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Case Report

Orbital Cavernoma: Case Report and Literature Review

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ABSTRACT

Orbital cavernomas are the most frequent benign orbital tumor. They are slow-growing lesions of the intracanal space. A 58-year-old female presented for 7 months of impaired visual acuity of the left eye associated with severe pain. The physical examination showed left axial proptosis. Orbital magnetic imaging revealed a 21 mm diameter extraconal space of the left orbital space. The patient underwent an endoscopic, minimally invasive procedure (FESS) with resection of the tumor trans nasally.

Keywords: Orbital cavernomas; Orbital tumor; Orbital magnetic

Introduction

The most common presentation of cavernous hemangioma is a unilateral mass in the lateral part of the middle third of the orbit[1]. The radiological work-up includes Computerized tomography (CT) and magnetic resonance imaging (MRI)[2]. The surgical resection is the gold standard and different approaches are possible, including orbitotomies, transconjunctival access and FESS[3,4].

In this paper, we report a new case of an orbital cavernous hemangioma.

Case Report

A 58-year-old woman presented to our department with a history of 7 months of left eye proptosis with paroxysmal pain. Visual acuity was 4/10 on the left eye and 6/10 on the right eye and there was a slightly reducible axial left eye proptosis. No ocular deviation or restriction in motility was noted. The anterior and posterior segments showed no anomalies bilaterally, with normal intraocular pressure. Orbital magnetic resonance imaging (MRI) showed a round, well-limited structure with lobular contours in the extraconal space of the left eye. This lesion was isointense in the T1-weighted images and presented a heterogeneous hyperintense signal in the T2-weighted images with marked enhancement after gadolinium injection. The MRI aspect was compatible with orbital cavernous hemangioma.

A FESS was performed and after carefully dissecting and resecting the encapsulated tumor, we noted the vascular aspect of the mass with a raspberry color **(Figure 1)**.

Histopathological examination confirmed the diagnosis of cavernous hemangioma.

Discussion

Cavernous hemangioma is a benign vascular malformation with proliferated vascular structures with adjacent fibrous tissue and large nerve trunks[5]. The etiology is still unknown. One theory proposed that the mass arises within the cavernous sinus, deriving its arterial supply from the intracavernous internal carotid[5,6].

Figure 1: Preoperative image highlighting the patient's left eye proptosis.

Estrogen may have a role in the pathogenesis of these tumors, explaining the female predominance with a sex ratio of 7:1[7]. The age at presentation is during the fifth decade of life, with a progressive proptosis associated with diplopia[8].

Cavernous hemangiomas demonstrate as well limited, round mass with a hypointense to isointense signal on T1-weighted MRI, while hyperintense on T2 and strongly enhanced after gadolinium injection[9]. This imaging aspect seems to be an important differentiating aspect of the CSH from other lesions as meningiomas or lymphomas or even other orbital vascular tumors.

The endoscopic approach in treating orbital lesions has been evolving recently and the intraconal tumor surgery is its latest part. The endoscopic management of extraconal tumors is safe and feasible **(Figure 2,3)**, with critical steps such as management of the medial rectus muscle and identifying each orbital structure to avoid postoperative complications[10].

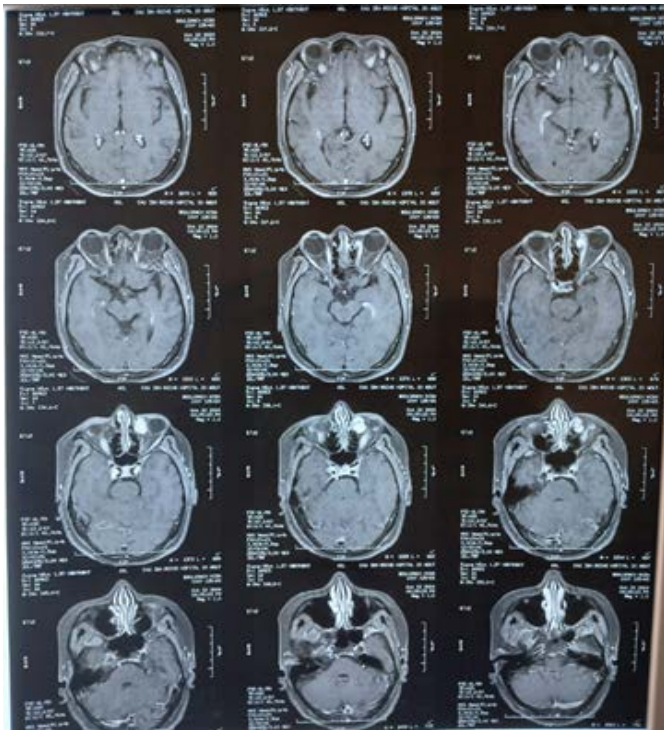

Figure 2: T1-weighted sequence showing progressive enhancement of the left extraconal lesion.

Figure 3: postoperative image of the resected orbital cavernoma.

Conclusion

Using FESS to address the orbit has been used for decades in procedures like orbit decompression or dacryocystorhinostomy, but treating orbital tumors such as cavernous hemangioma is a recent field of interest for rhino surgeons.

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