A challenging case of a large orbitocranial wooden foreign body in a child

Sir,

We read the aforementioned article[1] with keen interest, and congratulate the authors on successful management of a case of a large intraorbital foreign body perforating the nasal septum in a child. We would like to bring to light a similar case of management of a missed orbitocranial foreign body in a child.

A 7-year-old boy presented with alleged history of trauma to the right eye with a wooden piece when he fell from a motorbike into the bushes at low velocity a week ago. He complained of sudden loss of vision and pain in his right eye since the injury but did not experience loss of consciousness, vomiting, or any ENT bleeding. He did not report any direct head injury either.

On examination, his GCS was normal and he was afebrile with no motor or sensory neurodeficit. Vision in his right eye was no perception of light (No PL) and demonstrated signs of orbital apex syndrome with total ophthalmoplegia, fixed dilated pupil, proptosis (25 mm with Hertel's exophthalmometer), periorbital edema, chemosis, and exposure keratitis. A puncture wound was present on the upper eyelid, just above the medial canthus [Fig. 1d]. Left eye was normal with 6/6 vision.

An immediate CT scan of the brain and orbit was ordered which revealed a well-defined low density foreign body in the right orbit in the superomedial aspect passing through superior orbital fissure, extending posteriorly up to the petrous apex abutting the superomedial globe, medial rectus and superior oblique muscles with mild compression of the optic nerve at the apex [Fig. 1a and b]. Findings were suggestive of orbitocranial wooden foreign body.

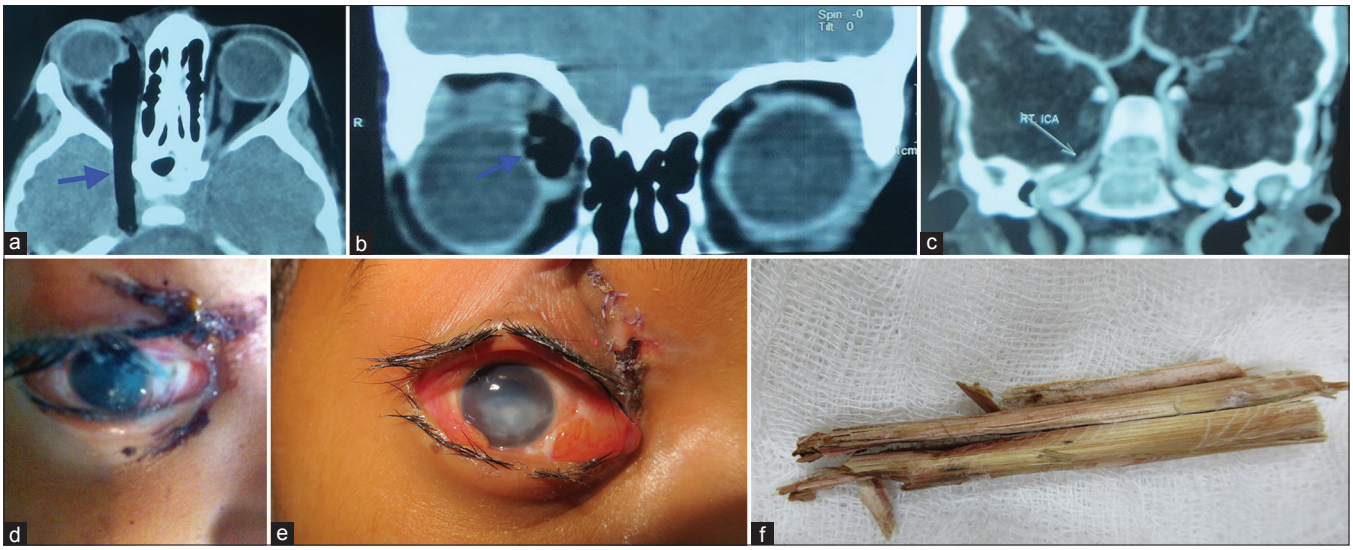

Figure 1: (a) CT scan, axial view showing the hypodense wooden foreign body (blue arrow). (b) CT scan, sagittal view showing the hypodense wooden foreign body (blue arrow). (c) CT angiography showing narrowing of cavernous part of right internal carotid artery. (d) Preoperative image, right eye. (e) Postoperative image, right eye. (f) Showing 9 × 1 cm wooden foreign body after surgical removal

Patient was taken up for right eye foreign body removal under nil visual prognosis with neurosurgeon's assistance under general anesthesia. On exploring the puncture wound on the medial aspect of the right upper lid, we identified one end of a wooden twig and tried to extricate it with a forceps, however it was impacted in superior orbital fissure and could not be removed at this stage. On deeper wound exploration, we identified a greater stump of the foreign body and were able to grasp it better and finally removed it as a whole. The wound area was irrigated with povidone iodine and sutured with 7-0 polyglactin (Vicryl) in layers [Fig. 1e].

