Giant orbital foreign body mimicking as orbital cellulitis: A Rare case report

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ABSTRACT

Introduction: Intra-orbital foreign bodies are notorious for presenting a confusing clinical picture. Wooden foreign bodies may remain quiescent for a long time, before presenting with a variety of complications. **Case report:** 25-year-old male presented to ENT-OPD with history of left eye pain for last 14 day with history of fall from motorbike 14 days back with left eye swelling. Patient was asymptomatic for 3-4 days and then again started having left eye swelling and fever. There was history of upper eye lid laceration which healed by itself. Radiology was suggestive of intra-orbital foreign body, which was subsequently removed surgically. **Conclusion:** We report an unusual case of a missed wooden intra-orbital foreign body mimicking as orbital cellulitis.

Keywords: Foreign body, orbit, organic.

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Conflict of interest: None

INTRODUCTION: Intra-orbital foreign bodies are notorious for presenting a confusing clinical picture. They may present with frank symptoms of ptosis, vision deteoriation, and cellulitis or may remain dormant and inert for long. Wooden foreign bodies are notorious as compared to other inorganic or metallic foreign bodies, as they may remain quiescent for a long time, before presenting with a variety of complications.

CASE REPORT: A 25-year-old male presented to the ENT-OPD with a history of left eye pain for last 14 days. There was history of fall from motorbike 14 days back following which left eye swelling occurred but patient took daily massage from quack. There was no significant ENT bleed the time of accident. Swelling subsided after 7 days. Patient was asymptomatic for 3-4 days and then again started having left eye swelling and fever. There was no history of loss of

consciousness and seizures. Patient was drunk at time of trauma. There was history of upper eye lid laceration which healed by itself.

On examination, his gross vision was finger counting at 1 foot on left side. The left sided globe was intact but extra-ocular movements were restricted in all the quadrants. A superficial small healed wound was noted at the left supraorbital margin without any skin erythema or pus discharge. Patient had already got CT scan and MRI of orbit and PNS done. Scans were suggestive of intra-orbital foreign body with fracture fragment at lateral orbital apex and with intracranial penetration (Figure 1(a) & (b)).

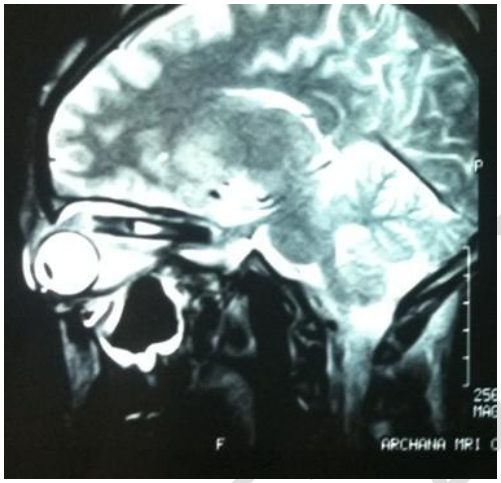

Fig. 1(a): T2W MRI sagittal cut showing a hyper-dense foreign body in retro-bulbar fat and muscle cone of the left orbit.

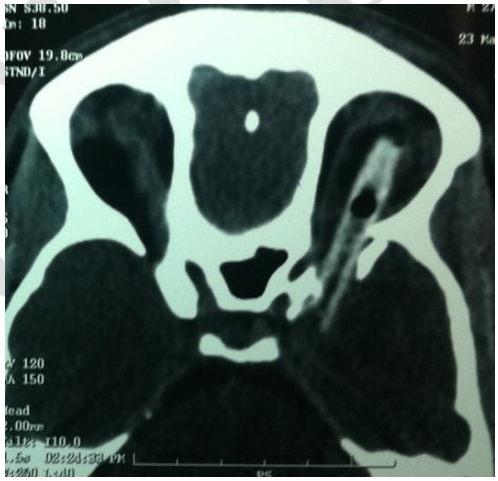

Fig. 2(b): NCCT axial scan showing hyper-intense foreign body in left orbit causing fracture at orbital apex.

With this information, patient was taken up for foreign body exploration under general anesthesia. Supraciliary incision was made. Subperiosteal flap was elevated but no breech in periosteum was seen. A small nick was made in periorbita anteriorly and foreign body was searched. Wooden foreign body was felt deep near orbital apex which was taken out with two large artery forceps (Figure 2). Every attempt was made to prevent injury to globe, optic nerve and extraocular muscles. A 7 cm long and 1cm wide brownish wooden foreign body with irregulars edges was taken out (Figure 3).

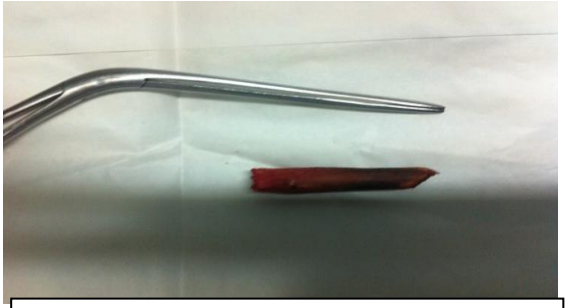

Fig. 3: Post-operative photograph of the wooden foreign body.

