Cerebral revascularization.

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Cerebral Revascularization

This issue of Skull Base: An Interdisciplinary Approach concludes a series dedicated to cerebral revascularization. The group of articles should provide a comprehensive reference and update for this type of surgery. Keeping abreast of this technique remains important for cerebrovascular and skull base surgeons. The rapid march of technology has returned this established technique to the forefront.

The evolution of technology and techniques has manifested itself throughout this series of articles on revascularization. Better quantification of cerebral blood flow in the setting of ischemia related to carotid occlusion stimulated the development of the Carotid Occlusion Surgery Study by Derdeyn et al from the Washington University group and is discussed in SBS 15-1. Modern cerebral blood flow assessment also assisted in caring for moyamoya patients (both children and adults), as discussed in SBS 15-1. Refinements in aneurysm surgery and tumor surgery and aggressive management by experienced centers prompted more regular use of large conduit radial artery or saphenous vein bypasses as assessed by Mura et al and Wolfe et al in SBS 15-1, by Quiñones-Hinojosa et al in SBS 15-2, and by Abdulrauf in SBS 15-3. In addition, the excimer laser-assisted bypass technique for high-flow bypass pioneered in the Netherlands is presented by Langer in SBS 15-3. Refinements in neuronavigation and intraoperative angiography have helped enable surgeons to aggressively manage certain lesions which may not have been as readily addressed surgically in the past. Tremendous progress in catheter technology has enabled interventional treatment of the difficult problem of middle cerebral artery stenosis as an adjunct to bypass surgery, both of which are discussed by Klopfenstein and the experienced group from Barrow Neurological Institute in SBS 15-3. The complex field of posterior circulation revascularization is reviewed by Coert and the Stanford group in SBS 15-1.

The primary technique of superficial artery to middle cerebral artery bypass is eloquently described by Newell in SBS 15-2. The fundamental but critical techniques of bypass training and graft harvesting are reviewed by MacDonald and Johnson et al, respectively, in SBS 15-3. An overview of neurocognitive and radiographic follow-up for ischemic bypass patients is also described in SBS 15-3, keeping pace with the present need for outcome assessments.

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Guest Editor

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