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### **Changing Aspects in Stroke Surgery: Aneurysms, Dissections, Moyamoya Angiopathy and EC-IC Bypass**

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## BOOK REVIEW

### Changing Aspects in Stroke Surgery: Aneurysms, Dissections, Moyamoya Angiopathy and EC-IC Bypass

Y. Yonekawa, T. Tsukahara, A. Valavanis, and N. Khan, eds.  
Springer Wien; 2008, 141 pages, \$219.00.

The publication titled *Changing Aspects in Stroke Surgery: Aneurysms, Dissections, Moyamoya Angiopathy and EC-IC Bypass* is an outline of the proceedings of the Third European-Japanese Joint Conference for Cerebral Stroke Surgery, which was held in conjunction with the 70th Anniversary of the Neurochirurgische Universitätsklinik Zürich founded by Professor Krayenbühl.

The book is divided in 4 parts. Part 1 covers aneurysms, arteriovenous malformations (AVMs), and fistulas. In the first article, J.P. Mohr discusses the somewhat controversial randomized trial of unruptured brain AVMs. The rationale and enrollment criteria, are clearly formulated. A brief review of the literature is also presented, though some natural history studies are not discussed. A Website for further details and frequently asked questions is also listed. The second article in this section describes the treatment of ruptured aneurysms with stent-assisted coiling. Two case reports with long-term follow-up are featured with good pre- and postoperative angiograms and long-term follow-up images. The discussion gives a nice review of the problems encountered with stent-assisted coiling, namely recanalization, stent-induced stenosis, and arterial perforation, but it does not adequately cover the issue of antiplatelet therapy in patients with subarachnoid hemorrhages, such as those who were presented. The next article is a technical report that describes a suction-decompression method for giant ophthalmic aneurysms by using a double-lumen balloon catheter. Eight such cases are described, with good results. This article does not have any illustrative pictures and is probably less interesting for a neuroradiology audience. However, the interaction between the neuroradiologist and the neurosurgeon in treating these challenging lesions is exemplified.

The following article introduces tractography-guided navigation in surgery for AVMs. This article with a series of 25 patients is written superbly. The case presentations include excellent MR images, angiograms, and surgical images. This relatively new method and its applications will interest many readers. The subsequent article aims to shine some light on the so-called peri-hemorrhagic cerebral ischemia in patients with intracerebral hemorrhage (ICH). Forty-nine rats with stereotactically inflicted ICH were studied by using serial diffusion and perfusion MR imaging. The data are soundly presented, and the discussion is well organized, with good references.

The next article is a retrospective review of host and aneurysm characteristics in patients with multiple intracranial aneurysms. Epidemiologic data, clinical information, and aneurysm characteristics (of both unruptured and ruptured aneurysms in the same patients) are examined. This article does an excellent job of presenting the results with multiple

elaborate tables and drawings. It is an outstanding resource for aneurysm data in general. However, the discussion lacks a good interpretation of the extensive data, and the authors' specific conclusions on the topic are not presented clearly.

The subsequent article describes the usefulness and safety of the paraculminar supracerebellar infratentorial transtentorial approach for the removal of thalamic cavernous angiomas. Nice MR images and intraoperative pictures are shown. The article may be more relevant to a neurosurgical audience but it does a good job of reviewing the natural history and indications for treatment and it discusses all possible treatment options supported by the current published literature. The last article in this section discusses the treatment of peripheral large and giant fusiform middle cerebral artery aneurysms. Good CT scans, MR images, angiograms, and intraoperative pictures are shown. Besides presenting their own experience, the authors did a good job of reviewing the literature, with scholarly references.

Part 2 deals with dissection of cerebral arteries. Carotid dissections and cerebral dissecting aneurysms are covered. All treatment options, including medical, surgical, and endovascular, are contrasted and supported by solid peer-reviewed articles. One interesting article discusses the puzzling internal carotid anterior (or dorsal) wall aneurysm. It includes good radiographs and histologic pictures of the pathology. The article dealing with hemorrhagic dissecting aneurysms is comprehensive and is supported by nice drawings, too.

Part 3 discusses cerebral revascularization. The present status of extracranial-intracranial (ECIC) bypass is discussed by using up-to-date references. Multiple techniques of bypass surgery are described clearly with nice figures. One article discusses carotid endarterectomy and carotid stent placement. This is a good article that presents the authors' own experiences and gives an overview of the relevant literature. Another intriguing article for the radiologists describes changes in brain volume after ECIC bypass surgery by using MR imaging and single-photon emission tomography.

Part 4 discusses Moyamoya angiopathy, which is a very relevant topic, particularly in Japan. This is an enjoyable section because it covers the history of treatment from past to present. One article discusses the European experience with treatment of this entity. Only 9 patients were discussed; therefore, the validity of the conclusions is limited. The last article discusses historic landmarks in vascular neurosurgery and is excellent. It is well organized and very entertaining.

In summary, although this publication is a loose collection of articles on somewhat-related topics, it will be of interest to vascular neurosurgeons, interventionalists, diagnostic neuro-radiologists, stroke neurologists, and trainees and researchers in the field. It is certainly not a "must-have" book but an optional addition to one's library.

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