

Orbitofrontal approach for resection of tuberculum sella meningioma



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ABSTRACT

We demonstrate the resection of a left tuberculum sella meningioma with mass effect on the optic nerves. The patient presented with decreased visual fields in the left eye. Imaging demonstrated a dural based mass arising from the tuberculum sella/left optic canal. A pterional approach was performed and meticulous arachnoid dissection, vascular supply interruption, intracapsular debulking, and extracapsular dissection was performed to achieve a gross total resection of the tuberculum sella meningioma.

CLINICAL PRESENTATION

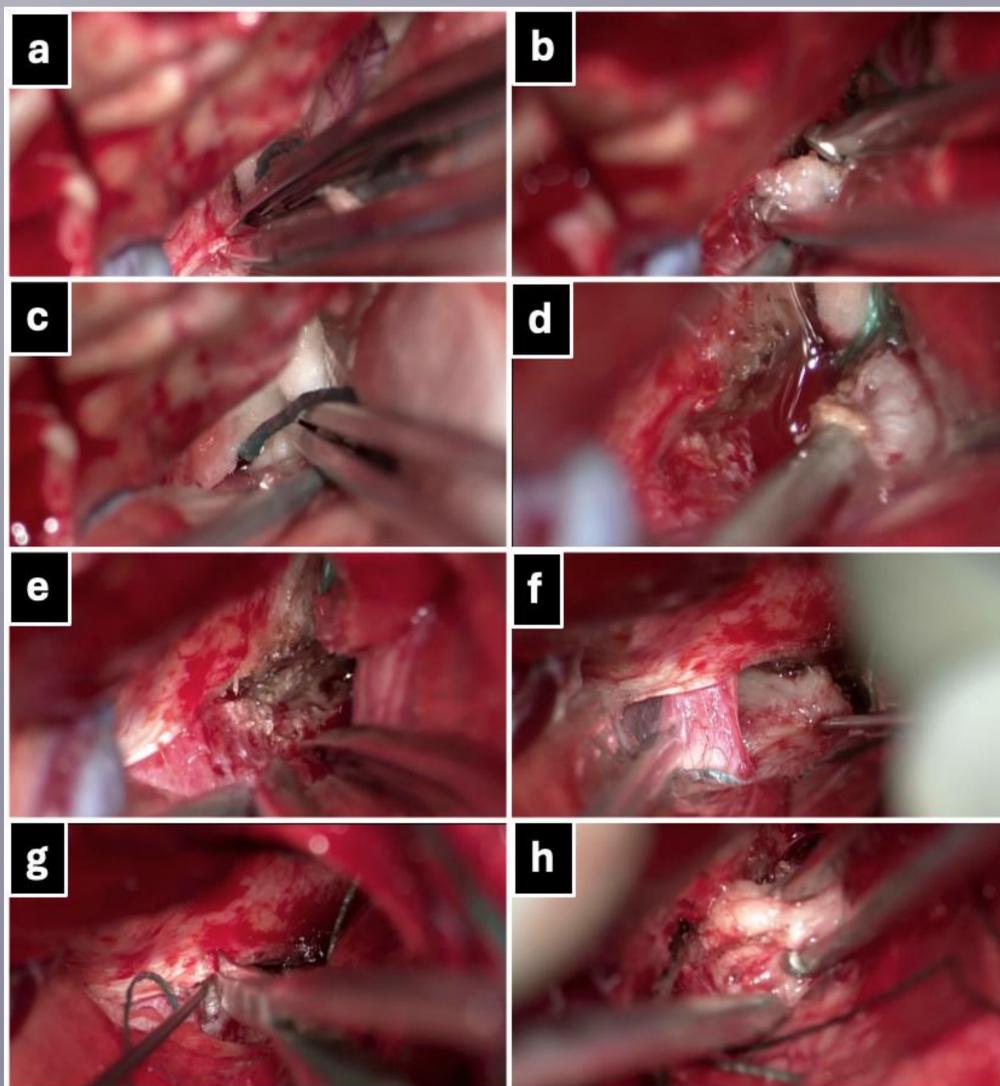
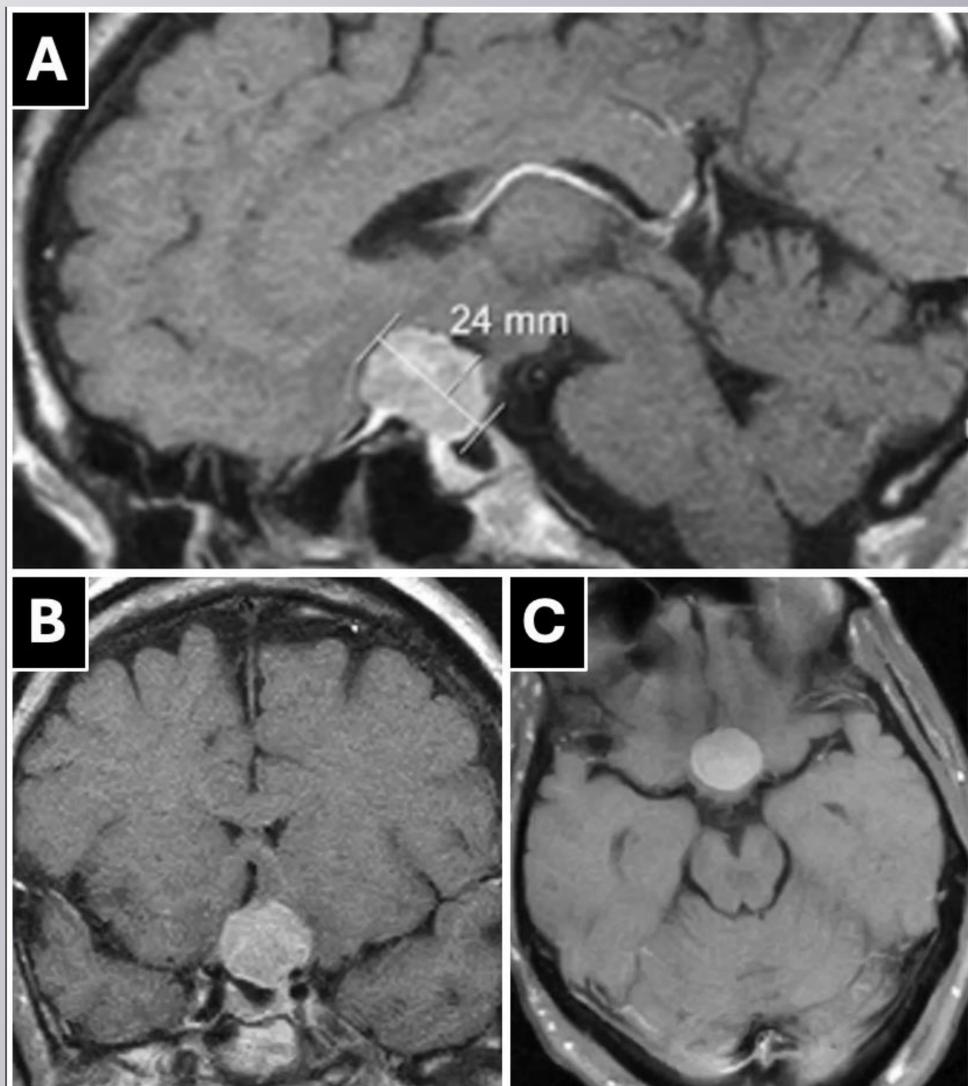
- 57-year-old female.
- Presented with progressive visual loss (left temporal field cut & decreased visual acuity) and headaches.
- Past medical history includes obesity and hypertension.
- Pathology revealed a WHO Grade I Meningioma with transitional morphology.

PRE-OPERATIVE IMAGING

Sagittal (A), Coronal (B), and Axial (C) MRI demonstrates a tuberculum sella meningioma with dural tails with significant mass effect on the optic chiasm. The mass is slightly eccentric to the left side which is why we chose to perform a left pterional craniotomy for resection.

OPERATIVE APPROACH

Initial devascularization is achieved by bipolar coagulation of the feeding arteries at the dural implantation base (a). Intracapsular debulking is initiated to decompress the lesion, creating a central cavity that allows capsular collapse and reduces tension on the left optic nerve (b). Dissection proceeds along the arachnoid plane with progressive cottonoid interposition to define the cleavage plane and maintain safe traction-countertraction (c, d). The intracanalicular component is addressed with meticulous bipolar coagulation, protecting the optic nerve and its *vasa nervorum* (e). Direct separation from the left optic nerve is performed along the arachnoid plane (f). The falciform ligament is incised to expand the optic canal (g). En bloc mobilization of the tumor is performed (h). Patient did well post-operatively with stable visual outcomes.



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