Medial tentorial artery of Bernasconi-Cassinari

Bernasconi and Cassinari [1] first reported the angiographic visualization of a tentorial artery supplying tentorial meningiomas.

An anatomic study of this type is of utmost importance for imparting greater “precision” to the management of these lesions as well as in preventing inadvertent vascular compromise to normal structures. The medial tentorial artery (MTA) of Bernasconi-Cassinari has been associated with many neurosurgical pathologies, including tentorial meningioma and petroclival meningiomas, dural arteriovenous fistulae, hemangioblastomas, moyamoya disease, arteriovenous malformations, trigeminal schwannomas, and malignant gliomas.

The tentorial artery is the most constant branch of the meningohypophyseal trunk (MHT) that, in turn, arises from the proximal curvature of the intracavernous internal carotid artery (ICA).

It is important in neuroendovascular interventions for an entire spectrum of neoplasms and vascular lesions in the region of the tentorium cerebelli.

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This vessel is roughly 2 cm long and has a wavy appearance on angiography. It is usually a single trunk and often supplies the oculomotor, trochlear, and abducens nerves. The MTA may be seen on normal angiography and may be involved in the blood supply of petroclival and tentorial meningiomas.

A thorough knowledge of its anatomy and variations is important to clinicians interpreting imaging and neurosurgeons operating in this region. Detailed knowledge of this vessel may shed light on therapeutic options regarding its associated pathologies [2].

Anatomy

In ten cranial bases examined using ×3 to ×40 magnification of the surgical microscope.

The MTA arose as a single branch in 95% of cases from the MHT at the level of the C4 segment of the internal carotid artery. The average length of the MTA was 21.7 mm (range 20.0-23.4 mm). The average diameter of the MTA was 0.53 mm (range 0.49-0.60 mm).The MTA passed just below the lower dural ring detached from the lower margin of the anterior clinoid process. During its course, the MTA drop over the intracavernous segment of the abducens nerve twisted at its exit from the Dorello's canal and overlay the trochlear into the thickness of the free margin of the tentorium cerebelli. Vascular relationships of the MTA were venous trabeculation of the cavernous sinus, basilar plexus and branches of the inferolateral trunk. The MTA sent two terminal branches: one medial rectilinear, which pursued the initial dorsal course, and the other shorter with a lateral course, which disappeared into the lateral wall of the cavernous sinus. The medial branch of the MTA curved laterally, ramifying within the free edge of the tentorium cerebelli and anastomosing along the base of the dorsal part of the falx [3].

Intra-operative devascularization of petroclival meningiomas by ICG-VA-guided Bernasconi & Cassinari artery identification [4].

1)
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