

and offers incomplete radiology differentials, it features multiple endoscopic color photographs matched with imaging studies in the same patient.

The strength of many radiology textbooks rests on the presence of quality imaging cases, which is the core of this book. The normal anatomy and the garden variety pathologic MR and CT cases are of excellent image quality. In addition, it is gratifying to see many unusual or rare cases beautifully imaged and not merely taken from someone's archival cases. Indeed, it is apparent that the authors have collected a veritable treasure trove of superbly imaged pathology. Chapter 9, "Malignant Neoplasms," distinguishes itself here with excellent common and unusual cases, including an array of exquisite perineural tumor spread cases.

Any radiology text that attempts to better our understanding of sinonasal pathophysiology and the principles and techniques of surgical management of disease is worth adding to the radiologist's library. This book aims to—and accomplishes—those 2 things. In addition, the multitude of common, uncommon, and rare pathologies that are all of excellent image quality makes this text a good investment as a reference. However, I caution that this is not the definitive radiology text for the paranasal sinuses or even a comprehensive review of sinonasal imaging.

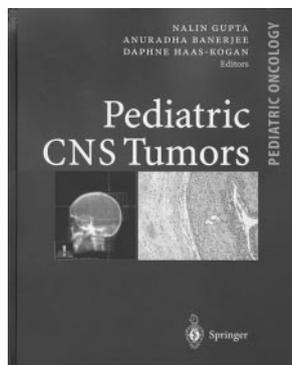
BOOK REVIEW

Pediatric CNS Tumors

Nalin Gupta, Anuradha Banerjee, Daphne Haas-Kogan, eds. Berlin: Springer: 2004. 283 pages, 108 illustrations, \$129.

Brain tumors represent the most common solid cancer in children and cause more cancer deaths than any other childhood cancer. Despite these facts, few comprehensive texts are dedicated to the topic of central nervous system tumors in children. This text, edited by the University of California, San Francisco Neuro-Oncology group, long recognized as one of the foremost comprehensive brain tumor centers in the United States, brings together experts in the fields of pediatric neurosurgery, pediatric oncology, and radiation therapy to provide a thoughtful overview. *Pediatric CNS Tumors* represents a welcome addition to the literature and will be an excellent resource for any professional involved in the care of children with cancer.

This text takes on the global topic of CNS tumors of children by dividing the subject matter sensibly by tumor type or location, as appropriate, as well as selected special topics. The chapters that cover tumors by location include supratentorial gliomas, brain stem gliomas, intramedullary spinal cord tumors; those organized by histology include ependymoma, craniopharyngioma, embryonal, neuronal, and choroid plexus tumors. The editors



have thoughtfully divided each of these chapters in an identical fashion, and these subsections are identified in the table of contents for ease of reference. The chapter subsections include epidemiology, pathology, clinical features, imaging, treatment, and outcome. The treatment portion of each chapter is then further divided into surgical indications, techniques, chemotherapy, and radiation therapy. By necessity, these subsections are covered with a concise overview and appropriate references. In addition, there are chapters on imaging, radiation therapy, chemotherapy, surgical techniques, and the phakomatoses.

The chapters are well illustrated with appropriate pathologic micrographs, representative diagnostic images, and informative tables. Figures and tables are accompanied by legends in contrasting colors and a readable font that complements the text. The images are, with a few notable exceptions, of excellent quality.

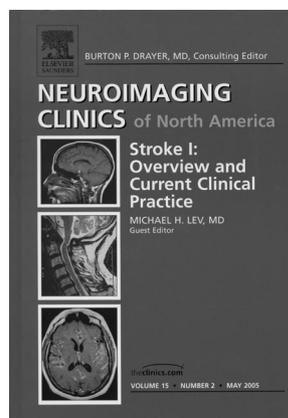
The shortcomings of this textbook are few. It is, as a survey book, not intended to be the authoritative text on imaging, surgery, chemotherapy, or radiation therapy for pediatric CNS tumors. As a neurosurgeon, I found the sections on surgery thin but concise and a good starting point for a medical student or junior resident. I'm sure that neuroradiologists and medical or radiation oncologists would feel similarly about the material covering their respective disciplines. It was these very sections, which are outside of my specialty, that I enjoyed the most. In addition, it is safe to say this text has a bit of an institutional slant; two thirds of the 28 contributors are from the University of California, San Francisco. Despite these minor drawbacks, I think this textbook will be a well-received addition to the literature that I will enjoy having in my library.

BOOK REVIEW

Neuroimaging Clinics of North America. Stroke I: Overview and Current Clinical Practice

Michael H. Lev, guest editor. Vol. 15, No. 2, May 2005. Philadelphia: WB Saunders. 240 pages, 121 illustrations, \$84.95.

