CASE REPORTS

A sidewalk into the lateral orbit

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ABSTRACT

An easy gentle walk is advised into any enclosed place rather than an approach where bony pillars are transected.Tumor size and location are analysed to decide on the entry into the orbit. All of the main approaches published to date are mainly based on an osteotomy of the orbital wall and hence when a relatively accessible lesion crossed our way, we decided on a non-osteotomised approach allowing us to preserve the function, anatomy and good aesthetic results; thereby avoiding the need for subsequent reconstruction.

Key Words: Lateral orbit, Non osteotomy, Approach, Aesthetic

1. INTRODUCTION

The orbit is a delicate enclosed chamber where anatomical structures that are essential for vision are placed and any approach surgically intervening into this area should provide adequate exposure and preservation of all anatomically important structures.

Most of the procedures described in the literature to gain access into the orbital cavity describe an osteotomy of the lateral wall of the orbit, however here we describe a simple approach to reach the anterolaterally placed lesion avoiding the need for bone resection and subsequent reconstruction with comparatively less complications to immediate structures.

2. CASE REPORT

A 29-year-old female presented with a 1-year history of increasing right eye proptosis along with decreased visual acuity. MRI revealed a large enhancing mass occupying the superolateral portion of the orbit (see Figure 1). Differential diagnosis of an epidermoid tumor or a glomus tumor was made and surgical excision was planned under general anesthesia.

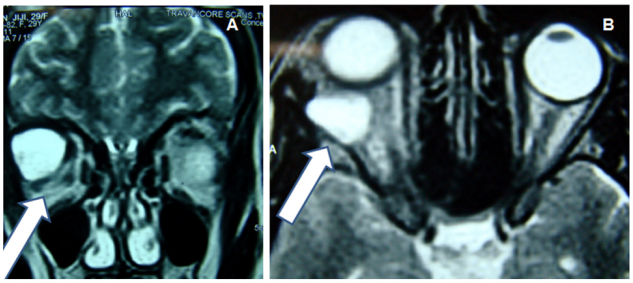

Figure 1. (A, B) MRI showing the large enhancing mass

3. PROCEDURE

A 3 cm long incision was placed along the right upper lid crease and was laterally extended, layer by layer dissection was done supra periosteally towards the posterior aspect of the lesion (see Figure 2). The periorbita was incised at the

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site of lesion and the lesion was exposed (see Figure 3) and removed in toto. Haemostasis was ensured and the periorbita was realigned. The subcutaneous tissue and skin were closed with vicryl and prolene respectively (see Figure 4). The specimen (see Figure 5) was sent for histopathological examination and case was diagnosed as glomous tumour (see Figure 6). The postoperative phase was uneventful (see Figure 7).

