CAROTID ARTERY STENOSIS: CURRENT AND EMERGING TREATMENTS

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Edited by Seemant Chaturvedi and Peter M. Rothwell.
359 pp., illustrated. Boca Raton, Fla., Taylor & Francis, 2005.
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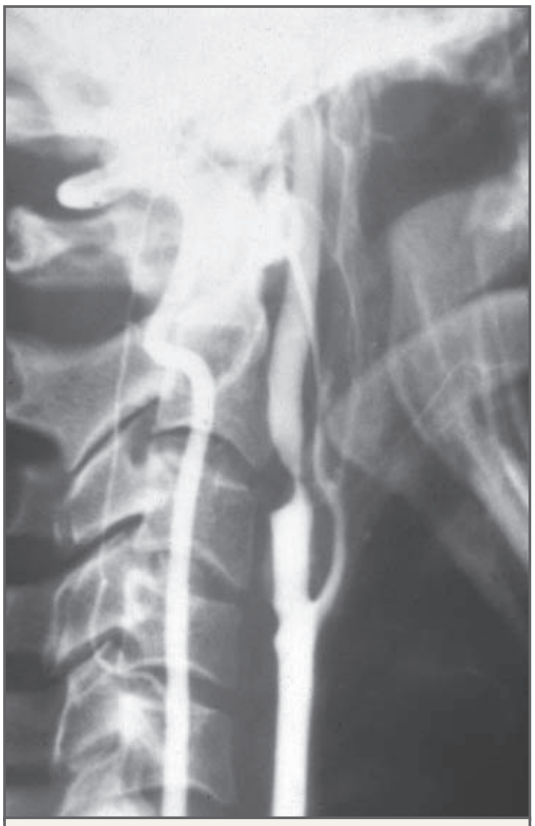

Radiographic Angiogram Showing Carotid-Artery Stenosis.

Wellcome Photo Library.

When Felix Eastcott and his team resected the carotid artery of a woman with transient ischemic attacks in 1954, they little realized that this was the beginning of the surgical prevention of stroke, and that in the next two decades, carotid endarterectomy was to become the most frequently performed vascular procedure in the world. Although carotid-artery stenosis accounts for no more than 15 percent of ischemic strokes, carotid endarterectomy remains the most powerful form of stroke prevention. Few strategies, medical or surgical, are associated with an absolute risk reduction of 16 percent. Unfortunately, success proved to be a mixed blessing. Once noninvasive imaging of the extracranial circulation became available, accessible, and inexpensive, the number of carotid endarterectomies escalated in the 1980s. Paradoxically, this newfound ease of diagnosis was a threat to many completely asymptomatic patients — since asymptomatic carotid-artery stenosis carries a combined annual risk of stroke or death of 2 percent. This risk is reduced to 1 percent after carotid endarterectomy, but even in expert hands, the operation carries an additional combined risk of at least 3 percent. Only the advent of clinical trials, carefully performed on both sides of the Atlantic, brought a stop to this chaotic state of affairs.

This small book, with more than 300 pages and 20 chapters, covers recent advances in our knowledge of carotid-artery stenosis and does so successfully for most areas. It is particularly strong on the topics of vascular imaging and surgical developments in recent years; this strength to some extent reflects the interests of the authors. To nonsurgeons (like me), the chapter titled "Surgical Controversies" is particularly illuminating, revealing an alarmingly wide spectrum of basic but unsettled questions, such as whether to use local or general anesthesia and the virtues of shunts and arterial patches. However, some chapters are so short (sometimes only five pages, including references) that they are little more than editorials, without the effect that would be provided by sufficient evidence-based data. In the next edition, the editors should insist on a minimum chapter length from all contributors.

