Foreign Body in Paranasal Sinus: A Unique Accident and a Miraculous Escape for the Patient

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Abstract An 18 month old male child presented with the complaint of foreign body—one and half inch broken piece of quilt sewing needle fully impacted between nasal bridge and medial angle of left eye. The needle was safely removed endonasally using 4 mm 0° Karl stroz telescope avoiding external scar from anterior ethmoid area under general anaesthesia. Minimal exploration of lateral wall of nose, keeping anterior 1/3 of middle turbinate as the landmark, helped in safe removal of foreign body, as no CT scan was there and since the patient was poor. This is rare and unusual location of foreign body removed safely without any complications.

Keywords Functional endoscopic sinus surgery (FESS) · Foreign body (FB) · Ethmoid

Introduction

Very few cases have been reported of lodgement of foreign body in paranasal sinuses. This is unique in sense of location as well as type of foreign body. Common feature with other reported cases of foreign body lodged in paranasal sinus is that, it was also not seen over the face, not

even the broken end of needle was visible, as it was completely embedded into the substance of anterior ethmoid air cells [1]. History of fall directly over the needle as the child was playing over the quilt and diagnosis was confirmed by plain X-ray PNS water's and face lateral view. This case was referred within 24 h of incident from K D Dalmiya eye hospital, Rampur (UP) by senior ophthalmologist after telephonic conversation. We report its easy removal endonasally without any complications.

Case Report

An 18 month old male child was referred with complaints of lodgement of foreign body, quilt sewing needle embedded straight in between left eye and nasal bridge [1, 2]. While the child was playing he fell over needle half inside substance of quilt which was left ignorantly, in the final process of being stitched by hand. As the child fell, one and a half inch of needle, as it got pierced inside also broke simultaneously. Luckily there was no injury to eyeball and no bleeding at all [2].

On examination there was a 1–2 mm point of oedema and redness between eye and nose and needle was not palpable at all externally [3, 4]. As he was referred initially by senior ophthalmologist his vision and eye were thoroughly checked and normal.

X-Ray PNS water's and face lateral view revealed whole length of needle in the anterior ethmoid air cell area [5]. He had no affordability for CT scan and after necessary investigations he was shifted to the O.T for examination/removal under endoscopic approach.

Nasal endoscopy did not reveal any sign of foreign body in nose. Local infiltration of xylocaine 2% with 1:100,000 adrenaline was done anterior to middle turbinate and in the

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Fig. 1 FB needle embedded between nasal bridge and medial canthus of left eye

Fig. 4 Endonasal view of needle in anterior ethmoid

Fig. 2 X-ray pns water's view showing FB

Fig. 5 Needle after removal

Fig. 3 X-ray face lateral view showing FB

turbinate itself. Sticking to the finding of the X-ray anterior end of middle turbinate was out fractured so as visualize uncinate process. Uncinate process removed completely

and anterior ethmoidal air cells posterior and medial to lacrimal bone frontal process of maxilla, agger nasii area cleared. Needle length was seen beautifully shining along the roof of anterior 1/3 of middle turbinate and medial to lacrimal bone. The needle was easily removed using 2.5 mm. 45° upturned blakesley forceps. There was no significant bleeding during FESS.

Discussion

Foreign body in paranasal sinuses are rare. Whenever they present are usually late presentations. In acute cases in vicinity of anterior ethmoid they land up along with complications such as injury to eye, optic nerve, to cribriform plate, to dura (pneumocephalus) etc. [3, 5]. 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 (pellets) [6]. This case is of household accidental direct injury of child playing at home. Miracle as it looks, foreign body being a needle entering straight into vicinity of eye, did not injure eye, optic nerve and even spared dura [5].

CT scan should have been done as it was must to get the actual location of needle before actual exploration. But

sticking to the basic steps of FESS and anatomical location as seen on X-ray water's and lateral view gave most of the crucial information required for endonasal removal of foreign body [3, 4].

External ethmoidectomy approach was not planned since needle was in the anterior ethmoid completely. No nasal packing was done and there was no bleeding in post op.

Patient was discharged next morning with 5 day course of antibiotics and came in the follow up after 5 days with no complaints.

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, extradural, subdural, and frontal lobe abscess [3, 4].

Conclusion

Foreign body in paranasal sinuses can present with varied locations and removal can be safely done using careful

dissection via endonasal endoscopic approach with more safety and avoiding scar over face. Delayed removal or foreign body left in these locations can have very serious consequences Figs. 1, 2, 3, 4, 5.

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