AJNR

Neuroimaging Clinics of North America: Intracranial Aneurysms, Vol. 16, No. 3

AJNR Am J Neuroradiol 2007, 28 (7) 1418-1419
doi: https://doi.org/10.3174/ajnr.A0578
http://www.ajnr.org/content/28/7/1418.2

BOOK REVIEW

Neuroimaging Clinics of North America: Alzheimer's Disease–100 Years of Progress, Vol. 15, No. 4

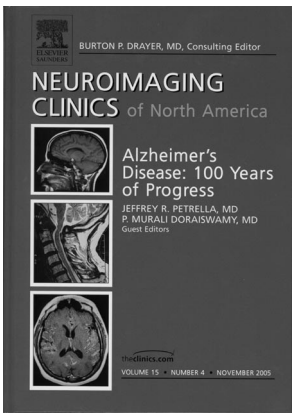
J.R. Petrella and P.M. Doraiswamy, guest eds. Philadelphia: WB Saunders; 2005. 168 pages, $54.50.

Given an increase in longevity in almost all populations and a consequent rise in the prevalence of dementia, neuroradiologic expertise in carrying out and interpreting studies in dementing illness is ever more critical to the public good. Not only can well-designed investigations exploiting new technologies help researchers to better identify pathophysiologic processes in dementia, but thoughtful neuroradiologic evaluations by using conventional equipment can help clinicians prevent patients with treatable dementia from being consigned to back wards of nursing homes.

As pointed out in the volume on Alzheimer disease (AD) edited for the Neuroimaging Clinics of North America by Patrella and Doraiswamy, AD represents 50%–80% of dementing illness. It is, in effect, the galaxy that we need to know best in the universe of dementias. It is the anchor for intergalactic travel in the differential diagnostic process. Patrella and Doraiswamy's book is a succinct but richly endowed tour guide for embarking on this 21st century journey.

The volume contains 11 well-written chapters from 42 contributors in the United States and abroad who cover pertinent basic science, clinical, and imaging topics. Approximately one third of the contributors are radiologists/neuroradiologists; the remainder includes representatives from psychiatry/biologic psychiatry, pathology, neurology, and neurobiology/neuroscience. Six of the chapters primarily are from Duke University, 2 are from New York University, and 1 each is from the University of California, Texas Southwestern Medical School, and the University of Miami.

The chapters addressing basic science concepts present a nice overview of the genetics of AD and a discussion of the putative role of β-amyloid in its pathogenesis and are broad enough to include a brief, but relevant, review of evidence against the β-amyloid hypothesis. Good images and discussions of the pathology of AD are provided in the chapters on neuropathology and on quantitative structural imaging, respectively. The latter chapter includes correlative histologic and MR imaging specimens, which nicely lay out, in paired sets, the detailed relevant tissue and MR anatomy of the medial temporal lobe. Subsequent chapters cover the role/limitations of fluorine-18 fluorodeoxyglucose positron-emission tomography imaging in AD, the quest for molecular imaging of amyloid, and the current status of functional, perfusion-weighted, and diffusion-tensor MR imaging and of MR spectroscopy in the clinical diagnosis and prognosis of AD. These chapters bring the reader up to date on current technologic frontiers in AD.



Importantly, for the neuroradiologist, however, the volume does not neglect clinical aspects. Three valuable chapters, respectively, are devoted to the "Clinical Diagnosis and Management of Alzheimer Disease," "A Clinical Perspective of Mild Cognitive Impairment," and "The Role of Conventional MR and CT in the Work-Up of Dementia Patients." These chapters include an appropriate emphasis on difficulties in diagnosis, on differential diagnosis, and on the known efficacy of current drug therapy.

It seems that the editors have undertaken a concerted effort to make the volume a useful, integrated whole, maximizing information while minimizing repetition and unnecessary complexity; the authors have tailored up-to-date information to the specific objectives of this book. They are all to be congratulated.

This volume will be a useful, manageable handbook on AD, in particular, and on dementia, in general, for years to come.

DOI 10.3174/ajnr.A0576

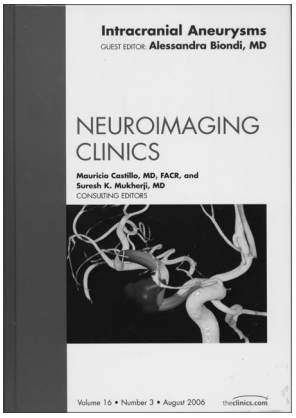
BOOK REVIEW

Neuroimaging Clinics of North America: Intracranial Aneurysms, Vol. 16, No. 3

A. Biondi, guest ed. Philadelphia: WB Saunders; 2006. 157 pages, $94.00.

In this short monograph, the major clinical, diagnostic, and therapeutic issues in intracranial aneurysms are considered. Biondi is the guest editor of this 157-page volume of the Neuroimaging Clinics of North America, and she has assembled an international group of authors who are known for their contributions to the field. The book spans nearly the entire clinical spectrum of the subject, taking the reader from an overview of intracranial aneurysms through subsequent chapters on imaging and treatment. There are 10 chapters, and all should be of interest to radiologists (neuroradiologists in particular), even including those chapters dealing with treatment regardless of whether the radiologist performs endovascular interventions.

