Urgent Hospital Intervention By OMF Surgeons Can Be Life-Saving Following Industrial Accidents

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Abstract

A male patient was treated for facial injury by OMFS specialists, following initial management at A&E of a local hospital. A foreign body embedded in his right skull/parietal area was removed, and the facial hematoma, without penetration of the bony cortex was treated with placement of a vacum drainage.

The skull injury was due to a blast explosion and the ergency of such debilitating incidents is discussed. Overall review of head and neck trauma and associated penetrating skull injury as a result of industrial accidents is presented

INTRODUCTION

A 54-year-old male patient presented at outpatient OMFS clinic, with a large, expanding hot swelling over the right temporal area, 12 hours following injury at working place. He was employed as a gas worker and sustained whole body and face injury after a metallic tube exploded. He was transferred at A&E department of a local hospital complaining for headache and dizziness.

CASE REPORT

On whole-body CT investigation metallic pins/foreign body were identified at his R arm superficially. These were removed at A&E and following exploration of the wound, it was sutured. The patient was discharged from local hospital with information for head injury were instructed and a leaflet was given to the patient.

Following 48 hours the patient attended the oral and maxillofacial surgery (OMFS) clinic with severe cephalalgia and pain of his right face. He also reported two episodes of vomiting and a hot tender swelling of his right face. On examination a 5 cm diameter swelling was evident at his right parietal/temporal area, which felt as ''pulsating''. An ultra-sound demonstrated fluid collection most likely of an heamatoma of right head. Vital signs were normal, however the patient was tachycardic due to a ruptured vessel and haemorhage. A facial CT (axial and coronal views) showed a foreign radiopaque body, of 1.5 cm, at right temporal area, with absence of any skull/facial bone fracture or hair-line crack.

The patient was admitted for hydration with fluids and antibiotic prophylaxis. Decision for exploration of the head wound under general anesthesia was taken. A right forehead incision with superior temporal line extension to the hair-line (Fig 1) provided access over the temporo-parietal fascial and muscle (Fig 2).

Following further dissection (1) of the aponeurosis, loose areolar tissue and the pericranium (Fig 3), access to the skull was gained. There was absence of any fracture and evidence of a large hematoma. The metallic pin was easily identified and removed. Bleeding vessels were tied/cauterized and the wound closed by layers (Fig 4). A vacuum drain placed and secured with silk suture for 48 hours and a pressure dressing facilitated hematoma evacuation. The drain was removed after 2 days of hospitalization and the patient had no complaints at follow-up 6 weeks later.

Figure 1

A right forehead incision with superior temporal line extension to the hair-line, provided access.

Figure 2

Temporo-parietal fascia and muscle were dissected in order to evacuate the heamatoma.

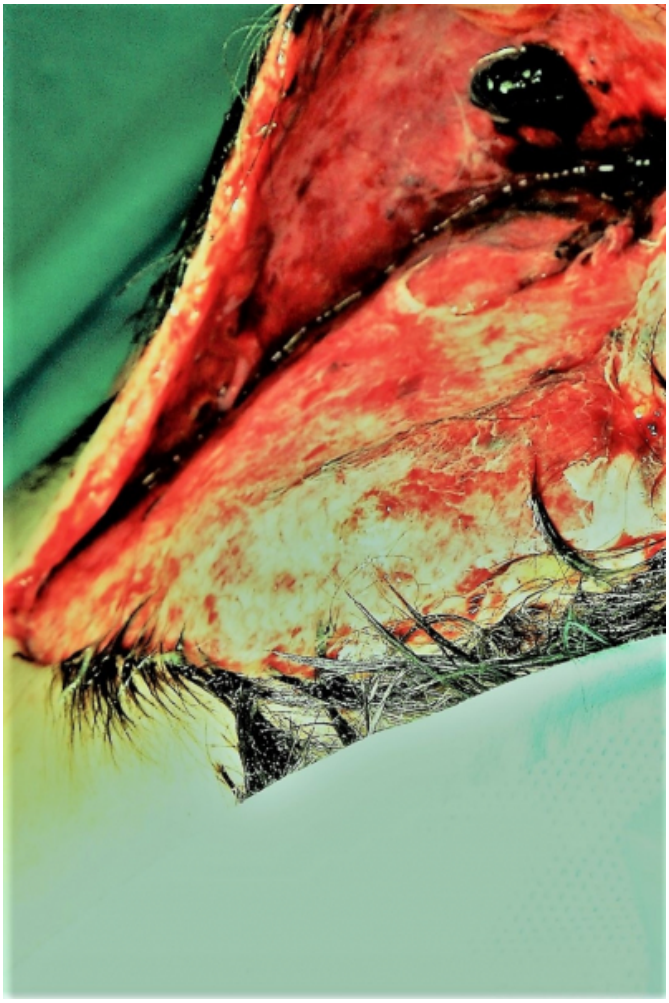

Figure 3

Access to the skull was gained following further dissection of the aponeurosis, loose areolar tissue and the pericranium.

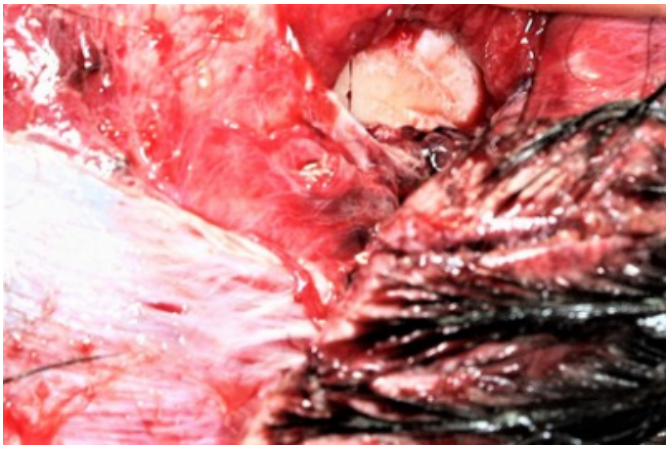

Figure 4

A vacuum drain placed for 48 hours and the wound was sutured tightly with 4.0 vicryl and clips

DISCUSSION

Industrial accidents can be debilitating and cause severe injuries and tissue loss of the face. Professions like gas workers, heavy industry workers are exposed to higher risk of accidents like falls, explosions etc. Such workers are more prone to facial trauma (1) and OMFS departments hold appropriate instrumentation both at emergency kits, as well as in the ward. Most of such injuries involve foreign objects that may transgress the face or skull and present challenges in their management such as: CSF leak, infection risk and vascular injuries (2)

This patient was treated for facial injury by OMFS surgeons, following initial management at A&E of a local hospital. The foreign body embedded in his right skull/parietal area was removed, and the facial hematoma, without penetration of the bony cortex was treated with placement of a vacuum drainage.

A literature search of skull injuries following blast explosions and industrial accidents included:

i) Management of a skull penetrating injury from a railroad spike (2)

ii) Temporal bone fracture of alcohol related facial fractures (3)

iii) Subgaleal hematoma(SGH) caused by tearing veins in the loose areolar tissue beneath the galeal aponeurosis, due to an accident that caused severe twisting of his hair, treated conservatively with bandage compression (4)

iv) Styloid process fracture of the temporal bone in association with other maxillofacial fractures and road traffic accidents (5)

Vessels more likely severed were (6) i) the deep temporal artery, ii) the temporal artery and, iii) the temporal vein. The patient present without any complications at 8 month follow up.

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