

Retained orbito-sinal wooden foreign body as an unsuspected cause of epistaxis

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Abstract

We describe an unusual case of a orbito-sinal wooden stick lodged in ethmoid sinus in a 42 year old male with epistaxis which was undetected for 3 months. The foreign body (FB) was removed successfully by endoscopic approach without complications.

Keywords: Orbitosinal, Epistaxis, Wooden, foreign body, Endoscopy, Trans-orbital

Introduction

Penetrating injuries of the paranasal sinuses (PNS) due to foreign bodies are rare.¹ A variety of foreign bodies like glass fragments, metal, and wood splinters can be retained in the nasal cavity and PNS following penetrating injuries of the maxillo-facial region.²

Among all the foreign bodies in the PNS, 75 per cent are found in the maxillary sinus, less than 20 percent in frontal sinus, with rare involvement of ethmoid & sphenoid sinuses.³ Transorbital ethmoidal foreign bodies are extremely rare.

We present here a rare case of transorbital penetrating wooden stick injury of the ethmoid sinus which went undiagnosed for three months.

Case report

A 42-year-old male patient presented to otolaryngology department of our hospital with history of recurrent epistaxis from left nasal cavity for the last two months not controlled by conservative management. On careful history taking, he mentioned an accidental fall from his bicycle three months back during which he had injury to left orbit due to a wooden stick.

According to the patient, the wooden stick was removed by an ophthalmic surgeon using external approach immediately after the accident as an outpatient procedure, the details of which were not available with the patient. There were no visual complaints or diplopia. The patient was asymptomatic for 1 month thereafter, when he complained of recurrent bleeding from left nasal cavity. By the time the patient presented to us, the external wound of eye had healed (Fig.1) and his only complaint was recurrent epistaxis.

No significant finding was observed on examination of the left eye except for a 0.5 cm scar medial to left medial canthus. On nasal examination, the anterior rhinoscopy was normal. On nasal endoscopic examination, a piece of wooden stick was seen in the left nasal cavity medial to middle turbinate and in the ethmoid

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Fig. 1. clinical photograph of patient showing scar mark near left medial canthus

sinus (Fig. 2).

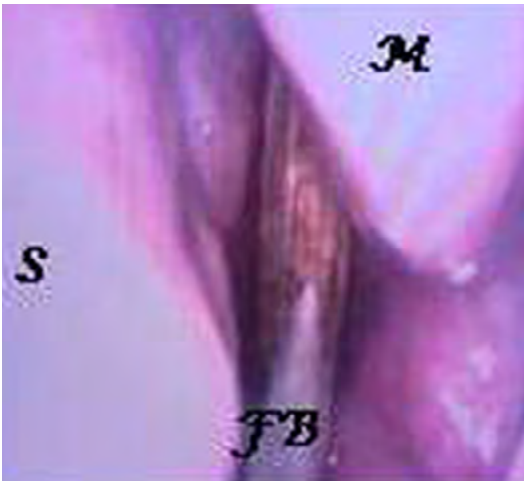


Fig. 2. Nasal endoscopy of left nasal cavity (M- Middle turbinate, S-Septum, FB-Foreign body)

A Contrast enhanced CT scan of the PNS and orbit was performed which showed damage to lamina papyracea and ethmoid sinuses with surrounding tissue inflammation. No obvious foreign body was seen on CT scan (Fig. 3). There was no involvement of extraocular muscles or fat on CT, though tissue inflammation around medial rectus was seen. MRI scan of PNS and orbit was planned, but due to poor affordability of the patient, it could not be done.



Fig. 3. Contrast enhanced CT scan of PNS and orbit (coronal section) showing destruction of lamina papyracea with inflammation in left ethmoid sinus without any intraorbital injury (R- Right orbit, L-Left orbit)

The patient was taken up for endoscopic removal of foreign body under general anesthesia. On endoscopy, wooden stick was visualized in the ethmoid sinuses and was removed in two pieces.

A complete ethmoidectomy was done to ensure no foreign body was left behind. There was no evidence of granuloma formation in the surrounding region, probably foreign body was inert, but the surrounding mucosa was inflamed. On examination of the two wooden pieces, they were 4 cm in length and were not rotten. Culture of foreign body was not done. Postoperatively, patient was given oral antibiotics for 2 weeks and suction clearance of nasal cavity was done to remove all crusts. The patient was followed up for 2 months, during which he remained completely asymptomatic. On subsequent endoscopic examination, no foreign body was seen.