The foreign body was a thick wooden piece measuring 9 cm in length and 1 cm in width [Fig. 1f]. Postoperatively patient was treated with systemic antibiotics, oral steroids, and local antibiotic, lubricating eye drops, and topical cycloplegic. On the third postoperative day we did CT angiography of brain that revealed narrowing of the cavernous segment of right internal carotid artery and right ophthalmic artery [Fig. 1c]. The proptosis, chemosis, and periorbital edema reduced over 1-month period. At 1 month, vision was still No PL and fundus examination revealed right eye optic disc pallor secondary to traumatic optic neuropathy. We report successful management of an extremely large orbitocranial foreign body.

Transorbital intracranial penetrating injuries due to wooden foreign bodies are so rare, that a PubMed search[2,3] reveals only 10 such cases, though metallic and other foreign bodies have been reported more frequently.[4,5] Lee reported a similar case with a wooden twig measuring 7.5 cm in length that traversed through the superior orbital fissure and caused injury to the temporal lobe.[6] Similarly, Mutlukan reported a case of brain abscess due to a missed wooden orbitocranial foreign body.[7]

There is no single confirmative method for the diagnosis of wooden foreign body. Hence clinical suspicion, history taking, and complete physical examination is essential.

There should be suspicion about a wooden foreign body in a child with an accident in the countryside fields as he/she will not give a detailed history. Also in this case entry wound had self-sealed and was camouflaged by the brow so a high index of suspicion and necessary orbital imaging with ultrasound and CT SCAN should be performed, avoid MRI if metallic foreign body is suspected. In this case, the stick was extending into the cranium hence it is necessary to plan in a neurosurgery operating theater along with neurosurgeon whether a cranial approach along with orbital is needed for retrieving the distal fragments of the stick. The removal of stick which was degenerating was done gingerly to avoid fragmented pieces and was removed in toto. Postoperative antifungal systemically was given as it was a vegetative foreign body. Signs of orbital apex syndrome with no light perception in a case of orbital trauma should raise suspicion of an intraorbital foreign body and orbital imaging should be performed.

To the best of our knowledge, our case represents the largest wooden orbitocranial foreign body till date. Though visual loss was irreversible, we were able to prevent catastrophic intracranial complications.

In conclusion, orbitocranial foreign bodies should be suspected in all cases of orbital trauma, orbital imaging should be performed and surgical removal should be attempted at the earliest. Visual prognosis is usually poor but survival can be achieved if intervened early.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflict of interest

There are no conflict of interest.

Ajay Dudani, Harsha Pawar, Anupam A Dudani[1], Krish Dudani[2], Anadya Dudani[2]

Department of Ophthalmology, Bombay Hospital Institute of Medical Sciences and Research Center, [1]Department of Radiology, Hinduja Healthcare Hospital, Khar, [2]K.J. Somaiya Medical College and Research Center, Mumbai, Maharashtra, India

Correspondence to: Dr. Harsha Pawar, 6A,304, New Mahada Colony, Near NNP, New Dindoshi, Malad [East], Mumbai - 400 065, Maharashtra, India.
E-mail: happyharshapawar2012@gmail.com

References

1. Natung T, Shullai W, Lynser D, Tripathy T. A challenging case of a large intraorbital foreign body perforating the nasal septum in a child. Indian J Ophthalmol 2018;66:1511–3.
2. Dunn IF, Kim DH, Rubin PA, Blinder R, Gates J, Golby AJ. Orbitocranial wooden foreign body: A pre-, intra-, and postoperative chronicle: Case report. Neurosurgery 2009;65:E383–4.
3. Wilson MH, Collins TR, Revington PJ. Orbitocranial wooden foreign body retrieved by transcranial and superior orbitotomy. Br J Oral Maxillofac Surg 2016;54:1050–1.
4. Mitilian D, Charon B, Brunelle F, Di Rocco F. Removal of a chopstick out of the cavernous sinus, pons, and cerebellar vermis through the superior orbital fissure. Acta Neurochir 2009;151:1295–7.
5. Matsuyama T, Okuchi K, Nogami K, Hata M, Murao Y. Transorbital penetrating injury by a chopstick – Case report. Neurol Med Chir 2001;41:345–8.
6. Lee JS, Lee JE, Oum BS, Cha SH. Orbitocranial injury caused by wood. Korean J Ophthalmol 1999;13:128–32.
7. Mutlukan E, Fleck BW, Cullen JF, Whittle IR. Case of penetrating orbitocranial injury caused by wood. Br J Ophthalmol 1991;75:374–6.

Access this article online

Quick Response Code:

Website: www.ijo.in

DOI: 10.4103/ijo.IJO_1878_18

Cite this article as: Dudani A, Pawar H, Dudani AA, Dudani K, Dudani A. A challenging case of a large orbitocranial wooden foreign body in a child. Indian J Ophthalmol 2019;67;1510-2.