This incomparable textbook for neurosurgeons describes 71 complex vascular, neoplastic, spinal, and miscellaneous lesions that were surgically treated by recognized neurosurgeons from around the world. These experts present complex and interesting cases in Neurosurgery of Complex Vascular Lesions and Tumors and discuss their strategy of surgical management. The key points for the surgery stressed by the authors, along with comments by other distinguished neurosurgeons, are the best guide for distressed neurosurgeons facing complex lesions.

The editor, Dr. Shigeaki Kobayashi, has played a leadership role in the Japanese Neurosurgical Society. He has chaired the Department of Neurosurgery in Sinshu University, which was founded by his teacher, the late Dr. Kenichiro Sugita. His departmental policy, when a patient was scheduled for surgery, was to lead an intense discussion among all residents and staff members concerned with the case. This policy is reflected in the design of Neurosurgery of Complex Vascular Lesions and Tumors, and in this book, we can enjoy fruitful discussions about complex neurosurgical lesions.

Section 1 of this book presents five illustrative cases with giant aneurysms. Brian O’Shaughnessy and coauthors, who report a giant paraclinoid aneurysm, state that cerebrovascular reserve testing, the temporary balloon occlusion (TBO), plays a highly valuable role in the preoperative evaluation of all patients with complex intracranial aneurysms. David Piepgras also stresses the importance of TBO studies in planning management strategies for giant aneurysms of the internal carotid artery. In Dacey’s comment for the case that Piepgras presents, he notes that surgeons may be faced with the dilemma of a giant proximal carotid aneurysm associated with impaired collaterals, as demonstrated by TBO, and they must then decide whether to attempt to reconstruct the neck with clips after dissection of the artery or to perform an extracranial-intracranial bypass using either a superficial temporary artery-middle cerebral artery (STA-MCA) or high-flow venous or arterial conduit.

In Section 2, 34 cases with brain tumors are presented. Surgical treatment for craniopharyngioma depends on the size, consistency, shape, and location of the tumor. Accessing the retrochiasmatic location is particularly difficult. The opticocarotid, interoptic, lateral carotid, or translamina terminalis operative corridors have generally been used, and various authors have shown successful clinical outcomes after adopting these surgical approaches. In case 38, Shibuya and Ikeda introduce the bifrontal basal interhemispheric approach for total removal of a large retrochiasmatic craniopharyngioma. They emphasize the merits of the approach for preserving vital structures such as the optic apparatus, pituitary stalk, hypothalamus, and perforating arteries. In case 36, Hakuba et al. present a large calcified craniopharyngioma, and they illustrate the oticocondylar transpetrosal approach based on their study of the morphologic developmental anatomy of the basal ganglia. They state that the traditional translamina terminalis approach is contraindicated in such a large, calcified, third-ventricular craniopharyngioma because the lamina terminalis is the floor plate of the telencephalon, and retraction of this area to obtain access for radical resection of the tumor will always cause permanent damage to the basal plate of the telencephalon, consisting of the septal and diagonal band.

Meningeal hemangiopericytomas are malignant neoplasms with a high vascular supply, and they are characterized by a high recurrence rate. A surgical technique for achieving radical tumor removal without extensive blood loss is therefore important. In case 52, also in Section 2 on brain tumors, Konovalov et al. describe their surgery on a giant meningeal hemangiopericytoma in
which they adopted two blood-sparing techniques before and during operation. In the preoperative stage, they embolized the feeding vessels repeatedly to diminish the tumor blood supply. For this technique, Konovalov et al. advise that the tumor should be removed within five days after embolization, because any delay may result in recanalization of the vessels. They also performed blood taking and conservation in the preoperative stage. They completed an extensive trephination and removed the tumor by splitting the tumor into pieces. Konovalov et al. maintain that the best and the most efficient way to decrease intraoperative blood loss is to diminish the tumor tissue volume as soon as possible. In the comment on this case, Al-Mefty recommends to readers that a hemangiopericytoma should be treated almost like a giant anteriovenous malformation: The surgical plan should be to avoid entry into the tumor and instead circumscribe the tumor until it is totally devascularized, delaying the removal of any veins until the end of the procedure.

As shown by these cases selected from *Neurosurgery of Complex Vascular Lesions and Tumors*, it contains a wealth of information on complex lesions. Neurosurgeons who must decide on a surgical strategy for their patients will discover the best options in this book.

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