Fig. 4. FB (Wooden piece) on removal

Since, a complete ethmoidectomy was done, no foreign body was left behind.

Discussion

The trajectory taken by the penetrating foreign bodies can be quite peculiar. In our case, the wooden stick after piercing the medial region of the eye travelled medially to breach the medial wall of the orbit and finally come to lie in the left ethmoid sinus and nasal cavity medial to middle turbinate. The possible trajectory of the FB is shown in Fig. 5.

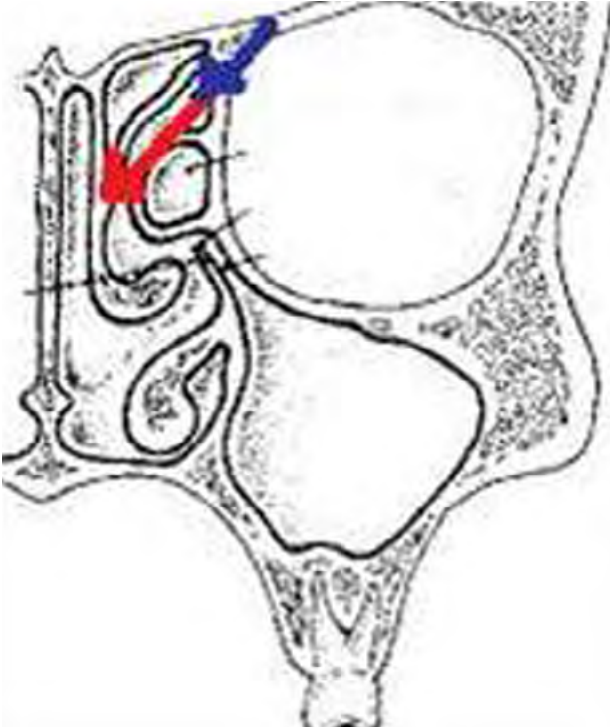


Fig. 5. Picture denoting the possible trajectory of the FB (Red line indicates the external part of the FB which was removed by the ophthalmic surgeon and the blue denotes the retained part of the FB removed endoscopically).

Wooden foreign bodies are quite peculiar compared to other foreign bodies. They may follow relatively minor trauma, as in our case. They are notorious for remaining quiescent for a long time, before presenting with a variety of complications.⁴ It is important to remember that wooden foreign bodies often break during attempted removal.⁴ The associated wound may be small and self-sealing.⁵ In our case the wooden stick broke into two pieces probably during removal by the ophthalmic surgeon and the internal piece remained undetected for 3 months and the external wound had healed completely making it difficult to detect. The external part of the FB was removed by the ophthalmic surgeon while the internal part was retained.

Complications associated with organic sinonasal foreign bodies include delayed-onset orbital granuloma, cellulitis, orbital abscess, chronic draining sinus.^{4,6} It was

surprising to note that inspite of a wooden FB being retained for 3 months the patient had no complaints other than recurrent epistaxis. The exact cause for the absence of the above mentioned complications is not known.

CT scan is the examination of choice for a suspected penetrating intra orbital FB.⁷ It is helpful to detect the FB, complications & extent of injury. In our case, CT scan revealed damage to the lamina papyracea and ethmoid sinus on the left side but no obvious FB was seen. In review of literature, there have been occasional reports of intranasal wooden foreign bodies during the chronic stage being detected on CT.⁸ But majority of the previous reports suggest that wood is often not detected on CT scan⁹ It is recommended that MRI scan should be performed after a negative CT scan in case of wooden foreign bodies.⁹ In our case, since the FB was already visualised in the nasal cavity and due to cost issues, we did not perform a MRI scan.

Endoscopic removal gives an advantage of good illumination, magnification and visualisation of critical areas and a scarless surgery. The slippage of FB into the airway can be prevented by using a choanal pack during removal. Blind attempts should not be done as it may lead to incomplete removal of FB.

Conclusion

In conclusion, we would like to emphasize that wooden foreign bodies may often present a confusing clinical picture. Their removal should be done cautiously and complete removal should always be confirmed as they are tending to break easily. It is imperative to consider a retained FB in the differential diagnosis in all cases of past trauma with unexplained symptoms. High index of clinical suspicion, careful history taking and complete physical examination cannot be replaced by radiological investigations especially in a case of intranasal wooden foreign body.

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