

Microsurgical Resection of Suprasellar Craniopharyngioma by Pterional Approach: 3-Dimensional Operative Video

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Craniopharyngioma is an uncommon slow-growing lesion that comprised 2% of all intracranial tumors. Approximately 60% of cases are diagnosed after 16 years despite bimodal age distribution between 5 to 15 and 45 to 60 years. Typical locations are suprasellar in 75% of cases, 21% sellar and suprasellar, rarely restricted to sella.

There are 2 histological types: adamantinomatous, which most commonly appears in children, and papillary, more common in adults.

Clinical symptoms are associated with structures such as pituitary, third ventricle, optic, and oculomotor nerve compression by mass effect, generating hormonal disturbances, hydrocephalus, visual deficits, and raised intracranial pressure signs.

Tumor adhesion to Willis polygon and optic nerves can be challenging, increasing bleeding, ischemia, and loss of vision risks. We present a 35-year-old patient with a history of frontal headache associated with 5 months of amenorrhea and a mouth of progressive visual loss. Physical examination showed bitemporal hemianopsia. The neurological investigation by magnetic resonance imaging revealed a sellar/suprasellar solid cystic tumor with pituitary compression, without third ventricle invasion, which was compatible with craniopharyngioma. The patient underwent resection through a pterional approach, and the lesion was resected entirely without symptoms worsening. A pathology examination confirms craniopharyngioma diagnosis.

In this 3-dimensional video, the authors present the step-by-step microsurgical technique to perform a sellar/suprasellar craniopharyngioma resection by pterional approach.

The patient consented to the procedure and publication of his images.

Patient consent: The patient signed the institutional consent form, which allows the use of his/her images and videos for any medical publications in conferences and/or scientific.

KEY WORDS: Craniopharyngioma, Pterional approach, Interpeduncular cistern, Hemianopsia

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Disclosures

The authors have no personal, financial, or institutional interest in any of the drugs, materials, or devices described in this article.

COMMENTS

The authors present a case of a patient with a craniopharyngioma who underwent a pterional approach for resection of the tumor. The surgery is beautifully done and highlights some important points. Given that these tumors can vary quite a bit from patient to patient, it is important to understand the relationship of the tumor to the critical structures