

# Large impacted foreign body in maxillofacial region: an occupational hazard

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## DESCRIPTION

A 62-year-old male patient reported to a tertiary care trauma centre after accidentally being hit by a metal object at his workplace. The patient was working at a construction site in the vicinity of a crane machine at the time of injury. The hoist rope of the crane snapped, bringing down the metallic hook attached to it, forcefully hitting the patient and causing an impalement injury to the face. At the time of examination, the patient was conscious with stable vital signs. His Glasgow Coma Scale score was 15/15. On extraoral examination, two metallic rod-shaped objects were seen penetrating through a deep laceration injury over the buccal tissue on the left side of the face (figure 1A). Minor bleeding at the site of injury was controlled by local pressure pack. Mouth opening was limited. Initial intraoral examination showed no evidence of injury. The patient was subjected to plain radiograph and CT scan, which showed a single large U-shaped metal object of about 7×4cm size. The object appeared to have two bolts and a horizontal bar component attached to the U-shaped rod (figure 1B–D).

After initial medical management, the patient was prepared for surgical removal of the foreign body under general anaesthesia. Blunt dissection of the surrounding tissues was carried out and the impacted metallic object was removed (figure 2A). The surgical site was debrided with copious amount of povidone iodine solution

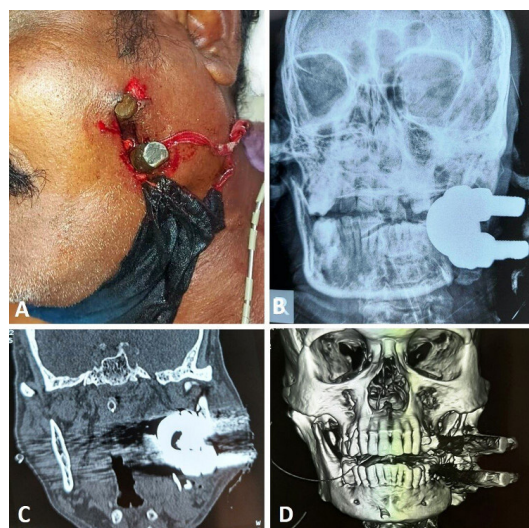


**Figure 2** Intraoperative images of (A) foreign body, (B) surgical site, (C) closure and (D) postoperative healing.

and normal saline. Crushed part of the masseter muscle and buccal soft tissue along with loose bone fragments were removed. The parotid duct and terminal branches of facial nerve at the site were carefully inspected, which showed no injury (figure 2B). Although the reported incidence of parotid injury is as low as 0.2%, trauma in the preauricular area warrants careful assessment to rule out possible damage to the gland and the duct.<sup>1</sup> Unlike injuries to temporomandibular joint and facial nerve, which can be easily diagnosed from its presentation of limited mouth opening due to pain and facial weakness, respectively, traumatic injury to the parotid gland may go unnoticed. Treatment of these injuries include primary closure of the severed duct, duct cannulation, suturing of parotid capsule and pressure dressing in the postoperative period.<sup>1</sup> These injuries, if untreated, may cause obstruction of salivary flow, sialocele, salivary fistula and sialadenitis.<sup>2</sup>

Closure at the surgical site was done in layers (figure 2C). The patient had uneventful postoperative period and showed satisfactory healing at 2 weeks' recall visit (figure 2D). There was no evidence of sialocele formation and/or weakness of the facial nerve.

Although impacted foreign body secondary to traumatic injury in the maxillofacial region is uncommon, it has been sporadically reported in English literature. In a retrospective review of 5571 maxillofacial injuries, 16 patients (0.29%) had foreign body impaction.<sup>3</sup> Various types and sizes of objects including wire, metal, wood, twigs, bamboo splinter, glass, fish hook



**Figure 1** Preoperative photographs showing (A) metallic foreign body in the buccal tissue, (B) U-shaped radiopaque object on radiograph, and (C) coronal section and (D) 3D-formatted images of CT showing the foreign body.



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## Patient's perspective

The unfortunate incidence was scary and traumatizing for me and my family. Despite of adhering to all the safety guidelines, I could have never contemplated such a grave accidental consequence of working at the construction site. The actual gravity of injury finally sunk in only during the post-operative period, when I was shown my radiographs with the object logged deep in my face. With the successful surgical removal of the foreign object, I did not experience any serious complication except for the mild pain that lasted for initial few days. I have been advised to be on regular follow-up, which I am complying with.

## Learning points

- ▶ Traumatic injury leading to foreign body impaction, although infrequent, warrants a careful examination and immediate surgical removal to avoid complications such as damage to vital structures, painful inflammatory reactions and infections.
- ▶ Impalement by a large metallic object in the preauricular region can result in injury to facial nerve, parotid gland, craniofacial bone and/or teeth.
- ▶ Despite adherence to the safety protocol, occupational hazard of foreign body impalement in the maxillofacial region may occur at workplaces involving heavy machinery. This report intends to highlight one such case and its management.

and pen cap may get impacted in the maxillofacial region.<sup>4</sup> Among all the cases of foreign body impaction, about one-third are missed during initial examination owing to their small size and/or deep location.<sup>5</sup> Type and size of object and its anatomical proximity to vital structures determine the surgical difficulty in retrieval and possible complications. In the present case, nature of injury and large size of impacted metallic foreign body made the diagnosis very obvious. The foreign body was surgically removed with no postoperative complication.

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