BOOK REVIEWS

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Clinical Neuroanesthesia. Edited by Roy F. Cucchiara and John D. Michenfelder. New York, Churchill-Livingstone, Inc., 1990. Pages: 555. Price: $79.00.

My personal library contains eight textbooks on neuroanesthesia, all published since 1980; several are now entering their second editions. During the past decade, I frequently have been frustrated by the various failings of these works—the seemingly inevitable repetitions and uneven writing styles encountered in multiauthored texts; the provincial bias of how things are done at "our institution"; the occasional editor with a literary axe to grind; the chapter contributor who proves to be less than knowledgeable about his or her assigned topic. I am delighted to report that these failings are virtually nonexistent in **Clinical Neuroanesthesia.** Although all the contributors are present or previous members of the Mayo Clinic professional staff, the "cook book" approach is assiduously avoided. Indeed, since most of the contributors are nationally recognized experts on the topics they discuss, the various chapters maintain a remarkably scholarly ambience, with reasonably unbiased and thoughtful presentation of the most controversial aspects of contemporary neuroanesthesia practice.

The first half of the book, a section entitled "Scientific Foundation," contains chapters on cerebral blood flow and metabolism, cerebrospinal fluid dynamics, intracranial pressure, electrophysiologic neurologic monitoring, and cerebral protection. In many respects, this material is a recounting of Dr. Michenfelder's recent monograph, *Anesthesia and the Brain,* albeit as seen through the eyes of several of his proteges and presented with a somewhat stronger clinical emphasis. These chapters establish the foundation upon which much of the next section, "Clinical Applications," is based. One of the most impressive aspects of this text is the way in which these first five chapters build upon each other. All are delightfully understandable, abundantly referenced, and remarkably up to date. Leslie Milde's chapter on "Cerebral Protection" completes the first section and is an obvious high point of the book. It is an erudite discussion of normal neuronal structure and function, the processes of neuronal injury, and the experimental and clinical application of neural protective maneuvers and agents. Furthermore, it is the ideal point to make the transition from discussion of the laboratory to that of the clinic.

The second section, "Clinical Applications" contains 11 chapters on clinical topics such as cerebrovascular diseases, tumor and epilepsy surgery, stereotaxic operations, neurodiagnostic procedures, surgery of the vertebral column and spinal cord, neuromuscular disorders and muscle relaxants, neurointensive care, acute and chronic pain, and coma and brain death. Several surgeons contribute to these chapters, such that the reader can appreciate both anesthetic and surgical considerations when approaching a specific patient care problem. Numerous tables, diagrams and photographs augment the text, and each of the chapters is abundantly referenced.

A few criticisms are appropriate here. The chapter on stereotaxic surgery is much too long (40 pages) and contains far more technical discussion than even a full-time neuroanesthetist would care to absorb. The chapter on neurointensive care reiterates much of the information previously presented in the "Scientific Foundation" section. I believe the absence of a chapter on head injury is a major deficiency. Although William Lanier's excellent chapter "Intracranial Pressure" does include this topic, I would have preferred to see a chapter dedicated to the problems of craniocervical injury or the "full head and full stomach," rather than having to find them in the "Scientific Foundation" section. The approach to tracheal intubation in the presence of an unstable cervical spine is outlined in the chapter "Vertebral Column and Spinal Cord Surgery," but it is more a listing of possibilities (blind, fiberoptic guidance or direct laryngoscopy) than a discussion of risks *versus* benefits. Cricothyrotomy is not considered. Topical anesthesia of the trachea is recommended, but there is no suggestion on how to deliver it or how to prevent coughing. Superior laryngeal nerve block and endotracheal tube placement over a retrograde catheter through the cricothyroid membrane are not mentioned.

Given the encyclopedic nature of this book, these criticisms are small indeed. **Clinical Neuroanesthesia** is a text that should be in the library of every academic department and every anesthesiologist who cares for neurosurgical patients. The references and topics covered are remarkably contemporary right now, and I predict that the general principles presented will be accepted as truths for a long time to come.

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Opioid Analgesia: Recent Advances in Systemic Administration. Volume 14: **Advances in Pain Research and Therapy.** Edited by Constantino Benedetti, C. Richard Chapman, and Giampiero Biron. New York, Raven Press, 1990. Pages: 460. Price: $98.00.

Opioid Analgesia: Recent Advances in Systemic Administration is a compendium of 27 articles presented at a satellite symposium of the V World Congress on Pain, held in honor of Dr. John J. Bonica. The articles are organized into two broad sections—basic science and clinical applications.

The basic science section is divided into basic mechanisms and pharmacokinetics. The basic mechanisms section contains two articles dealing with opioid analogue development, one on receptor specificity and one on *in vitro* and *in vivo* pharmacology. Both are in-depth and well-referenced. The next two articles present data supporting novel modes of central nervous system opioid–receptor interaction. The first, by Giardino, develops the concept that the lines of opioid neural transmission are subject to change modulated by multiple nonopioid factors, much the same as has been shown for many other neurotransmitter systems. The second, by Zoli, proposes an even more novel mode of transmission, referred to by the authors as volume transmission, whereby the afferent transmitter released without proximate receptors diffuses in the interstitial milieu to affect distant receptors. Finally, Casey presents arguments for a biochemical basis for the development of tolerance and dependence. This is a well-referenced article which also provides insight into the role that signal transduction systems play in producing the physiologic effects of opioids.

The next four articles of the basic science section detail various aspects of the pharmacokinetics of intravenously administered narcotics. The first, by Mather and Stanski, emphasizes the effects of sampling, protein binding, and drug clearance on the apparent effects of opioids. The article by Inturussi details the effects of various pathophysiologic processes on the metabolism and clearance of metabolic products of meperidine as well as abnormalities in the clearance of normeperidine that result in the apparent side effects of meperidine. He then reviews the effects of several other drugs and pathophysiologic processes on other narcotics and their metabolites. The final two articles deal with pharmacokinetic modeling and its clinical application, primarily in patients receiving general anesthesia.

The second section, on clinical applications, is also divided into subsections: these are "Routes of Administration," "Controlled Release