

NEGLECTED ANTERIOR SHOULDER DISLOCATION + HILL-SACHS LESION: WHEN MASTERLY INACTIVITY FAILS, WHAT'S NEXT?

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ABSTRACT

Background: Anterior shoulder dislocation is a disabling injury affecting all age groups. Although rarely missed, neglected shoulder dislocation may occur in unconscious patients or due to inadequate treatment as is common in low income countries.

Methodology: We report the management of a 26 year old man who presented with a five month history of neglected anterior shoulder dislocation, with gross limitation on all range of motion of the affected shoulder. X-rays done (antero-posterior and lateral views of the shoulder) also revealed a malunited greater tuberosity fracture; for which the patient had an open reduction and a Bristow-Laterjet procedure.

Results: There was marked improvement in symptoms and in the range of motion. There was also no episode of re-dislocation within the follow up period of two years.

Conclusion: Open reduction and the Bristow Laterjet procedure is an effective way of managing the neglected shoulder dislocation.

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INTRODUCTION

Anterior shoulder dislocation is a disabling injury affecting all age groups, young and old alike; the shoulder being the most commonly dislocated joint in the human body.¹ Rowe² in his study noted that shoulder dislocation occurs more frequently than all other dislocations put together. Although the relocation of an acute shoulder dislocation is straight forward via a variety of maneuvers, the neglected shoulder dislocation is usually difficult to manage, often requiring extensive surgical procedures to obtain a good functional outcome.³ Although an acute shoulder dislocation is rarely missed because of its typical presentation, neglected shoulder dislocation may occur in unconscious patients (with indirect trauma such as seizures, electrocution) where dislocation are missed, or due to inadequate treatment (failed reduction) as is common in low

income countries where patients are managed by untrained medical staff.⁴

Neglected shoulder dislocation usually presents with gross limitation of shoulder function, with associated changes in bony and soft tissue architecture of the shoulder joint⁵. Though neglected shoulder dislocation is often applied to conditions where the shoulder joint remains unreduced for 4 weeks⁶, several authors have described neglected dislocation with a varying amount of duration at presentation.

Postacchini et al⁷ reported five cases of neglected shoulder dislocation, with 6 weeks as their longest duration of dislocation. Rowe and Zarin⁸ reported 8 patients with neglected anterior shoulder dislocation, with 7 patients presenting at 3 weeks to 2 years interval, and one patient presenting at 10years duration. Mancini et al⁹ reported a case with a 24-year history of neglected shoulder dislocation.

A Hill-Sachs lesion is a bony defect on the posterolateral aspect of the humeral head¹⁰. Though it is often linked with a recurrent dislocation of the shoulder joint, it has been demonstrated in 67-93% of first time anterior dislocation of the shoulder joint¹⁰. It typically occurs when the humeral head is pushed anteriorly into contact with the dense anterior glenoid causing a compression fracture along the posterolateral aspect of the humeral head¹¹. The Hill-Sachs lesion usually varies in both depth, width and its orientation, and has been classified by Calendra et al¹², who used arthroscopy to measure and grade the depth of the lesion.

Burkhart and De Beer¹³ classified Hill-Sachs lesion into engaging and non-engaging lesion. Engaging Hill-Sachs lesion was described as a reproduction of symptoms / dislocation when the shoulder was placed in a functional position of abduction and external rotation; and a non-engaging lesion describing non-reproduction of symptoms/ dislocation at this position¹⁴. Hill-Sachs lesion usually does not occur as an isolated injury, and may be associated with a fracture, a glenoid osseous defect or a capsulolabral tear.¹⁵

We present a case of a neglected anterior shoulder dislocation of five months following a pedestrian motorcycle road traffic accident, with marked functional limitation and pain in the left shoulder. Patient subsequently had a Bristow-Laterjet procedure.

