Anesthesiology 2010; 113:997–1000

Michael J. Avram, Ph.D., Editor

Ultrasound-guided Regional Anesthesia and Pain Medicine. By Steven L. Orebaugh, M.D., Nizar Moayeri, M.D., Gerbrand J. Groen, M.D., Ph.D., Stephen M. Breneman, M.D., Jacques Chelly, M.D., Ph.D., M.B.A. Edited by Paul E. Bigeleisen, M.D. Philadelphia, Lippincott Williams & Wilkins, 2010. Pages: 320. Price: $139.00

One of the prerequisites for learning ultrasound-guided procedures is an in-depth understanding of sonographic anatomy and the basic principles of sonography. *Ultrasound-guided Regional Anesthesia and Pain Medicine* succeeds in providing a concise, yet thorough, elucidation of these topics.

Ultrasound-guided Regional Anesthesia and Pain Medicine is organized into seven main sections, with color coding for each of these sections enabling easy reference. In the first section, "Fundamentals of Equipment, Ultrasound, and Microanatomy," the authors begin with a concise description of the equipment required for conducting ultrasound-guided peripheral nerve blocks. They continue with the evolution of ultrasound-guided regional blocks and its current status as an effective tool for accurate and safe needle placement. This is followed by chapters on the physics of sonography and a detailed review of the microanatomy of the peripheral nervous system and its implications for nerve blocks, aided by excellent illustrations. The next three sections on upper and lower extremity blocks as well as central blocks detail the authors' techniques for performing the various ultrasound-guided extremity blocks as well as labor epidural and thoracic paravertebral block. These are followed by sections on pediatric regional anesthesia, pain blocks, and the future of ultrasound.

The main attribute of this book that sets it apart from similar atlases is its high quality illustrations, especially the microanatomical dissections of the brachial, thoracic, and lumbar plexuses. Its side-by-side comparisons with ultrasound images of the region help the reader gain an in-depth understanding of sonographic anatomy.

Other highlights of this book include color-coded page margins, which facilitate easy reference, as well as online access to its complete contents, complete with video demonstrations of some of the blocks that are described in the book. This feature should be very helpful to the novice ultrasound user and reflects the didactic spirit of this book.

The chapters on ultrasound in rheumatology and endoscopic celiac ganglion blocks may make it appealing to a multidisciplinary readership. The section on the future of ultrasound serves as a fascinating introduction to emerging technologies in the arena of ultrasound imaging. However, some aspects of this section, such as "Medical Image Segmentation Using Modified Mumford Segmentation Methods," may be too technical for most clinicians.

One of the potentially controversial chapters in this text is "Ultrasound-guided Intraneural Injection: A Powerful Tool for Regional Anesthesia," in which the authors discuss the merits of subepineural injections and seem to suggest that, based on current studies, this should be a reasonable practice. However, the studies looking at this issue are few in number. In my opinion, the merits of including subepineural injection as a chapter in a textbook of this caliber is open for debate until more studies are available that consistently show it to be a safe practice.

This atlas would have been even more appealing if not for some minor lapses in editing quality. For example, on page 132, a reference is made to figure 22 but it is left to the reader to guess which figure 22 is being referred to: figure 22–1a, figure 22–1b, or figure 22–1c.

Similar inconsistencies include discrepancies on page 150 where patient position was described as supine though figures 25–2 and 25–3 illustrate the procedure being done with the patient in the prone position. In addition, readers are mistakenly referred to figures on page 222. However, these relatively minor lapses do not detract significantly from the overall quality of this superb reference work.

In conclusion, I think this book would be a great resource for both the novice trainee and the seasoned clinician interested in the nuances of ultrasound-guided procedures. I would recommend *Ultrasound-guided Regional Anesthesia and Pain Medicine* as a valuable addition to the library of anyone who practices these procedures.

Antony R. Tharian, M.D., Advocate Illinois Masonic Medical Center, Chicago, Illinois. tonytharian@aol.com

(Accepted for publication May 7, 2010.)

Neurologic Complications of Critical Illness, Third Edition. By Eelco F. M. Wijdicks, M.D., Ph.D. Series edited by Sid Gilman, M.D., and William J. Herdman, M.D. New York, Oxford University Press, 2009. Pages: 480. Price: $129.95.

Diagnosis and management of neurologic disorders in the intensive care unit (ICU) are challenging. Advances in the knowledge and understanding of pathophysiology and clin-

Mark A. Warner, M.D., served as Handling Editor for this book review.

ical presentations of neurologic disorders, aided by the considerable effect of advanced imaging technologies, are reflected in this revised edition of a classic textbook. This third edition adds more than 100 new figures, tables, helpful management algorithms, and illustrations that are based on the understanding of pathophysiology and neurologic presentation of critical illness in the ICU.

