keep the different organs alive after the patient has been declared brain dead.

Despite these excellent features, my enthusiasm is moderated for the following reasons. First, some chapters (e.g., chapters 3, 12, and 13) that review important questions regarding initial resuscitation, perioperative management, and critical care of patients with neurologic injury do not contain any figures or tables that would summarize the

problems discussed in the text. Also, the summary of those chapters does not provide listings of the guidelines discussed in the text of the particular chapter. Second, there is some unnecessary repetition of the information offered to the reader (e.g., chapters 3 and 4) that could have been prevented by better coordination in editing this textbook. Third, the lengthy description of different techniques of regional anesthesia in chapter 17 is out of context and should have been omitted. Finally, in some chapters (e.g., chapters 15 and 16), it would have been useful to have tables summarizing the contents of these chapters and indicating the opinions of the experts regarding new techniques of monitoring and new modalities of treatment for patients with traumatic neurologic injury.

Despite the weaknesses summarized, this textbook consists of a number of superb and innovative chapters that discuss some important areas of the care of patients with traumatic neurologic injury. Therefore, this textbook may be a valuable reference for anesthesiologists who commonly or occasionally manage traumatized patients with neurologic injury, although its price (\$98.00) may be high to young physicians with limited financial resources.

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Red Cell Transfusion: A Practical Guide. Edited by Marion E. Reid and Sandra J. Nance. Totowa, Humana Press, 1998. Pages: 227. Price: \$99.50.

This monograph, apparently the first one of a new series entitled "Contemporary Hematology," seeks to provide a concise, up-to-date overview of current issues associated with the collection, selection, and transfusion of erythrocytes. The material is organized in 14 chapters with 21 contributors, all (with one exception) pathologists laboratory medicine specialists, or both. The practical aspects of blood collection, donor screening, autologous and directed donations, blood administration, and the immunologic principles of transfusion medicine are discussed in five chapters. These chapters are somewhat scattered through the book, and a better arrangement of sequence would have helped the reader. For instance, donor-related issues are contained in chapter 1, whereas an expanded discussion regarding directed donations is found in chapter 10. The chapter concerning blood group antigen and antibodies is relegated at the end of the book, whereas germane immunologic topics are presented in chapter 3.

Five chapters are dedicated to erythrocyte transfusion in recipients with special needs. The topics include transfusion in autoimmune hemolytic anemias, in the immunocompromised patient, in solid organ transplantation, and in neonates, and long-term transfusion therapy.

The final chapters deal with massive transfusion, the transfusion "trigger," and transfusion reactions. One chapter also deals with the

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laboratory aspects of hematopoietic stem cell transfusion, *i.e.*, collection, processing, purification, and storage of the stem cells. This chapter seems out of place in a monograph dedicated to erythrocyte transfusion. Actually, in several instances, steps are taken to remove erythrocytes from the stem cell preparation.

The chapters are well written and to the point. Occasionally, however, for the sake of conciseness the quality of presentation suffers, such as when all the complications of massive transfusion are squeezed into a three-page summary in chapter 9. Inaccuracies and questionable statements are few. An increase in hemoglobin concentration by erythropoietin administration decreases but does not "enhance" resting cardiac index in patients with end-stage renal disease (p. 171). Few would agree that the placement of a pulmonary artery catheter is beneficial in treating a patient with an acute hemolytic transfusion reaction (p. 191). Repetitions, despite the multiauthorship, are minor. For instance, transfusion problems in the immunoglobulin (Ig) A-deficient patient are addressed on pages 83 and 198; as to whether the transfusion criteria for autologous blood should be more liberal than for allogeneic blood is discussed on pages 153 and 169. Stylistic lapses are very rare ("the presence of fever can result in an unnecessary work-up for infection, which can result in the patient's being cultured and treated . . .," page 203). In three chapters (1, 10, and 11) the word *autogeneic* is used instead of "autologous" to refer to the patient's blood. Because this word was new to me, I looked it up in several medical dictionaries and could not find the word in any. Although *allogeneic* (*i.e.*, genetically dissimilar, although belonging to individuals of the same species) has legitimately replaced the word *donor* to qualify the origin of the blood, I see no need for a new word, in this case an etymological nonsense, to replace the perfectly appropriate word *autologous* (*i.e.*, derived from the same individual). The references are up to date and well chosen, a notable exception being the key reference to citrate toxicity during massive transfusion (p. 144).

