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Foreign Body in Paranasal Sinus: The Lucky Escape

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Abstract

A case of a 40-year-old male referred from ophthalmology department with a retained foreign body in the periorbita of the right eye extending into the right anterior ethmoid air cells piercing the septum, involving the left side posterior ethmoid air cells and abutting the medial wall of left orbit. The foreign body was removed endoscopically.

Keywords: Foreign body, ethmoids, orbit

Introduction

Foreign body in the paranasal sinuses is seen extremely rarely particularly in frontal, ethmoid sinuses in comparison to maxillary & sphenoid sinuses. These foreign bodies are mainly traumatic in origin (maxillofacial) which occur directly as a result of external trauma to the respective sinuses or indirectly through the orbital or palatal injuries[1]. Symptoms are vague and usually discovered after extracranial and intracranial complications occur or by occasional radiology images. They may go unnoticed if there isn't a strong clinical suspicion[2].

If these foreign bodies are radio opaque, then these can be easily recognisable by X-Ray. However to know the exact extent of damage caused by these foreign bodies, images like CT and MRI scan are required. If foreign body is left behind, it will cause a foreign body granuloma and there will be local symptoms like local irritation in the eye, lacrimation, epistaxis, discharge from the nose and sometime foreign body sensations at the particular site.

Case Report

A 40-year-old male sustained injury to his right eye after a fall from height. Following which he had an episode of bleeding from the region below the right medial canthus, pricking sensation in the right eye and headache.

He was admitted under an ophthalmologist for IV antibiotics and local dressing and underwent MRI scan of the orbits. He was then referred by the ophthalmologist with a retained foreign body in the periorbita of the right eye extending into the right anterior ethmoid air cells, piercing the septum and involving the left side posterior ethmoid air cells and abutting the medial wall of left orbit. Fig 2. On examination there was a 5 mm point of entry below the eye just lateral to the medial canthus but the foreign body was not palpable externally. Fig 1. Ophthalmologist opinion was taken at our institute and his vision and eye were thoroughly checked and found to be normal.

Nasal endoscopy did not reveal any sign of foreign body

in nose. Using a microdebrider uncinectomy, anterior ethmoidectomy, posterior ethmoidectomy was done on both sides and the foreign body was visualized in the anterior ethmoid on the right side and posterior ethmoid on the left. Fig 3. Using an endoscopic scissor, the foreign body was cut near the septum on the left and removed. Using a blekesley the foreign body was pushed towards the left and the tip was slowly removed from the orbit and delivered via the right nostril. Wash was given, no bleeding was encountered.

