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Bilateral Scapula Fracture With Operative And Non-Operative Treatment Modalities: A Case Report

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INTRODUCTION:

Bilateral scapula fractures are rare and often associated with high-energy trauma. These injuries typically occur in the context of significant force, such as motor vehicle accidents or falls from height[1,2]. The complexity of these fractures along with the nature of high energy trauma often necessitates a multidisciplinary approach to management[3,4]. Treatment modalities of scapula fractures can be non-operative and operative and the decision for which treatment to undergo depends on the nature and stability of the fractures as well as any associated injuries sustained involving the shoulder[1,5,8]. This case report discusses the presentation, management, and outcomes of a 54-year-old male with bilateral scapula fractures following a road traffic accident.

REPORT:

A 54-year-old right-hand dominant male with no known medical history was involved in a road traffic accident as a back seat passenger. The van skidded, and the patient was ejected from the vehicle. He experienced pain and swelling in both upper limbs and the left lower limb, and was unable to ambulate. He also had a brief loss of consciousness.

Upon examination, the primary survey was unremarkable. The patient had a deep laceration on the right anterolateral arm with exposed humerus bone and pain in the right shoulder with limited movement. The left shoulder also exhibited pain and swelling with restricted movement. There was no neurovascular compromise in the upper limbs. Pain was elicited in the left hip upon pelvic spring test.

Radiographic imaging was done and the chest X-ray showed bilateral lung contusions and left 4th to 7th rib fractures. The pelvic X-ray showed a right hip posterior dislocation with an acetabular wall fracture. Bilateral shoulder Xrays showed comminuted scapula body fractures involving the medial and lateral columns of the scapula (Figure 1 and 2). The right humerus X-ray showed a spiral midshaft humerus fracture. CT brain and face revealed a bifrontal extra-axial bleed with no midline shift and multiple facial bone fractures. No cervical spine fractures were noted. CT of the pelvis and bilateral shoulders were done subsequently. (Figure 3 and 4)

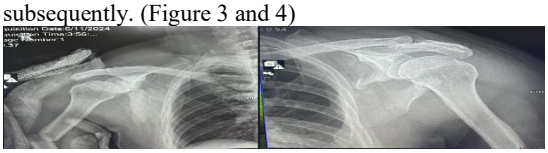

Figure 1 showing right shoulder xray AP view

Figure 2 showing left shoulder xray AP view

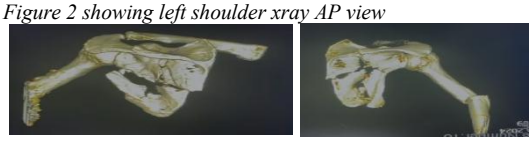

Figure 3 showing the left scapula fracture involving the neck and body of scapula intraarticular involvement and glenoid

Figure 4 showing the right scapula fracture involving the body and spine of the scapula

Closed manual reduction (CMR) was performed for the right hip dislocation, and skeletal traction was applied to the supracondylar femur. The right humerus wound was debrided and externally fixed whilst awaiting for definitive treatment. The intracranial bleed, rib fractures, and facial bone fractures were managed conservatively. Two weeks post-trauma, the patient underwent surgery for plating of the right humerus, right hip, and left scapula, while the right scapula was treated conservatively.

The left scapula operation was done via a modified Judet approach to tackle the medial and lateral parts of the scapula body fracture and a recon plate is inserted to both the medial and lateral border of the scapula body (Figure 4,5 and 6). Two months post-fixation, the patient attended physiotherapy and was ambulating without aid. The range of motion for both shoulders were of similar outcomes, with the right shoulder achieving 90 degrees of abduction and forward flexion, and the left shoulder achieving 80 degrees of abduction and forward flexion, with limitations in internal and external rotation.

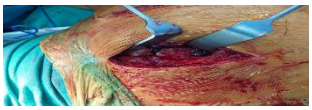

Figure 4 showing the modified Judet approach visualing the fracture of the body of the scapula

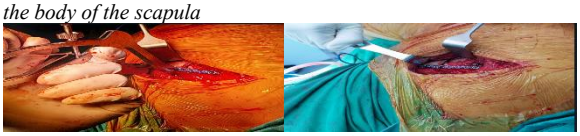

Figure 5 showing fracture reduction and placement of plate

Figure 6 showing plate placement fixing the fracture pieces in place

Figure 7 showing the left scapula post operatively

Figure 8 showing the right scapula post operatively

CONCLUSION:

Bilateral scapula fractures are uncommon and typically result from high-energy trauma[1]. The management of such injuries can be challenging due to the complexity and the associated injuries[2,3]. In this case, a combination of conservative and operative management was employed, with satisfactory outcomes.

This case highlights the severity of a high energy trauma leading to multiple injuries across limbs especially involving the bilateral scapula which in itself is a rare occurrence. The decision of operative vs conservative management for scapula fractures need to be thoroughly assessed and functional outcome of any given management modality be discussed with the patient. Early intervention and appropriate rehabilitation are key to optimizing patient outcomes in regaining bilateral upper limb function.

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