This monograph, with its emphasis on blood bank issues and the laboratory aspects of transfusion medicine, is mainly written for pathologists and hematologists/oncologists. The practicing anesthesiologist will be better off in searching for answers to clinical questions elsewhere. In this respect, the American Society of Anesthesiologists booklet *Questions and Answers about Transfusion Practices* can be an excellent starting point. Finally, this monograph may find tough competition as a reference source in transfusion medicine, as in the intention of its editors, because very recently new editions of two major textbooks in this field have been released *Clinical Practice of Transfusion Medicine*, second edition (Petz DL, Swisher SN, Kleinman S, Spence RK, Strauss RG: Churchill Livingstone, 1996) and *Principles of Transfusion Medicine*, second edition, (Rossi EC, Simon TL, Moss GS: Williams & Wilkins, 1996). Instead of a book focused exclusively on erythrocyte transfusion, for just \$50 more one can purchase an equally up-to-date textbook that discusses the whole spectrum of transfusion medicine.

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Anesthesia for Cardiac Surgery, 2nd edition. Edited by James A. DiNardo. Stamford, Appleton & Lange, 1998. Pages: 417. Price: \$105.00.

The second edition of *Anesthesia for Cardiac Surgery* succeeds in updating the inclusive and informative first edition, published some 8 years previously. Significant changes include the fact that Dr. DiNardo authored 11 of the 13 chapters of the second edition. Nevertheless, this book is a prime example that a nearly "one-man show" can result in a fine textbook.

The first two chapters, "Preoperative Assessment" and "Interpreting Cardiac Catheterization Data," provide a systematic approach to the perioperative evaluation of pediatric and adult patients about to undergo open heart procedures. The combinations of anatomic illustrations combined with pressure-volume loops lend clarity to the presentation of relevant pathophysiology. In chapter 3, "Monitoring," a remarkably extensive discussion of transesophageal echocardiography is presented using multiple illustrations and pathologic conditions. The advantages and pitfalls of transesophageal echocardiography and the usual invasive monitoring techniques are well defined. A brief but informative section regarding thromboelastography punctuates this chapter.

Chapters 4 and 5 provide an informative background of and a common-sense approach to the treatment of adult patients with coronary artery disease and acquired valvular heart disease. Again, numerous diagrams bring clarity to these well-written chapters. Chapter 6, "Anesthesia for Congenital Heart Disease," is particularly well done, with the reader first presented with the management of a simple condition such as ventricular septal defect progressing to complex conditions such as transposition of the great arteries. Chapter 8 discusses the differing pathophysiologic features and the anesthetic management of pericardial effusion and constrictive pericarditis in an equally comprehensive manner.

Chapters 7, 9, and 11 are new to this edition and encompass some of the most important changes in practice with regard to technology. The management of one-lung ventilation and advances in mechanical support of the circulation in the setting of thoracic aorta surgery and lung or heart-lung transplantation is explored extensively. Chapter 11 also provides a sweeping presentation of mechanical circulatory assist devices that include devices as simple as the intraaortic balloon pump to those as complex as the total artificial heart. Chapters 10 and 12 provide a comprehensive presentation of the mechanics and management of cardiopulmonary bypass and myocardial preservation. Finally, the subject of neurologic injury in the setting of cardiopulmonary bypass and cardiac surgery is well presented by Dr. Bradley J. Hindman in chapter 13. Dr. Hindman provides a timely discussion of identified risk factors for neurologic injury and its management after cardiac surgery. Issues addressed include management of plasma glucose concentration and acid-base balance and manipulation of systemic arterial pressure, pulsatile *versus* nonpulsatile flow, hypothermia and circulatory arrest, and hemodilution.

There are only a few criticisms to be made of this otherwise excellent text. Although given a cameo treatment, the timely subject of "Fast-Track" anesthesia could have been discussed to a greater extent, given the growing body of literature and popular interest generated by those in cardiothoracic practice. The text tended to present a predominantly opioid-based anesthetic technique, with little variation be-