A decade after the approval and availability of thrombolytics for the treatment of acute ischemic stroke, there has been a significant expansion of the discipline of cerebrovascular diseases. Some stroke victims are being treated emergently, stroke centers are being formed, and vascular neurology has been recognized as a certified subspecialty. In neuroradiology, this has translated to a need for emergent imaging, the use of progressively more sophisticated technologies for imaging vessels and tissue at risk, and, significantly, endovascu-



lar therapeutic approaches. This book is a useful addition to the literature as it proposes how diagnostic evaluations of stroke victims should guide therapeutic interventions, emphasizing the pathophysiologic basis of imaging results.

Acute ischemic stroke treatment is anchored around intravenous tissue plasminogen activator (tPA), which is used within 3 hours of stroke onset when CT excludes a hemorrhage. Despite these advances, very few patients, approximately 2%, are being treated with thrombolytics; the main reason for this is the rigid timeframe in which intravenous tPA is used. Nonetheless, it is estimated that approximately 20% of stroke victims come to medical attention within 6 hours of onset, providing an opportunity to affect large numbers if effective therapy were available. A subgroup of patients with salvageable brain tissue responds to revascularization interventions beyond the 3-hour limit now imposed for intravenous thrombolysis. There is therefore a need to apply imaging techniques to determine tissue viability and guide acute treatment.

Consequently, it is fitting that this multiauthor, authoritative book is now available. Dr. Michael Lev and his contributors, in 15 well-written chapters, make a strong case for imaging based on the pathophysiology of vascular conditions to guide therapeutic interventions. Its multidisciplinary authors include neuroradiologists, neurologists, neurosurgeons, and interventionalists. This book is not comprehensive, in that it covers a smorgasbord of cerebrovascular topics that are mainly, though not exclusively, related to the role of imaging in the evaluation and treatment of stroke patients. The chapters are not overly technical and dwell mostly on the physiologic basis that guides imaging technique selection, interpretation, and application for clinical decision making. Therefore, this tome will be valuable not only for radiologists but also for all clinicians involved in the care of these patients.

Three excellent chapters discuss the role of CT in acute stroke. The early ischemic changes detected by CT and its impact on thrombolysis outcomes are discussed, and the combined use of parenchymal imaging with CT angiography and CT perfusion is reviewed. This is important because CT is the most widely available imaging technology in the emergency setting. Although MR imaging has many technical advantages, it will be many years until it is available routinely and in large scale in the emergency department. Nonetheless, available MR technology allows the detection of salvageable tissue and vascular patency, which is needed to make rational decisions on the need to acutely intervene. In fact, many centers are currently using multimodal MR imaging in acute stroke evaluation. The role of MR is extensively reviewed, including its use in the detection of early hemorrhage; in the past, CT was touted as superior to MR in the ability to distinguish blood products, but this is reviewed and refuted. The case that MR

imaging is superior and may replace existing CT guidelines is proposed.

I agree with the suggestion made by various authors that a rigid time criterion for administering thrombolytic therapy should be replaced by a tissue viability assessment, and both MR and CT technology allow this determination. Early reports using tissue viability criteria rather than time criteria seem to validate this approach, and careful presentation of the thrombolytic experience is reviewed. Indeed, 2 algorithms, 1 for each technology, are proposed in the application of imaging to guide treatment, including a suggestion on treatment beyond the presently established recommendations for thrombolysis. A review of endovascular approaches for acute vascular reperfusion is presented in a clear manner, including the possibility of starting with intravenous therapy and following with intra-arterial interventions as “rescue” in the case of failed reperfusion. Overall, the reader will be left with a clear understanding of the role of imaging in acute ischemic stroke, the available therapeutic arsenal, and the role of cerebral and vascular imaging in guiding the use of these interventions.

Although a number of chapters are dedicated to acute intervention, this is not a manual of acute stroke assessment. A number of chapters deal with nonacute evaluations. Of note is a brief review of methods to assess vascular reserve and its application in clinical practice. This topic is not routinely covered in traditional neuroradiology overviews and allows an understanding of the basis of cerebral autoregulation. Similarly, a chapter on positron-emission tomography imaging of cerebral ischemia is a useful review of cerebral hemodynamics.

There are some unique areas covered in this book that are not routinely available in the clinical or radiologic literature of cerebrovascular diseases in this country. Two chapters address the burden and characteristics of stroke in Asia and Latin America. Hemorrhagic disease is more common in these populations, which is important to recognize because it may affect prophylactic measures, such as the use of antithrombotics in primary prevention. Similarly, the incidence of intracranial atherosclerotic disease is much greater in the Far East than in this country, which should guide diagnostic evaluations to include intracranial vascular imaging. Certain conditions that are uncommonly seen in the United States are discussed, including Moyamoya, Chagas disease, and neurocysticercosis. With our large and diverse immigrant communities, these issues are of particular consequence.

This is not an all-inclusive tome on the subject, and in some cases there is some repetitiveness in the coverage of certain topics. However, this book affords a fresh perspective on the need to evaluate tissue viability to guide therapy and has special pearls that will be memorable to those involved in the care of stroke patients.