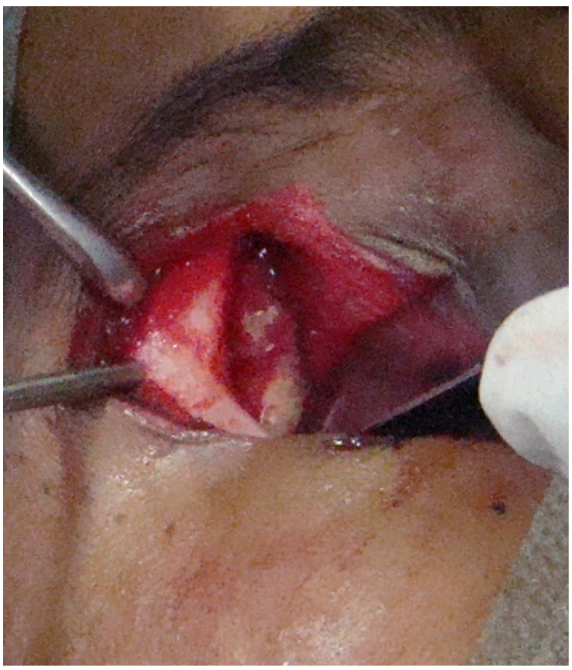

Figure 2. Site of approach and layer by layer dissection done

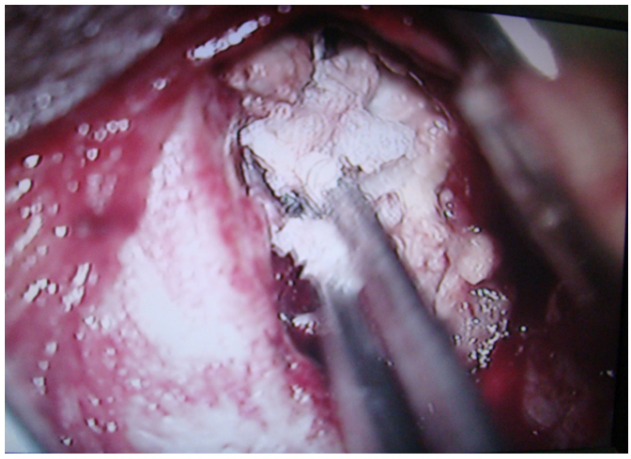

Figure 3. Intra operative picture of the lesion

4. Discussion

In 1889, Kronlein[1] described the lateral orbital approach[2,3] later on transformed by Berke[2] in 1953 and by Maroon[3] and Kennerdell in 1976. This particular approach has been helpful in reaching out to the lateral, superior and inferior parts of the orbit but has a limitation in accessing the orbital apex. Several approaches into the intraorbital space have been illustrated in the literature, but almost all of them require bone removal which can be orbitotomies or craniotomies. The design of the approach into the orbit depends on the position, size and character of the lesion.Subfrontal approach and external ethmoidectomy are used for superior access and to access the medially occupying lesions respectively. To approach the pathologies localized in the lateral part of the orbit, a transfacial lateral approach has been described.[4] A transcranial route is used to reach the lesions located in the apical, superior or medial compartments[5] and anteromedial tumours can be exposed through the anterior orbitotomy approach.[6] Almost all the intra orbital tumours except those located in the middle compartment of the orbital fossa or those extending into the optic canal can be safely removed through the lateral orbital approach.[7]

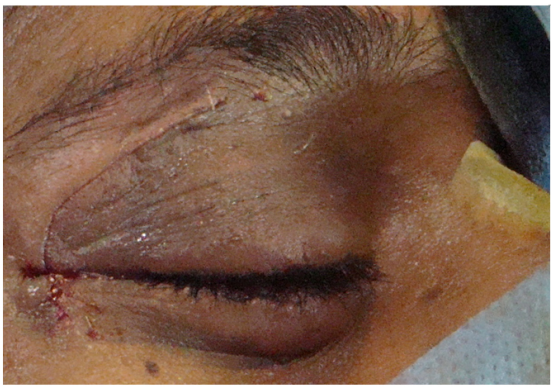

Figure 4. Closure of surgical site

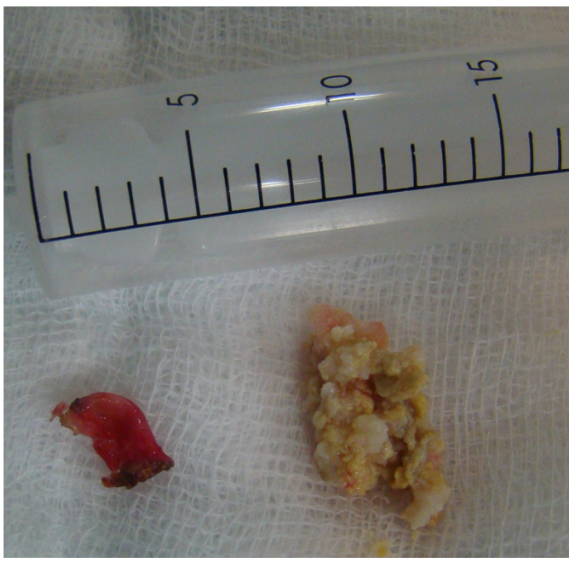

Figure 5. Excised lesion

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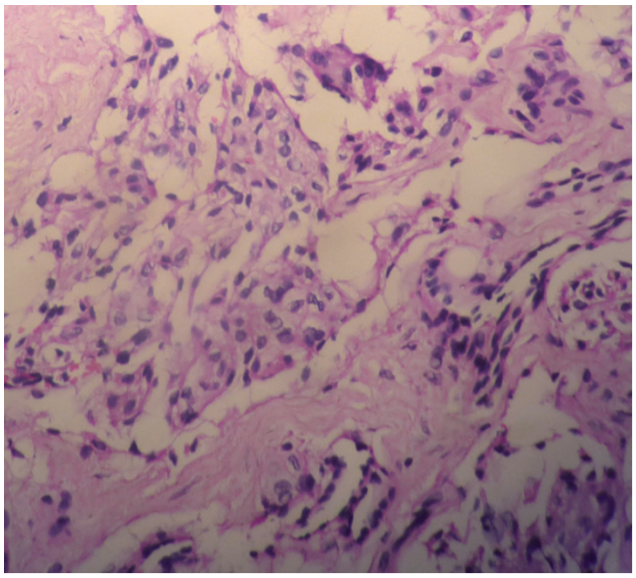

Figure 6. Pathological microphotograph of the lesion

Preservation of the lateral orbital rim is advisable whenever possible and literature has shown that lesions can be approached even without osteotomy.[8] A transconjunctival approach has been described as an alternative option which can be performed without osteotomy.[9] Operative complications have been reported to be more with osteotomies and they include visual impairment,[8] damage to ciliary ganglion and short ciliary nerves, lateral gaze palsy, ptosis, visual impairment[5] with atonic pupil and even loss of vision.

In our case we followed a simple non osteotomy approach and this non invasive procedure provided us with a good access making us relinquish the idea of osteotomising the lateral orbital rim.[5] Post operatively the usual complications encountered with the osteotomies also were not observed and there was no enophthalmos as the orbital wall was not removed.[6] Overall less operative time was required when compared to the osteotomy approach with minimal complications. Facial nerve branches were not exposed to any trauma as there was no requirement for the temporalis fibers to be dissected.[4]

Figure 7. Follow up post operative picture

5. Conclusion

Visual function is managed precariously by sensitive structures in the orbital space. Foraying into this area and performing the task assigned requires adequate exposure and good skills so that postoperatively all the functions are preserved. Even large intraorbital lesion in the lateral superior and inferior compartment can easily be resected with minimal morbidity using this minimally invasive – non osteotomised lateral approach.

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