In the first of four parts, the author describes in detail general clinical neurologic problems in the ICU. Delirium and coma are common clinical states that confront intensive care physicians. With appropriate diagnosis and treatment, coma can often be treated successfully. Any delay in diagnosis and treatment can be detrimental. The author emphasizes that the clinician must determine whether the cause of impairment is structural or metabolic because diagnostic testing and treatment methods will differ accordingly.

Recent technologic improvements in computed tomography, magnetic resonance imaging, and positron emission tomography have facilitated earlier intervention. The detailed description of neurologic examination of patients in coma is outstanding. The author then describes the effect of commonly used medications in clinical practice and their neurologic manifestations, with emphasis on the pharmacokinetics and pharmacodynamics of commonly used sedatives and narcotics in critical illness. The addition of ketamine and butyrophenones to this review would have made the chapter more comprehensive, however.

Furthermore, the author describes in detail the differential diagnosis and management of seizure disorders in the ICU, with emphasis on early detection of structural lesions. For practicing intensivists, the reviews of drug-associated seizures as well as seizures associated with drug withdrawal and metabolic abnormalities provide an important resource in patient management. The author also evaluates the current knowledge of neuromuscular problems in the critically ill, peripheral neuropathy, critical illness polyneuropathy, acute motor neuropathy, neuromuscular junction dysfunction, and myopathy.

In part two, the author reviews neurologic complications of commonly performed invasive procedures in the ICU. Then he provides a detailed review of the neurologic manifestations of acute bacterial and viral infections.

In addition, the author offers practical advice on how to manage various forms of encephalopathy resulting, in the medical and surgical ICUs, from toxicity of endogenous products secondary to organ failure, with detailed reviews of liver and renal failure, endocrine dysfunction, and toxicity secondary to exogenous poisons (*e.g.*, sedative drugs, psychotropic drugs). He also addresses abnormalities secondary to electrolyte and acid-base disturbances. The author also provides a review of neurologic complications of hematologic disorders. The author's discussion of neurologic complications of cardiac arrest, resuscitation, and the use of therapeutic hypothermia is especially helpful.

In part three, the book describes outcomes after various neurologic complications. The review of the outcomes of medical pathology was outstanding. It is extremely important that surgical pathology and stroke be well defined for timely consultation and intervention by neurosurgical and neurology services. However, I believe this section needs more detailed criteria for critical care physicians to obtain proper imaging for thorough and timely consultation. The end of the book details the challenges of consultation in the ICU, especially end-of-life decisions, brain death, and organ donation.

In general, *Neurologic Complications of Critical Illness* provides very comprehensive coverage of neurologic diseases, including reviews on virtually all critical illness with serious neurologic complication. Certain chapters of this book are written for neurologists, however, and not for medical intensive care specialists, especially the chapter on consultations in the ICU. I believe defining the indications for neurologic service consultations should provide guidelines for the timely intervention of the neurologists in the management of critically ill patients.

Ribal Darwish, M.D., University of Maryland School of Medicine, Baltimore, Maryland. rdarwish@anes.umm.edu

(Accepted for publication May 10, 2010.)

Critical Care Medicine: The Essentials, Fourth Edition. By John J. Marini, M.D., and Arthur P. Wheeler, M.D. Philadelphia, Lippincott Williams & Wilkins, 2010. Pages: 708. Price: $69.95.

The practice of critical care medicine requires an understanding of the complex physiologic principles at the foundation of this practice and mastery of an ever-increasing body of basic and clinical science studies.

The authors of *Critical Care Medicine: The Essentials* have undertaken the formidable task of synthesizing in a concise yet comprehensive format the underlying theoretical concepts of critical illness and their clinical applications. Whenever possible, they base their discussion on the underlying pathophysiology—a practice that is increasingly rare in evidence-based medical texts.

The text is the product of a two-author collaboration. This approach contributes to uniformity in writing style and topic discussions. The current state of medical knowledge in the field of critical care is well-represented and landmark studies are incorporated into the text. The authors themselves are both international leaders in critical care and possess a deep insight into state-of-the-art practices.

The book is organized into two sections. The first section, "Techniques and Methods in Critical Care," reviews the basics of management in critical illness. The discussion covers the entire range of physiology and pathophysiology of the cardiovascular, pulmonary, and hematologic systems as well