

# Intraorbital Foreign Body

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## Introduction

An orbital foreign body is the presence of an object outside the globe but within the orbit<sup>1,2</sup>. They are usually the result of industrial trauma or a high velocity object but rarely it can be seen after trivial trauma<sup>2</sup>. It is more common in children and young adults more commonly affecting males<sup>2</sup>.

Orbital foreign bodies may be classified into 3 main types depending on the composition and include 1) metallic 2) non-metallic 3) organic<sup>1,2</sup>. Rarely, it can be iatrogenic as well (surgical orbital implants). Intra-orbital wooden foreign bodies (IOFB) are classified as organic and cause an intense inflammatory reaction requiring an urgent surgical intervention<sup>1,2,3</sup>. Failure in doing a timely intervention may result in spreading of infection to other sites include globe and may affect the vision<sup>2</sup>. A high suspicion of intraorbital foreign body is required in cases of trauma and it can be confirmed/excluded by doing a CT scan. It can be a diagnostic dilemma, especially with wooden foreign bodies (FB) which maybe easily missed sometimes during initial radioimaging<sup>1</sup>. For example, an initial CT scan may miss a wooden foreign body and it is interpreted as air due to its low density. In contrast, metallic FB are more easily detected with imaging especially CT scans<sup>1</sup>.

Some of the complications seen with intraorbital foreign bodies include spread of infection into adjacent structures and causing orbital cellulitis, hematoma formation, chronic discharge, proptosis, abscess and affecting the optic nerve leading to visual loss<sup>2</sup>.

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## Case Presentation

A 25 year male presented with watering, redness from right lower lid associated with mild pain for 3 months. There was a history of fall 3 months ago associated with upper lid laceration followed by repair on the same day. CT brain done at that time did not show any pathology.

## Examination

Visual acuity was normal and 6/6 in both eyes. Both eyes anterior segment and posterior segments were normal for both eyes other than right lower lid showed conjunctival congestion and chemosis with purulent discharge. There was a right upper lid scar.

## Investigations

A CT orbit was ordered (Fig1) and showed a 5 cm foreign body in the right inferior orbit that was anteriorly touching the inferior aspect of the globe. The foreign body was traversing through Orbital Floor to Infratemporal Fossa.

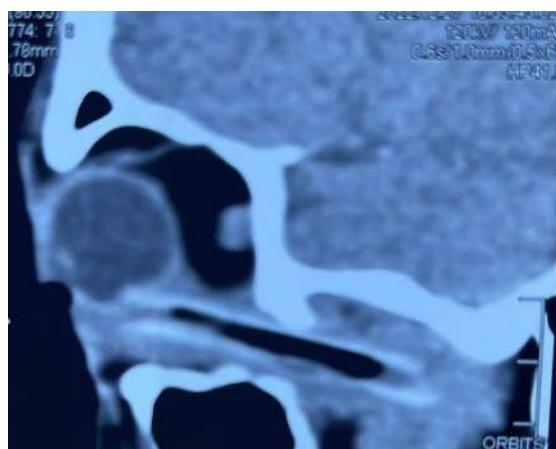


Fig 1. CT Orbit (Sagittal) Showing Intraorbital Foreign Body

## Treatment

The patient was given intravenous antibiotics in addition to topical antibiotics and steroids.

**Surgery:** Right inferior Orbitotomy with a subciliary incision was done. After exploration foreign body was visualized and removed in toto (Figure 2a and 2b). It was a wooden foreign body, measuring about 5 cm in length and 1.2 cm thick. Copious Irrigation with Antibiotic Solution was done.

Patient was continued on IV antibiotics for a week. The discharge and redness resolved after a few days.



Fig 2a. Intraop Removal of Intraorbital Wooden Foreign Body



Fig 2b. Intraop Removal of Intraorbital Wooden Foreign Body

## Discussion

We presented a case where an intraorbital foreign body was initially missed in a young adult with a history of fall 3 months back. We had a high suspicion for a foreign body based on history and clinical exam findings that made us order a CT orbit. The CT confirmed our findings and showed an organic foreign body in the inferior orbit.

Intraorbital foreign body removal especially in cases of organic substances need to be recognized early to prevent complications<sup>1,2,3</sup>. It can be a challenge in our settings because many times patient doesn't recall the nature and circumstances of his or her trauma. Due to trivial nature of the trauma sometimes Authors:

physicians may not suspect a foreign body either. It may become a challenge to recognize an orbital foreign body secondary to trauma<sup>1,2</sup>. Patients may not recall the initial injury involved an object entering the orbit as we saw in our case.

This case highlights the importance of a meticulous examination and radiological investigations in cases of unexplainable symptoms. A CT scan can help us in exact localization of the foreign body, its size, shape and involvement of surrounding structures<sup>2,3</sup>. CT also shows the integrity of surrounding globe and eye leading to better management<sup>2</sup>. Foreign bodies can lead to various complications and can end up affecting the optic nerve<sup>2</sup>. Our case did not develop any serious complications. Organic foreign objects like wood need early surgical intervention to avoid infections<sup>1,2</sup>. If there is an inorganic foreign body that is not causing any signs or symptoms or is posteriorly located and inert, it can be left in place and patient observed<sup>2</sup>. The patients findings were rare, an atypical presentation. Despite the patient's initial history that did not lead to any clue that there was a lower lid injury, eventually, based on signs, symptoms, and history we were able to order appropriate tests and imaging to reach a definitive diagnosis.

## Conclusion

- Intra-orbital foreign body can be easily missed. Therefore, need to take a detailed history, proper examination and appropriate investigations is very important in this case.
- The suspicion for an intra-orbital foreign body should be high in cases of trauma especially when the patient is symptomatic.

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