Fig 1 Point of entry **Fig 2 MRI showing foreign body**

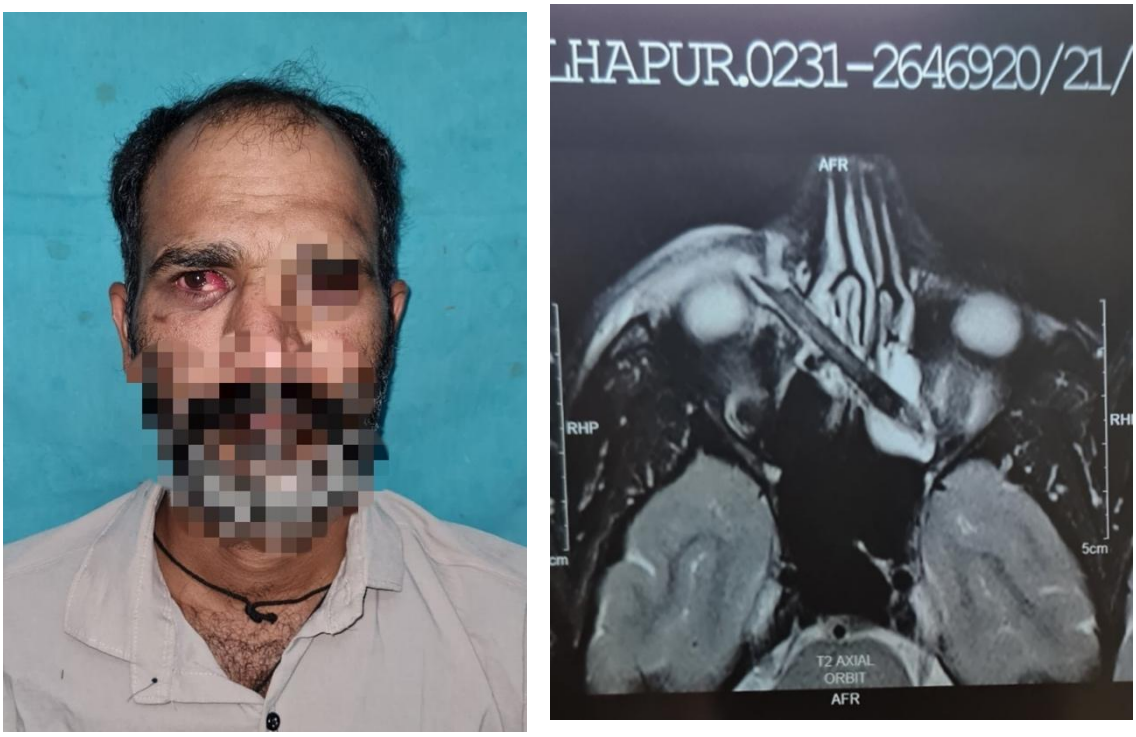

Fig 3 Intra-op picture

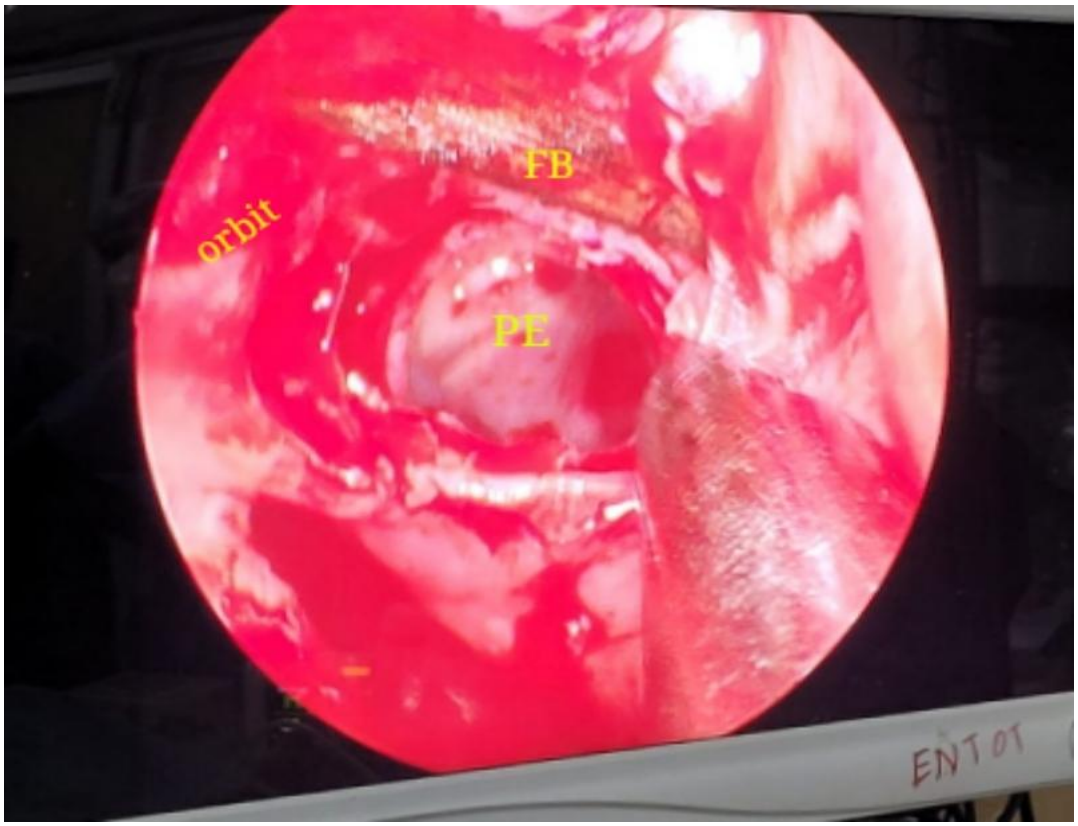

Fig 4 Specimen

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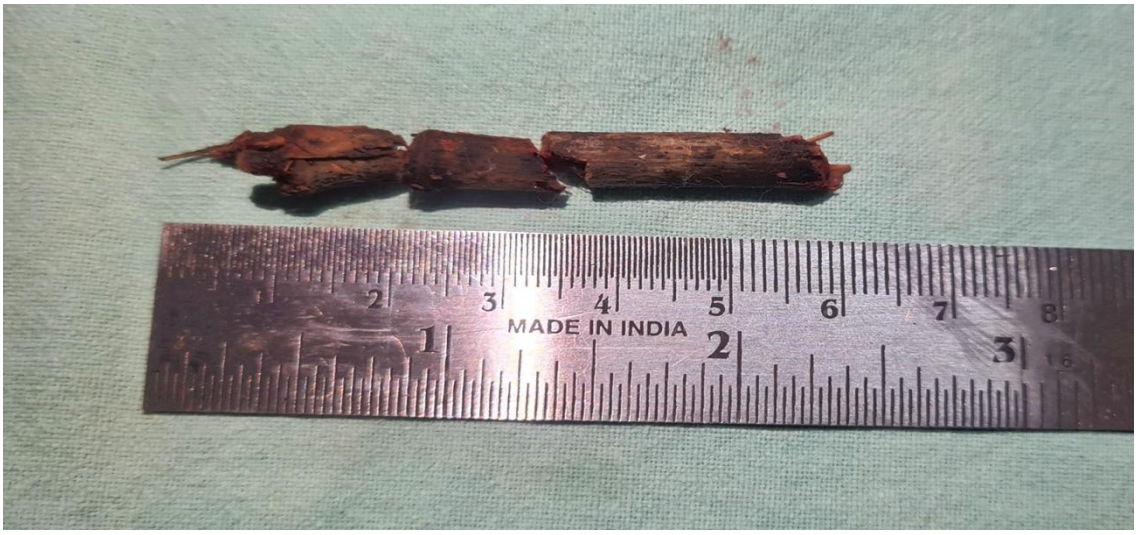

Discussion:

Foreign body in paranasal sinuses are rare. In acute cases in vicinity of anterior ethmoid they land up along with com-plications such as injury to eye, optic nerve, to cribriform plate, to dura (pneumocephalus)[3,5]. A foreign body lodged in the posterior ethmoid cells can also affect the optic nerve and anterior cranial fossa structures, which are in close proximity. It can lead to chronic and recurrent sinusitis by causing foreign-body granulomas. Hence, even asymptomatic missile fragments should be removed to prevent complications[4]. Late complications of retained foreign body in anterior ethmoid include ethmoidal osteomyelitis, thrombophlebitis, spread of infection intraorbitally and intracranially, migration of foreign body, cyst and mucocele formation, orbital infection, dacryocystitis, fistula, meningitis, extra dural, subdural, and frontal lobe abscess[2].

Foreign body in paranasal sinuses are usually result of dental procedures (60%) followed by (40%) industrial accidents, road traffic accidents or due to direct injury to face[6]. In this case, the foreign body being a sharp wooden piece entering straight into vicinity of eye, did not injure eye, optic nerve.

The patient was discharged after a 5-day course of antibiotics and came in the follow up after 15 days with no complaints.

With the recent best availability of computerized tomography and magnetic resonance, it is now unlikely that foreign bodies in paranasal sinuses go unnoticed.

These foreign bodies which are embedded in the orbit, ethmoid sinuses do not cause much symptoms except local irritation, pain on movement of eye. The clinical diagnosis is not easy if the patient presents after sometime of injury. X-Rays are not very useful except to know the presence of foreign body if it is radio opaque. But

CT scan and MRI are very useful to know the size, extent and relation of the foreign body to underlying structures.

Although metallic and wooden foreign bodies have been described in literature but this type of wooden piece could not be found in any literature where the removal of such a big foreign body was done by endoscopic approach[1].

Conclusion:

This case warns us of the need for and importance of always maintaining a high degree of clinical suspicion and the role of CT and MRI. Foreign body in paranasal sinuses can be safely removed using endoscopic approach and avoiding scar over face.

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