The reader is first introduced to the basic aspects of intracranial aneurysms, including pathology, pathogenesis, hemodynamics, histology, epidemiology, and aneurysm classification/types. The author's intent is sustained throughout the opening chapter, but the reader is jolted by strange wording and poor editing. For example, in speaking of hemodynamic factors, "blood blow" is mentioned instead of "blood flow," or when the authors probably want to indicate that there was ventricular decompression before an arteriogram, the words "ventricular derivation" are used. One also gets bounced back and fourth between "aneurysm" and "aneurism." In a chapter that is supposed to introduce the reader to the subject, a figure



is shown where a Hunt and Hess Grade II and a Fischer Grade III subarachnoid hemorrhage is mentioned, but nowhere in that chapter are these grading systems described. In fact, if one then goes to the index in hopes of finding where this is discussed in other chapters, one comes up with nothing under those terms. Despite these editorial guffaws, there is good information here, and the imaging is of high quality.

Chapters on unruptured and ruptured intracranial aneurysms give the reader an understanding of aneurysm size and the subsequent chances of rupture/rerupture, along with treatment considerations. Both chapters are well written, and this reviewer likes the Socratic manner in which a portion of the material is presented: questions of importance asked and then answered.

The chapter on current diagnostic modalities should be of most interest to the reader. The images are good, and modern techniques (CT angiography, MR angiography, 3D angiography, and various display methods) are described; however, more specifics on CT angiography, for example, could have been included. There is no mention of delays in initiating imaging postinjection, nor is there a discussion of the value of the newer 64–128 multidetector CT scanners. To the author's credit, they describe risks of angiography, importantly including radiation risks. Again, however, the manuscript editing is not up to what one would expect. The term "sensibility" is used time and again, and to this reviewer that is not a recognized statistical term. The probable intent was to use sensitivity, and one wonders why this was not changed. One is left with baffling statements such as, "All teams insisted on the inferior sensibility concerning diagnosis of aneurysms not responsible for the hemorrhage," or "CT angiography, next to considerable improvement in spatial and temporal resolution, has become a high performance diagnostic tool."

A relatively long (40 pages, nearly one quarter of the book) but very worthwhile chapter deals with the endovascular treatment of aneurysms. Here, the radiologist who is unfamiliar with advances in endovascular treatment gets a run down of the various devices used in therapy: different coil types, balloons and stents, liquid embolic material, microcatheters, and wires. What makes for good reading are the sections on the techniques for coiling and stent placement, the strategies and thought processes involved with common and uncommon situations, and the complications involved. There is much to be learned by virtue of this chapter, particularly if one is not involved in interventional neuroradiology–not that reading and digesting this chapter will make the noninterventionalist want to run out and start coiling aneurysms, but at least it will give that person a firm understanding of the field and where it is headed. To this reviewer, this chapter was most interesting, because many previously unappreciated (or forgotten) issues were discussed, among them the reason for the abandonment of tungsten coils, methods of detachment of coils from the pusher wire, the constituents and mechanism of action of bioactive coils, the different types of stents, and preprocedural/postprocedural care. Specific strategies for coiling large-necked aneurysms (as developed by Dr. Jacques Moret, who is one of the authors) and how to approach confounding or difficult cases are thoroughly described and illustrated. This is an excellent chapter; however, improvement could have been achieved by the use of diagrams, illustrating the devices and their configurations in deployed positions.

The remaining chapters deal with the less common or less frequently treated aneurysms, such as dissecting, atherosclerotic, and fusiform aneurysms; aneurysms seen in association with various disorders, such as neoplasms, trauma, infections, arteriovenous malformations (AVMs), radiation, polycystic kidneys, connective tissue disorders (Ehlers-Daulos and Marfan), vasculitis, and neurofibromatosis; the evaluation and treatment of aneurysmal subarachnoid hemorrhage; which aneurysms require surgery; and follow-up of treated aneurysms.

Most neuroradiologists will find the chapter dealing with nonsaccular aneurysms that arise in the context of accompanying disorders to be of great interest. The case material chosen by the author (Biondi) of this chapter is excellent (in fact, high-quality imaging is present throughout the book) and serves to emphasize the subject's main point. More extensive labeling and an expanded legend in a number of cases would have been helpful, because to many not involved directly in intervention, such labeling and longer description would have cleared up a few figures, as for instance, in a figure that is said to show occlusion of an intranidal aneurysm in an AVM, it may have been helpful to say that the figure showed glue filling the pedicle and the aneurysm.

Although those performing endovascular surgery of intracranial aneurysms will have primary interest in this book, all neuroradiologists should be aware of the material in this book, and it, therefore, is highly recommended.

DOI 10.3174/ajnr.A0578

BOOK REVIEW

Stroke Treatment and Prevention: An Evidence-Based Approach

G.J. Hankey, ed. New York: Cambridge University Press; 2005. 536 pages, $140.

In his preface, Hankey writes that the aim of his book is, "to provide stroke clinicians (and their patients and families), with ready access to the optimal evidence to guide best practice in acute stroke treatment and (secondary) prevention of recurrent serious vascular events." It is, in my experience, rare that a book so completely meets the author's stated aim as does this immensely informative text. In 400 pages of text and more than 100 pages of references, Hankey provides us with detailed reviews and personal assessments of available literature related to most conditions related to both hemorrhagic and ischemic strokes. As a bonus, there are also excellent chapters dealing