



Visual Case Discussion

An orbitocranial glass foreign body in contact of skull base great vessels following a physical aggression

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Case presentation

We present a 28-years-old patient admit for orbitocranial traumatism following a physical aggression with a glass bottle on 31.10.2017. The patient was drowsy at the admission, scored at 14/15 on Glasgow coma scale (GCS), there was a piece of glass planted in the left orbit splitting the eyelids and the globe; the wound extended on 07 cm in the left maxillary region (Fig. 1) and there was exposure of brain tissue. The brain (computed tomography) CT scan objectifies a foreign body of 10 centimeters length and 07 centimeters high; the intra orbital portion extended to the brain split the globe. There was a fracture of inferior

wall of the orbit, a fracture of the anterior wall of the ipsilateral maxillary sinus. There was also a fracture of the greater wing of sphenoid and a fracture of the lateral wall of the left maxillary sinus. The angioCT scan objectifies the intra orbital foreign body with a piece of glass repressing the ipsilateral middle cerebral artery superiorly; the foreign body stays at 01 millimeter of intra cavernous carotid artery (Fig. 2). The patient underwent surgery, a left frontopterional approach was carried out at the first time; after a durotomy, the sylvian fissure was splitted; a laceration of the temporal is discover and the distal tip of the glass inside the temporal lobe and the base of the piece of glass overlying just on top of the primitive carotid artery and middle cerebral artery. We protect and secure the great vessels with a moist cottonoid pledget and perform a left orbitotomy which allow the extraction of the



Fig. 1. Piece of glass planted in the left orbit: nose (blue arrow), glass foreign body (red arrow), left eye (yellow arrow), brain tissue (black arrow). (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

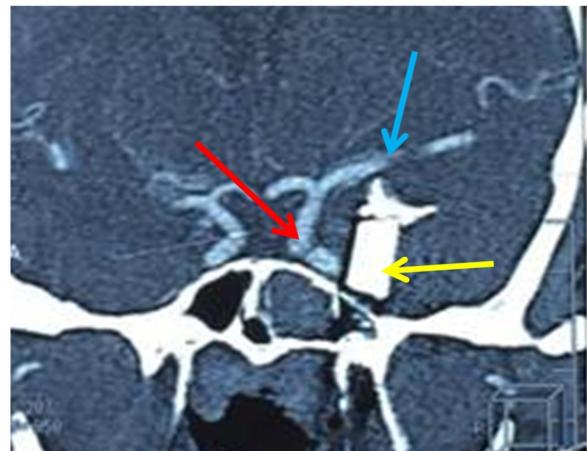


Fig. 2. AngioCT scan showing a piece of glass repressing the ipsilateral middle cerebral artery: left internal carotid artery (red arrow), left middle cerebral artery (blue arrow), foreign body (yellow arrow). (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

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Fig. 3. The removed piece of glass.

piece of glass (Fig. 3) and to complete the left orbital exenteration. The laceration of the temporal base dura was closed and the orbital cavity was filled with fat tissues. The frontopterional flap and orbital ruff put back followed by a blepharorrhaphy. The immediate outcome was uneventful, the patient was conscious, can see with the remaining right eye so there were no surgical complications; the patient was discharged from the hospital after 21 days antibiotics. There was no remaining foreign body at the postoperative control CT scan.

Conflict of interest

None

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.visj.2018.12.009](https://doi.org/10.1016/j.visj.2018.12.009).

Questions

1. Hypovolemic shock can be a revelation of vascular injury by an orbitocranial foreign body?
 - a. True
 - b. False
2. Is MRI the first exam to perform in front of intraorbital cranial nonmetallic penetrating foreign body?
 - a. True
 - b. False
3. Is it necessary to perform angiography before operating on orbitocranial foreign body?
 - a. True
 - b. False

Answers

1. True. Explanation: The foreign body can injury great vessels of the skull base. Active wound bleeding, increasing hematoma, a low level of hemoglobin and signs of hypovolemic shock upon admission are indications of an associated vascular injury (1).
2. False. Explanation: Although both CT and MR imaging may be available for the detection of nonmetallic foreign bodies, such as wood and plastic, CT at various window widths should be considered the primary diagnostic technique, because MR imaging may not differentiate dry wood from air or bone fragments (2).
3. False. Explanation: Angiography is invasive and time consuming exam. In fact angiography is reported to be reserved for deep injury with high suspicion of vascular laceration (3).