

## **Case study**

### **Optic nerve transection following a penetrating ocular trauma: A rare case report**

#### **Abstract**

A patient with penetrating orbital trauma with complete transection of optic nerve is presented. MRI revealed extra-ocular intraconal foreign body with transection of optic nerve.

#### **Keywords**

Optic nerve

Penetrating trauma

Optic nerve transection

Traumatic optic neuropathy

#### **Introduction**

We describe MRI findings of a rare case of right eye blindness due to a wooden foreign body penetrating through the nasal aspect of right orbit. MRI orbit of the patient revealed valuable information about the status of optic nerve.

#### **Case History**

A young male presented to ER with a history of trauma to right eye due to a wooden piece. On clinical examination a penetrating wound was seen on the nasal aspect of right eye. Further examination revealed complete loss of vision with relative afferent pupillary defect which were suggestive of optic nerve injury. Patient was referred to Department Of Radio-diagnosis for X ray skull which does not reveal any metallic foreign body .Then MRI orbit was done.MR imaging revealed a well-defined linear intra-conal extra-ocular foreign body approximately 1.7cm in length just medial to rectus muscle. Posterior end of the foreign body was seen transecting the intra-conal segment of optic nerve. Focal Hyperintense signal on T2-weighted imaging and restricted diffusion on DWI was seen in the anterior cut end of intra-conal segment of optic nerve consistent with traumatic optic neuropathy. Patient underwent decompression surgery of orbit and wooden foreign body was retrieved.

#### **Discussion**

Major cause of mono-ocular blindness throughout world is ocular trauma<sup>1</sup>. However visual loss caused by traumatic optic neuropathy whether blunt or penetrating is very uncommon with incidence of 0.7-2.5%<sup>2</sup>, but once occurred, is associated with deleterious consequences<sup>3</sup>.

The intracranial segment is most commonly injured part of optic nerve<sup>4</sup> due to tight adherence of dural sheath to periosteum but in our case intra-orbital segment is transected as the trauma is penetrating. In our case diffusion restriction was seen in right optic nerve which is important clue in making the diagnosis of traumatic optic neuropathy<sup>5</sup>.

#### REFERENCES

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