

Removal of Foreign Body from Orbital Cavity without Visual Commitment in Patient Victim of Aggression: Case Report

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Abstract

We report a case of a 36-year-old male, victim of physical aggression, with a piece of wood inside his orbital cavity behind the ocular globe. The patient was submitted to removal of the retro-orbital foreign body, preserving the eyeball and optic nerve, evolving favorably. In the follow up evaluations he did not present any visual deficit.

Keywords: Foreign Body; Retro-Orbital; Wood; Preserved Visual Acuity

Introduction

Trauma involving foreign bodies impacted in orbital cavity usually results in ocular injuries [1]. Men are the main group affected, specially from 16 to 45 years old, followed by children [2]. Among the causes, ocular trauma due to traffic accidents and accidents at work prevails in adults and young adults, and in children most cases are seen in domestic environments [3]. The most common material of a foreign body involved in ocular or orbital trauma is wood, as the case presented here, together with the metal and glass particles [4]. Some cases may require the involvement of many medical specialties such as ophthalmology, head and neck surgery, neurosurgery, and plastic surgery, with a multidisciplinary care [5]. In this case report, we intent to show an unusual case of a foreign body in orbital cavity that outcome with no visual acuity commitment.

Case Report

A 36-year-old male patient, victim of physical aggression, was admitted to our hospital presenting a lesion in the left temporal region with an entrance orifice showing a piece of wood. The ocular examination was impossible due the important eyelid swollen, ptosis, ocular globe protrusion and chemosis of the left eye, making eye opening very difficult and painful.

Computed tomography was performed with evidence of a foreign body in the left retro-orbital region, extending to the right blade of the ethmoid bone, passing through the nasal septum. In addition, multiple bone fractures were evident in the orbit walls.



Figure 1A-1D: Eyelid swollen, ptosis and chemosis on left eye with an entrance orifice showing a piece of wood in temporal region. Computed tomography with evidence of a foreign body in the left retro-orbital region (arrows).

The ultrasonography evidenced integrity of the optic nerve and eyeball, that seemed to be pushed forward from behind.

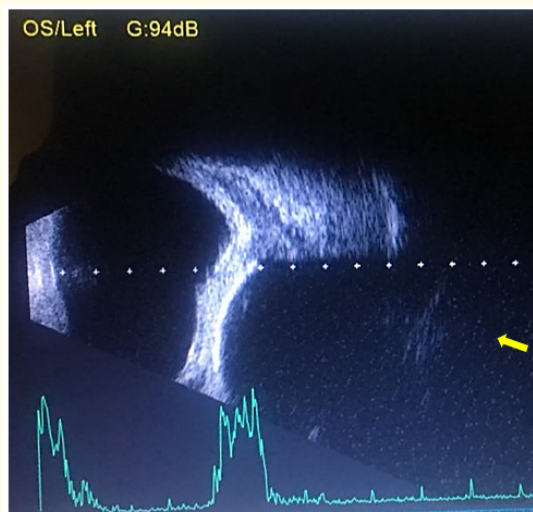


Figure 2: Preserved eyeball being pushed from behind (arrow).

The patient was submitted to removal of the retro-orbital foreign body through supra palpebral access. There was no significant bleeding or any lesion during removal, preserving the eyeball and optic nerve.



Figure 3A-3D: Surgical removal procedure through supra palpebral access.

Few days later, another surgical procedure was performed by plastic surgery team for reduction and correction of bone fractures of the orbit. The patient evolved with great improvement, with the new image exams showing none significant alterations. His final visual acuity was 1,0 in left eye, presenting only a limitation of infraduction and abduction, but showing orthotropy and no diplopia in primary position of gaze.



Figure 4: Outcome 6 months after surgery.

Discussion

The penetrating cranio-orbital trauma has a mortality much higher than other types of head trauma [6]. The possible complications of an orbital foreign body are many, including proptosis, orbital abscess or cellulitis, development of a chronic fistula, and damage to the extraocular muscles or optic nerve, brain abscess and a 25% mortality rate depending on the intracranial extension of the foreign body

[7]. Most cases involve males, with a mean age between 16 and 45 years. The patient in question, falls within the age group of individuals most affected, as well as the cause of his injury, which is among the most commonly cited. However, he evolved with total preservation of visual acuity and no other serious damages. Considering the contamination of these objects, antibiotic therapy should be weighed and initiated as soon as there is any suspicion of local infection preventing it progressing with septic or meningeal involvement. Radiography is the exam of first choice, mainly in the detection of metallic objects. In the case of wood fragments, due to their radiotransparent nature, they are better visualized through Computed Tomography. The ultrasound is more efficient showing intraocular than intra-orbital foreign bodies, besides it depends on the abilities of who is operating [8]. In the case of the patient above, the object was integrally identified and differentiated from adjacent structures by performing face tomography. In most cases, the surgical removal of these objects is formally indicated.

Conclusion

The clinical presentation of intraorbital foreign bodies varies widely and depends on the material involved and its location within the orbit, which to a large extent is determined by the mechanism of injury. It is essential to remove all intraorbital wooden foreign bodies, as organic material is a great bacterial growth medium [9]. In this case, the large wooden foreign body penetrated the orbit and was removed without any ocular or cerebral damage.

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