



## Short Communication

# A case of a large intraorbital wooden foreign body perforating the lateral orbital wall of left eye in a child

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## ABSTRACT

A 6-year-old child visited our institute with a history of foreign body that stuck in her eye. Computed Tomography (CT) scan report revealed hypodensity embedded in the left lateral orbital wall, abutting and compressing the globe of the left eye with displaced comminuted fracture. We performed a procedure of removal of foreign body from the eye, a procedure that was performed with great difficulty and precision given the sensitivity. On the postoperative day, nil foreign-body was noted in CT scan and there was chemosis and full eyeball movement. The cornea was clear, anterior chamber quiet, the pupil normally reactive. Dilated fundoscopy was normal.

**Key Message:** We report here a challenging case of a large intraorbital wooden foreign body in the left orbit of a child perforating the lateral wall of the left orbit, which on surgical removal the entire eyeball was found intact and normal. The patient's injury could be considered novel as it was unseen at the hospital and post operatively the anterior and posterior segment was found to be normal. This explain the rarity of the case and hence it hit our inquisitiveness.

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## 1. Introduction

Orbital wooden foreign bodies penetrating the orbital and facial areas are common with children during accidents.<sup>1</sup> Foreign bodies can enter the orbit either by traversing between the globe and orbital wall or by perforating the globe, feasibly even after minor trauma.<sup>2</sup> Wooden foreign bodies are organic and porous, therefore, they act as receptive medium for bacterial growth. If wooden foreign bodies are not removed promptly, they may lead to infections and serious complications such as orbital cellulitis, orbital abscess, fistulas, and optic neuropathy.<sup>3</sup> We report here a perplexing case of a large intraorbital wooden foreign body in the left orbit of a child, perforating the lateral wall of the left orbit, which, on surgical removal the entire eyeball, was found intact and normal. Here, in our case, the patient's injury was unique; still, post operatively

the anterior and posterior segment was found as normal. Such an outcome in a perforating injury of the orbit is rare.

## 2. Case History

A 6 years old Indian female came to our department with multiple wooden foreign bodies in her left eye. When she was brought to us no other structure of the eye, other than medial one-third of upper eyelid was visible. She had a lacerated wound extending from her forehead to upper eyebrow which measured around 3 to 4 centimeters (Figure 1). However, her other eye was normal with no external injuries. Her general examination revealed no other injuries on the body. Her blood profile was within normal limits. Forehead lacerated wound suturing was done. On CT scan there was an approximately 3.3cm(Length)\* 0.7cm(Width) hypodensity (foreign body) noted embedded in the left lateral orbital wall, which was seen abutting and compressing superolateral aspect of the globe of the left eye with surrounding edema. Foreign body was

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predominantly seen in the extraconal compartment of the left orbit (Figure 2). And it fractured the posterolateral wall of left orbit with pneumoorbit. No CT evident intra-orbital hemorrhage or extra-orbital hemorrhage or collection was seen. Left eyeball appeared normal on CT. No other damage to the brain and skull was found. Her left eye full-thickness upper and lower lid tear repair was done in 3 layers separately in addition to foreign body removal, which was done under general anesthesia. On removal of the foreign body in operation theatre (Figure 3) the eyeball was found intact and chemosis was present. On the first post-operative day, chemosis and full eyeball movement (Figure 4) were observed. The cornea was clear, anterior chamber quiet, the pupil normally reactive. Dilated fundoscopy revealed no abnormality. Topical tobramycin eyedrop with natamycin eyedrop and systemic antibiotic and anti-inflammatory medications were started. Her post-operative CT scan revealed the presence of no foreign body with displaced comminuted fracture of the lateral wall of the left orbit, for which plastic reference was done and she was put on conservative management. The patient was not cooperative for the vision; hence, the visual acuity could not be assessed.



**Fig. 1:** Patient presented to us with wooden foreign body embedded in left eye.

### 3. Discussion

A CT scan is the standard diagnostic test because it demonstrates most intraorbital foreign bodies and is safe in the presence of metallic foreign bodies.<sup>4</sup> A review of previous reports suggests that wood is often not detected on a CT scan.<sup>5</sup>

The Magnetic Resonance Imaging(MRI) scans are better at demonstrating wooden foreign bodies. MRI depends on the density of protons in the tissue and their different relaxation times. These properties of wood are dissimilar enough from those of the soft tissue to allow differentiation.<sup>5</sup> Therefore, it is recommended that an MRI



**Fig. 2:** Hypodensity of approximately 3.3 cm seen lodged in left lateral orbital wall noted on CT scan.



**Fig. 3:** Wooden foreign bodies removed intra-operatively.

scan should be performed after a negative CT scan if there is a possibility of a wooden intraorbital foreign body. An MRI scan may be performed as the primary imaging modality if there is a definite history of a wooden intraorbital foreign body.<sup>4</sup>

Wooden foreign bodies fragment easily during surgical removal leaving behind splinters. Therefore, exploration of the wound for small pieces, careful debridement of necrotic tissue, and copious irrigation of the wound with an antibiotic



**Fig. 4:** Post operative intact eyeball with chemosis.

solution is advised. Occasionally, the leftover pieces of wood can cause inflammation even after a long quiescent period.<sup>5</sup>

We planned an MRI brain with the orbit of the patient but the patient was lost to follow up. However, we talked with the patient on the phone and we learned that the patient has no ocular complaints.

#### 4. Conclusion

In cases of ocular trauma we suggest proper history taking, a high index of suspicion for intraorbital foreign

body, no matter how trivial the trauma maybe, especially in small children and timely investigations for early diagnosis and proper management.

#### 5. Source of Funding

None.

#### 6. Conflict of Interest

None.

#### References

1. Li J, Zhou LP, Jin J, Yuan HF. Clinical diagnosis and treatment of intraorbital wooden foreign bodies. *Chinese J Traumatol*. 2016;19:322–5.
2. Singh A, Vathulya M, Mittal SK, Agrawal A, Kumar B, Athul S, et al. Missed a Wooden Foreign Body. *Nepal J Ophthalmol*. 2018;10(20):181–5.
3. Shullai W, Natung T, Lynser D, Tripathy T. A challenging case of a large intraorbital foreign body perforating the nasal septum in a child. *Indian J Ophthalmol*. 2018;66(10):1511–3.
4. Nagae LM, Katowitz WR, Bilaniuk LT, Anninger WV, Pollock AN. Radiological Detection of Intraorbital Wooden Foreign Bodies. *Pediatr Emerg Care*. 2011;27(9):895–6.
5. Mehta A, Abrol S, Singh P, Gupta A, Gupta V. Spontaneous extrusion of Intraorbital Foreign body. *Delhi J Ophthalmol*. 2015;26:111–4.

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