Open Traumatic Scapulothoracic Dissociation: Case Report Of A Rare Injury

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INTRODUCTION:

Traumatic scapulothoracic dissociation (TSD) is a rare upper extremity injury caused by severe traction injury. Disruption of the scapulothoracic articulation secondary to severe traction force trauma without breach of overlying skin gives rise to the term as "closed" forequarter amputation[1]. All previous reported cases reported massive blood loss, and recognition and aggressive treatment of this complex injury are crucial[2,3].

CASE:

A 21-year old man was referred to our center following an industrial injury where his left arm was caught in conveyer belt resulting in lateral separation of the scapula and mid shaft clavicle fracture associated with torn pectoral muscle. On arrival, he was in Grade 3 Hypovolemic shock with Glasgow Coma Scale of 15. On inspection, there was profound swelling on his upper chest with extensive degloving wound over the anterior aspect of shoulder (Fig.1a) and cubital fossa (Fig.1b). His Mangled Extremity Severity Score (MESS) score was 10. Chest radiograph (Fig.2) revealed laterally displaced scapula and lateral 1/3 left clavicle fracture with intact left sternoclavicular joint.

Intraoperatively, the left shoulder muscles were crushed with severe contamination. Forequarter amputation was done with subscapularis muscle used as the flap to cover the thoracic wall and minimize the dead space (Fig.3). Subsequently, he underwent serial debridement prior to secondary closure 28 days after the onset of trauma (Fig.4). Recovery was smooth sailing after the operation. The wound was completely healed and he was discharged 35 days after the accident.

DISCUSSIONS:

Open scapulothoracic dissociation is a rare, acutely limb threatening and potentially life threatening injury[5]. Although replantation of a traumatic forequarter amputation has been reported[4], in our opinion this is not worth a try for this patient because of extensive soft tissue damage and avulsion of brachial plexus.


Fig. 1a

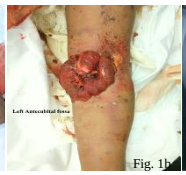
Fig. 1b

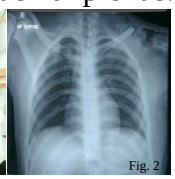
Fig. 2

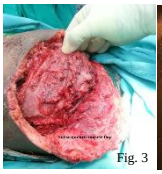
Fig. 3

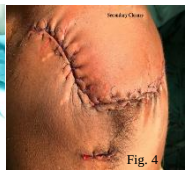
Fig. 4

CONCLUSION:

The key of survival for anyone sustaining this injury is immediate transportation. Altered sensorium, respiratory distress as well as the degree of shock reflect the severity of the injury[3]. Improvement of blood gases, renal function and clinical condition after serial extensive surgical debridement brought about this patient's favorable outcome.

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