Unusual Foreign Body of Sino-orbital Region

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ABSTRACT

Perforating injuries of the orbit involving the paranasal sinuses are uncommon. We report a case in which a large flat stone foreign body lodged in the anterior orbit and maxillary sinus was surgically removed by a combined approach by otolaryngologist and ophthalmologists.

Keywords: Foreign body, Maxillary sinus, Orbit.

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INTRODUCTION

Management of foreign bodies lodged in the orbit, paranasal sinuses varies according to their size, shape, composition, location and wound of entry.¹ Only a few cases of non-dental paranasal sinus foreign bodies have been reported in the literature. We report a case of sino-orbital foreign body penetrating into the maxillary sinus and anterior orbit and its successful management.

CASE REPORT

A 42-year-old male presented in Emergency Department of Government Medical College and Hospital, Chandigarh with history of injury over the face when he was sleeping outside and there was a heavy flow of wind due to which he was hit by a concrete block. He complained of loss of vision from left eye and facial disfiguration with a log of concrete impacted over left half of face obscuring the left eye completely (Fig. 1).

Fig. 1: Lacerated wound with impacted concrete block on left side of face

On examination there was a concrete block presented over the left half of face completely covering the eye ball and the log penetrated the bones of the face including the left zygoma, maxilla and the nasal bone disfiguring whole of left face. Eye examination showed sunken eyeball and rest of the examination was not possible as the concrete blocked the view. The patient was admitted and NCCT of nose and paranasal sinuses was performed. The NCCT scan showed radiopaque foreign body in left maxillary sinus and orbit. The eye ball was intact and pushed posteriorly (Figs 2A and B).

Patient was shifted to emergency OT for removal of foreign body under GA with a team of otolaryngologists and ophthalmologists. On table examination included log of concrete penetrating then facial bones without affecting the eyeball which remained intact behind. The concrete was penetrating the maxillary bone and reached the nasal bone

Figs 2A and B: NCCT paranasal sinuses and orbit (coronal and axial view) showed radiopaque foreign body extending from left temporal fossa till the floor of left maxillary sinus via orbital outer and inferior wall

medially, inferiorly till floor of maxillary sinus and body of zygoma laterally.

It was removed from the face after breaking it in piecemeal (7 × 5 cm size) (Figs 3A and B).

The eye examination included laceration over the left eyelid which was subsequently sutured, conjunctival hemorrhage with normal cornea. Anterior chamber and posterior chambers and retina were normal. The loss inferior orbit wall was supported by creating hammock sutures. The wound closed in layer. Postoperatively patients the eyeball remained sunken (Fig. 4).

The vision was checked which was 6/18 in left eye. The extraocular movements were within normal limits. The examination on next day showed subluxation of the lens with improvement of vision on follow-up.

DISCUSSION

The paranasal sinuses are air-filled cavities lined by pseudostratified ciliated epithelium. The maxillary sinus is the largest of the paranasal sinuses. The most commonly found foreign bodies of maxillary sinus are the displaced

Fig. 4: Postoperative view with shrunken left eye ball

fractured roots of teeth and in some instances displaced whole teeth.² More bizarre foreign bodies include: bullets,³ pieces of glass, stones,⁴ wood,⁵ grasses, match sticks⁶ and sand.⁷

In penetrating injuries of the sino-orbital region, imaging has a key role in ruling out foreign bodies, as well as in localization. Computerized tomography scan help in assessment of size, shape of foreign body and involved region, treatment plan. Magnetic resonance imaging⁸ is probably the imaging of choice for wooden foreign bodies. However, in our case CT scan showed foreign body involved anterior part of orbit, maxillary sinus. Foreign bodies that traverse the orbit and the maxillary sinus can be removed transorbitally or through the maxillary sinus, either endoscopically or facial soft tissue approach. Jagannathan et al.⁹ have reported a large metallic foreign body lodged in the infratemporal fossa, maxillary antrum and floor of orbit removed through the maxillary antrum. In our case penetrating wound created by entry of foreign body, was used to remove it. For removal of large foreign bodies of sino-orbital region, team approach involving ENT surgeons, ophthalmologists and if needed neurosurgeons is necessary.

CONCLUSION

In conclusion, factors like location, size, shape and probable composition of the foreign body need to be considered before making a decision on the appropriate surgical plan. Team approach involving ENT surgeons, ophthalmologists and if needed neurosurgeons is necessary. Appropriate antibiotic cover is paramount in infected cases.

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Figs 3A and B: Concrete block (7 × 5 cm)

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