The optimal management of carotid-artery stenosis remains to be determined. The initial results of large multicenter surgical trials, which became available in the early 1990s, had an aura of finality that brought a sense of self-confidence to clinicians. Alas, this aura was short-lived. Since the publication of the trial results, the natural history of arterial disease has been rapidly evolving. Lifestyles have radically changed over the past few decades: future populations will be thinner and fitter, tobacco smoking will decrease dramatically, blood lipid levels will fall, and the management of hypertension will be effective and, we hope, universally available. Also, the assessment of the degree of carotid narrowing (a critical and controversial feature of previous studies) has been revolutionized by noninvasive imaging. Invasive catheter angiography, a dangerous but accurate method of evaluating arteries and a cornerstone of the trials, is now seldom used. An-

gioplasty and stenting of extracranial and even intracranial arterial stenoses have become commonplace, although these techniques are not evidence based and are widely practiced in the absence of evidence-based data from randomized, clinical trials that are still under way. It is fitting that the last chapter of this book deals with this topic, which will certainly be an important feature in the next edition.

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NEURODEGENERATIVE DISEASES: NEUROBIOLOGY, PATHOGENESIS AND THERAPEUTICS

Edited by M. Flint Beal, Anthony E. Lang, and Albert Ludolph. 985 pp., illustrated. Cambridge, England, Cambridge University Press, 2005. $400. ISBN 0-521-81166-X.

As the general population ages, we can expect the burden of neurodegenerative diseases to increase. Fortunately, recent research in the field puts us in an excellent position to ease this burden. Never before have we been better poised to develop treatments on the basis of the underlying causes of neurodegenerative diseases. These new treatments will promise not only relief from symptoms but also modification of the course of the disease. In the past dozen years, genes have been identified for the familial forms of amyotrophic lateral sclerosis (in 1993), Alzheimer's disease (in 1995), Parkinson's disease (in 1997), and hundreds of other neurologic diseases. Identification of these genes has given us the opportunity to re-create and study the mechanisms of neurodegenerative diseases in cell-culture and animal models and to use the findings to develop pharmacologic and biologic therapies. Such therapies are now moving into clinical trials. One can easily predict that in 10 years, new treatments that have a large effect on these diseases will be available.

Research in this area is a moving target, difficult to capture in a book, but Beal and colleagues have made a worthy effort. The result is a good view, as of 2004, of the clinical and pathological features, pathophysiology, and prospects for the treatment of neurodegenerative diseases. The book is a weighty and comprehensive overview with an all-star list of contributors. Some important recent developments are missing or underrepresented, including RNA interference, the newly discovered Parkinson's disease gene *LRRK2*, and the results of recent clinical trials. Such shortcomings are likely in any textbook. For information about recently discovered genes and genetic testing, the reader would do well to check Online Mendelian Inheritance in Man (OMIM) and GeneTests.org, and for information from clinical studies, ClinicalTrials.gov and journal reviews.

Nonetheless, *Neurodegenerative Diseases* is a good reference book for medical libraries, clinicians, and researchers who are new to the field. It may be particularly good as a textbook for students who need to get up to speed, for example, in a course on the biology of neurodegenerative diseases. However, the story of these diseases is still evolving rapidly, particularly with regard to therapeutic development. As solid as this book is, I am already looking forward to the sequel.

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THE EPILEPSIES: SEIZURES, SYNDROMES AND MANAGEMENT

By C.P. Panayiotopoulos. 541 pp., illustrated, with CD-ROM. Chipping Norton, England, Bladon Medical Publishing, 2005. $170. ISBN 1-904218-34-2.

A MEDLINE search for "epilepsy syndrome" reveals that more than 1600 review articles about these syndromes have appeared since 1965. The classification system of the International League against Epilepsy that defines approximately 40 of the syndromes is detailed and occasionally changes. Moreover, the complexity of the field has increased in the era of genomics, even for practicing neurologists and epileptologists, and there are new laboratory tests to confirm a diagnosis suspected on the basis of the history and electroencephalographic (EEG) findings.

Panayiotopoulos has written one of the most comprehensive textbooks to be found on the subject of epilepsy. The book should be retitled "The Epilepsy Syndromes and Their Diagnosis," how-