

A Rare Case of Perforating Foreign Body in Lower Facial Region: A Case Report

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Abstract

Background: Foreign body lodged in the soft tissue is fairly common in the road traffic accidents or industrial accidents. The immediate closure of the soft tissue wounds become the emergency treatment for the control of bleeding. Penetrating or perforating injuries of different origins in the head and neck are rare but poses potential threat. Minor wounds such as abrasion wounds, minor lacerations are generally contaminated with gravels, dirt etc. but they also carry the risk of impacted foreign body. The wounds should therefore be thoroughly cleaned and examined for any impacted foreign bodies. Treatment depends upon the size and type of foreign body, the affected anatomical sites, severity of injury, injury to associated structures and blood vessels. Here we present a rare case of impacted foreign body in the mandibular region and the treatment.

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I. Introduction

Foreign bodies in the soft tissue are secondary to penetrating injuries or abrasions. Majority of the cases in emergency are of abrasions, which are generally easy to manage as only the skin is involved so the foreign bodies such as dirt particles and gravel debris stay superficially which can be managed by proper wound cleaning¹. Penetrating injuries to face and neck are rare but bear the risk of impacted objects and have high life-threatening potential². Penetrating injuries may be superficial or deep. The clinical presentation depends on the size and type of foreign body, site of penetration and associated injuries to adjacent structures². Types of foreign body may include wooden fragments, pieces of glass, bullets and knife blades. The surgery becomes challenging due to the proximity of the foreign body to the adjacent vital structures³, which can be fatal⁴. The removal of foreign body may lead to further trauma and tissue loss.

II. Case Report

We report a rare case of a facial perforating wound with a big chunk of wood stuck in the left mandibular region. A 25 years old man suffered a road traffic accident and fell over a wooden log which led a large chunk of wood with a piece of cloth stuck, which was the piece of the scarf that was wrapped around his neck. The foreign body was stuck in the left mandibular region with entry wound seen at the chin and exit wound seen below the left ear lobule.

The clinical examination found a conscious patient, Glasgow scale 15/15, with a stable hemodynamic and respiratory state, no neurological deficit, no active bleeding from the wound, no intra-oral involvement, mouth opening was seen to be adequate. Haematological investigations were done showing hemoglobin upto 11 g/dL.

The patient was admitted and hospitalised immediately. Intravenous prophylactic antibiotic treatment was given along with painkiller.



Fig. 1 (a)

Cont.



Fig. 1(b)



Fig. 1(c)

Fig. 1(a) shows both the entry wound and the exit wound along with the foreign body in side view. Fig. 1(b) shows the entry wound near the chin along with foreign body. Fig. 1(c) shows the exit wound below the ear lobule along with the foreign body

Keeping the grave consequences in mind, the patient was immediately rushed for the extraction of foreign body. The extraction of foreign body was done under general anesthesia. The surgery lasted for approximately 3 hours by a team of ENT surgeons along with anaesthesiologists. After proper examination of the patient and making sure that there was no injuries to major blood vessels, any vital structures and also there was no intra-oral involvement; the foreign body was mobilised and extracted by the external approach. The foreign body was a wooden stick with largest dimensions of size 8.5 inches in length and 1 inch in breadth along with a piece of cloth.



Fig. 2(b)



Fig. 2(a)

Fig. 2(a) and 2(b) shows the dimensions of the foreign body with length of approx. 8 inches and breadth of approx. 1 inch

Exploration of the tract was done throughout and was cleaned thoroughly. 0° endoscope was used for the exploration of the tract and to visualize any residual foreign body and associated injuries. Left sided Marginal mandibular branch of facial nerve was seen to be severed. Profuse bleeding was seen after the extraction of the foreign body from the lodged site. Bleeders were clamped and clipped. Minor oozing was stopped using electrocautery. Haemostasis was secured. Wound at the chin was sutured in layers and the exit wound was left open as it was approximated by itself. The complete operative procedure was done with minimal invasive interventions and minimal damage to the surrounding structures.

The postoperative follow up and antiseptic dressing was done with satisfactory wound healing seen within 7 days. Local swelling subsided after 7th post-operative day.



Fig. 3(a)



Fig. 3(b)

Fig. 3(a) shows entry wound after suture removal on post-operative day 7 and Fig. 3(b) shows the exit wound after suture removal on post operative day 7

Mild weakness was noted on the left side of lower lip due to the involvement of the marginal mandibular branch of facial nerve. The lower lip on the left side was seen to be less depressed and more medial as compared to the other side as shown in the fig. 4(a), 4(b) & 4(c). Nerve grafting was advised to the patient after few weeks but the patient didn't show up for the same.



Fig. 4(a)



Fig. 4(b)



Fig. 4(c)



Fig. 5(a)



Fig. 5(b)

Fig. 5 (a) and 5 (b) shows healed scar after 1 month

III. Discussion

Cranio-facial foreign bodies due to trauma are a rare entity but poses a major threat to surrounding cerebral, ocular, vascular and nervous structures⁵. Such penetrating injuries may be associated with bone fractures, vascular lesions or neurological deficits which are potentially lethal than those affecting other parts of body⁶. It is often difficult to remove foreign bodies in the head and neck due to close proximity to vital structures, or due to difficult access^{7,8}. The majority of such lesions seem to be caused by metallic objects such as knitting needles, nails, keys and hooks.

Computed tomography is the imaging modality of choice for detection of the majority of foreign bodies^{9,10}. Ultrasound is both sensitive and specific in detecting wooden foreign body¹¹. Ultrasound is a superior and better imaging modality than CT scan and MRI for foreign body detection in soft tissue. Imaging modalities are required for foreign bodies in facial region, especially when there is implied danger for important structures, multiple foreign bodies, previously attempted/manipulated, minimally invasive surgery and for a quicker approach¹¹.

The impacted foreign bodies can modify the surrounding structures and distort the regional anatomy¹². Thus foreign body removal in the facial region harbours the risk of damaging important anatomical structures¹³. The complications associated with foreign body in the facial region includes cerebral contusion and haematoma, intracranial complications like meningitis and cerebral abscess, visual disturbances following injury to the eyeball, the cranial nerve palsies, vascular lesions like traumatic aneurysm occurring after 2 or 3 weeks¹⁴. Infectious complications are not uncommon among these patients due to the presence of contaminated foreign objects, hair, bone fragments etc. along the track¹⁵.

In the reported case, the object can be seen grossly so imaging modalities was not required pre-operatively for the localisation of the foreign body. The foreign body was removed and the entire wound trajectory was searched for any other retained foreign body. Haematoma was evacuated followed by haemostasis. Wound was closed in layers with vicryl 3-0 and silk 3-0 suture. A post-operative X-ray was done and no residual foreign body or any bony injuries were found.



Fig. 4 shows post-operative X-ray skull AP and lateral view showing no retained foreign body or any bony involvement

As in the reported case, we have noticed that the marginal mandibular branch of facial nerve was severed. The weakness was noted on the left side of lower lip as the marginal mandibular branch of facial nerve is responsible for the motor function of depressor labii inferioris. Thus, damage to this nerve prevents the lateral and downwards movements of the lower lip and esthetic impairment^{17,18} as seen in the reported case. Nerve grafting can be suggested to such patients.

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