Postoperatively patient got improvement in gross vision and extraocular movements reappeared. At the end of 3 months his bilateral visual acuity was 6/6 and extraocular movements were normal in all quadrants. Patient was having residual ptosis which was gradually improving (Figure 4).

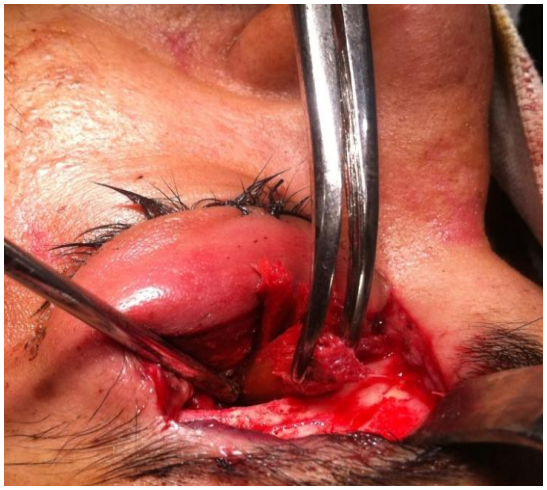

Fig. 2: Intra-operative photograph showing removal of a wooden intra-orbital foreign body

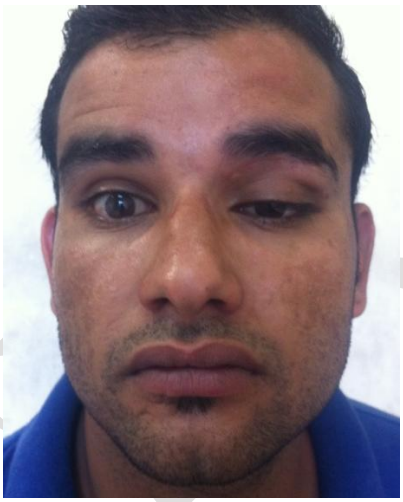

Fig. 4: Clinical photograph 2months postoperative revealing ptosis.

DISCUSSION: Organic foreign bodies like wood have a much higher incidence of potentially life threatening complications.[1] They can remain silent for a variable period of time and manifest with delayed onset manifestations such as cellulitis, abscess, sinus tracts or orbital granuloma.[2] Therefore urgent surgical removal of organic intra-orbital foreign bodies is recommended.[1]

In our case, a 7x1cm piece of wooden foreign body was removed. It is important to note and remember that wooden foreign bodies often break during attempted removal.[2] The associated wound may be small and self-sealing.[3] Thus even in the presence of a small, inconspicuous healed scar, the possibility of a retained foreign body should always be considered.

Imaging and urgent exploration of the foreign body should be done. A CT scan is the standard diagnostic test, because it demonstrates most intra-orbital foreign bodies and is safe in the presence of metallic foreign bodies.[2] In our case the CT scan did show evidence of the foreign body. However review of previous reports suggests that wood is often not detected on CT scan.[4] Computed tomographic imaging relies on the differing radiodensities of tissues for their differentiation. The radiodensity of wood

is variable and may be similar to that of the orbital tissues, which may account for the potential difficulty of recognition. The CT appearances seem related to the interval between injury and examination.[5] In the acute stage, the very low density of wood can be confusing with low window settings, mimicking air bubbles. In the sub-acute stage, wood assumes a moderate density and may be difficult to distinguish from surrounding orbital fat. In the chronic stage, the density of wood can become higher than that of orbital muscle. It may be associated with a foreign-body reaction, which appears as a homogenous mass surrounding the dense wooden foreign body, with a density similar to the adjacent extraocular muscles. Spiral CT scanners have improved resolution and faster speed of acquisition of images.[6] The MRI scans are better at demonstrating wooden foreign bodies. Magnetic resonance imaging 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.[4] Therefore, it is recommended that MRI scan should be performed after a negative CT scan if there is a possibility of a wooden intra-orbital foreign body. An MRI scan may be performed as the primary imaging modality if there is a definite history of a wooden intra-orbital foreign body.[1]

This case is interesting from several aspects. There is long latent period between injury and development of the orbital symptoms. Patient was drunk at time of injury so even he was not sure of his history. Patient presented with features of orbital cellulitis such as fever and peri-orbital swelling. Wound was completely healed when patient presented to hospital. It was a delayed presentation after 14 days, which could lead to decreased suspicion of a foreign body with possibility of a prolonged conservative management leading to potential complications. We had a high suspicion of foreign body and radiology helped us make a proper diagnosis and management.

CONCLUSION: We would like to strongly point out that intra-orbital foreign bodies may often present a confusing clinical picture. It is important to correlate past and present history of trauma for the definitive diagnosis and high index of suspicion is always necessary. Good surgical approach can prevent many devastating complications.

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