Clinical picture

A pencil injury to the eye

Cranio-orbital foreign bodies are rare. Their ocular and neurological complications vary according to their nature and location. In children, the foreign body can be misdiagnosed if the trauma occurs in the absence of parental control.

A 6-year-old girl was brought to the emergency department by her parents with a non-resolving painful swelling of the left orbit with total ophthalmoplegia and severe vision loss of the left eye 1 week after sustaining a self-harm orbital penetrating injury by a pencil. This resulted in an eyelid wound, which was sutured by a physician. The exact mechanism of injury was not clear because the child was alone at the time of trauma. The child has been receiving antibiotics since the past week without any relief.

On examination the visual acuity of the left eye was found to be no light perception with an areactive unilateral mydriasis. The ocular movements were noted to be limited. There was marked chemosis of the internal bulbar conjunctiva. A sutured laceration ~5 mm in length was noted on the upper eyelid.

Otherwise the cornea was clear, anterior chamber quiet and fundus normal on direct ophthalmoscopy. An orbital and cranial CT was performed revealing a linear orbital foreign body traversing the medial wall of the left orbit, the medial rectus muscle and the superior orbital fissure and outcropping the temporal lobe (Figure 1a).

Our patient underwent a surgical exploration under general anesthesia within a medial orbital approach, jointly by an ophthalmologist and a neurosurgeon. This approach allowed removing the foreign body without brain damage.

The pencil was stuck in the bottom of the medial orbital wall behind the medial rectus muscle. It was removed carefully following its trajectory (Figure 1b). There was no hemorrhage or cerebrospinal fluid leakage.

The child received intravenous antibiotics and had uneventful postoperative course. She was discharged without additional neurological deficit except for total visual loss on her left eye. A 3-month follow-up does not reveal cerebrospinal fluid leakage and magnetic resonance imaging showed only residual changes.

Transorbital penetrating brain injuries by foreign bodies must be considered in unwitnessed eyelid injuries in children.¹ The orbital walls are very thin

Figure 1. (a) Axial computed tomography scan showing a penetrating transorbital intracranial foreign body. (b) Showing the tip of pencil removed of ~6 cm length.

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in children and can be fractured by a low-velocity penetrating foreign body. The orbit tends to deflect objects toward the apex, where the superior orbital fissure may provide passage intracranially.\textsuperscript{2,3} Thus, seemingly trivial eyelid lacerations may hide occult deep foreign body and can be sutured without further investigation,\textsuperscript{1–4} resulting in serious complications (infection, hemorrhage or cerebrospinal fluid fistula . . .).

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\textbf{References}


