

MICROSURGICAL ANATOMY OF THE CAVERNOUS SINUS AND ILLUSTRATIVE CASES OF MENINGEAL AND NONMENINGEAL CAVERNOUS SINUS TUMORS

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Our purpose is to show the microsurgical anatomy of the Cavernous Sinus and present surgical cases to illustrate this anatomy. Methods: Eighteen CS of five cadaveric heads and four skull base fixed in formalin were dissected using 3X to 40X magnification of the surgical microscope. The heads and skull bases were injected with colored silicone and the sides and area of the triangles were measured. Each cadaveric head was placed in a Sugita head-holder and a cranioorbitozygomatic approach (COZ) and Total clivectomy approach were performed. Seven cases are presented to illustrate this anatomy. Clival chordoma with CS extension medial to the internal carotid artery (anterior Clivectomy approach) , clival neuroblastoma displacing the medial wall of the CS (endonasal endoscopic approach), trigeminal schwannoma (COZ) Adenocarcinoma of the CS with temporal lobe and pterygopalatine fossa extension (COZ with middle fossa peeling followed by infratemporal and pterygopalatine fossa exploration) Cavernous sinus meningioma (COZ), Sphenopetroclival meningioma (petrosal approach) and tuberculum sellar meningioma with lateral wall CS extension (COZ). Results: The complex anatomy and CS approaches are presented. Except for the partial oculomotor nerve palsy in the patient with cavernous sinus meningioma, there was no postoperative neurological deficit. Complete resection (at least more than 90% of the tumoral component) was achieved in all cases. Conclusion: Each pathological process has its intrinsic peculiarities and must be considered before or during the surgery. This kind of anatomical study using different approaches allows us variable views of the same area, getting a really three-dimensional knowledge.