

## Intraorbital Plant Foreign Body: A Case Report

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### Abstract

### Case Report

Intraorbital foreign bodies of plant origin are rare and can present with different clinical manifestations. In this case report, we present the case of a 5-year-old child who presented with ocular trauma to the right eye following a fall onto a tree branch. Computed tomography revealed a vegetal intraorbital foreign body. Orbitotomy facilitated extraction, and the postoperative course was favorable.

**Keywords:** orbit, orbital trauma, intraorbital foreign body.

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## INTRODUCTION

Intraorbital foreign bodies of plant origin (IFBPO) are infrequent occurrences. They may occasionally go unnoticed in pediatric patients and reside within the orbit, resulting in inflammatory and infectious complications that can affect oculomotor function. Herein, we present the case of a 10-year-old child.

## OBSERVATION

This is a 10-year-old child with no pertinent medical history, who presented to the ophthalmic emergency department following a right eye trauma resulting from a fall, impacting directly on a tree branch, occurring 3 days prior to admission.

Upon admission, the child exhibited ptosis of the right eye, with the wooden object protruding visibly at the upper eyelid crease. Visual acuity was assessed at 10/10 with normal anterior segment and fundoscopic findings.

An urgent orbital computed tomography scan revealed the presence of an intraorbital foreign body, located extraocularly and positioned between the orbital roof and the superior rectus muscle. It exhibited a linear tubular shape with accompanying air bubbles along its trajectory, measuring a density of 30 Hounsfield units (consistent with a plant-based foreign body), traversing through the superior orbital fissure.

The foreign body was extracted via a superior transpalpebral orbitotomy, targeting the point of entry.

Dissection revealed a 7 cm-long wooden fragment. Subsequent closure of the orbitotomy was performed.

Ptosis regression was noted during clinical follow-ups. The child subsequently regained normal eyelid function and normal visual acuity.

## DISCUSSION

Enetrating orbital traumas caused by plant foreign bodies are rare occurrences, with only a few clinical cases or small series published to date [1]. The diagnosis and management of intraorbital PFBs often pose challenges, as the patient's history may be misleading [2, 3], and the clinical assessment of orbital injuries can be complex or underestimated.

Inquiry into patient history holds paramount importance, necessitating a comprehensive exploration of traumatic backgrounds, incident circumstances, and the potential identification of a foreign body. Precursor signs suggestive of a foreign body include alterations in visual function, persistent inflammation, severe infection with or without involvement of the sinuses or central nervous system, ptosis, ocular motility disturbances, exophthalmos, globe dystopia, chemosis, or persistent pain [4].

Due to their rarity, the detection of orbital plant foreign bodies remains challenging, as no imaging technique is entirely sensitive for this purpose [4].

Orbital radiographs can detect metallic foreign bodies but typically not plant foreign bodies. However,

they are no longer recommended and should be replaced by computed tomography (CT) scans [4].

Computed tomography (CT) remains an excellent diagnostic modality. It should include coronal and axial views, with a thorough exploration of the cranial cavity. However, it has its limitations for detecting certain plant foreign bodies that may be mistaken for air in the orbital cavity [5]. Magnetic resonance imaging (MRI) outperforms CT in detecting small-sized plant foreign bodies and is indicated in cases of strong suspicion of a plant foreign body with a negative CT scan [5].

It is important to note that both computed tomography (CT) and magnetic resonance imaging (MRI) can be fallible. Indeed, a wooden foreign body presents with variable signal intensity depending on its hydration state, ranging from (+) 110 Hounsfield Units

(HU) for dry wood to (-) 446 HU for wet wood. It can be isodense with air or orbital fat on CT scans. The occurrence of an inflammatory reaction with granuloma formation can alter imaging: after one week, CT shows a hypodensity corresponding to the foreign body, with contrast enhancement around it representing inflammatory tissue; after one month, the image is reversed, with the central foreign body appearing hyperdense, while the inflammatory granuloma surrounding the foreign body appears hypodense [6].

## CONCLUSION

Intraorbital plant foreign bodies are relatively rare. Their presence should be suspected in all cases of trauma involving wood associated with even punctate eyelid wounds. This prompts urgent radiological examination for optimal management.

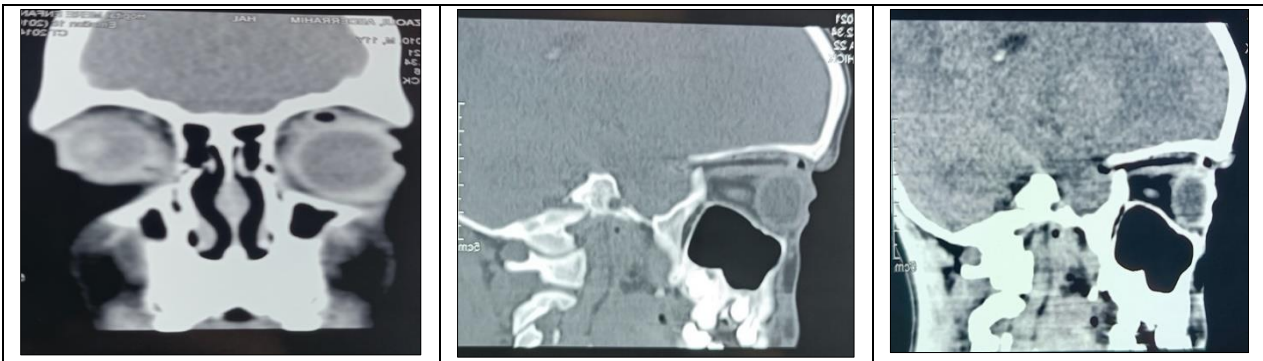


Figure 1: Computed tomography images showing the intraorbital plant foreign body.



Figure 2: Image showing the plant foreign body after extraction

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