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CASE PRESENTATION

A 26 year old right handed gentleman presented to our orthopaedic outpatient department with a 5 month history of deformity and pain of the left shoulder. He had sustained a passenger motorcycle road traffic accident and was managed by a traditional bone setter prior to presentation. On further evaluation, there was asymmetry of the left shoulder compared to the right shoulder. There was a palpable anterior globular swelling at the shoulder, with well defined margins which moved with the humerus. There was also an associated wasting of the deltoid muscle compared to the contra-lateral side. There was marked restriction in range of motion; with flexion of 30°, abduction of 25°, internal/ external rotation of 20° and 15° respectively.

A radiograph of the shoulder was taken which confirmed an anteriorly dislocated humeral head with a malunited fracture of the greater trochanter, a Hill-Sach's lesion and myositis ossificans (Fig A). A computed tomography scan was not done due to financial constraint. Patient had initially visited another orthopaedic facility where a conservative approach was commenced, with physiotherapy and analgesics without any clinical improvement.

There was no distal neurovascular deficit. Patient was counseled on the need for operative treatment and informed consent was obtained. Under general anaesthesia, open reduction via a delto-pectoral approach was done. The subscapularis and the joint capsule were incised near their attachment to the humeral head leaving a cuff of tissue for later repair.

The anteriorly dislocated humeral head was then visualized along with a malunited greater tuberosity fracture, and a Hill-Sach's lesion occupying 15% of the humeral head (Fig B). Reduction, though difficult was achieved by a partial skeletonization of the humeral head, and a longitudinal traction. On reduction, the Hill-Sach's lesion was not engaging the glenoid, but the shoulder joint was unstable with minimal attempt at external rotation. A Laterjet procedure (transfer of the coracoid process with its attached muscles to the antero-inferior margin of the glenoid and was thereafter fixed with K-wires). The malunited greater tuberosity fracture was left as it was. The joint capsule and subscapularis muscle were repaired by double breasting on the retained cuff of tissue. The wound bed was closed with a et al¹⁶, patients with a Hill-Sach's lesion involving less than 40% of the humeral head had an open reduction and a Laterjet procedure, without filling of

negative suction drain. Patient was immobilized in a cuff and collar sling for 3 weeks after which pendulum exercises were begun.

Post operative X-rays showed a reduced shoulder joint (Fig C). Passive abduction was started at 4 weeks, and active abduction was commenced at 10 weeks. At 6 months follow up, there were no complaints, and he had a functional range of motion of the affected shoulder (flexion: 110°, abduction: 100°, internal and external rotation: 25° and 30° respectively).

DISCUSSION

Management of neglected shoulder dislocation is difficult, often requiring extensive dissection in relocating the humeral head. Though non-operative treatment has traditionally been proposed for the management of neglected shoulder dislocation, surgical treatment is usually advocated for better functional outcome³. Though rare, neglected shoulder dislocation may be associated with a good functional range of motion. Essei et al¹⁴ reported a case of neglected anterior shoulder dislocation in a 35 year old lady with good functional range of motion. Our index patient had severe limitation in range of motion, and associated pain in the affected shoulder joint.

Closed reduction of neglected shoulder dislocation is often difficult; in a significant amount of patients, a pseudoglenoid cavity and a Hill-Sach's lesion is present making closed reduction virtually impossible and dangerous due to risk of fracture¹⁶. Several operative methods have been reported including open reduction (\pm Laterjet procedure), hemiarthroplasty, total shoulder and reverse shoulder replacements. Diklic et al¹⁷ reported improved range of motion and patient satisfaction in patients who had total shoulder replacement following neglected shoulder dislocation. However, open reduction with a Laterjet procedure presents a cheaper alternative in patients with neglected shoulder dislocation when compared with a hemiarthroplasty or total shoulder replacement. Neglected shoulder dislocation often presents with significant bony defects (Hill-Sach's lesion) which may be due to constant motion of the dislocated head against the anterior border of the glenoid. In a study by Grey

the defect, and obtained satisfactory outcome. In our index patient, the Hill-Sach's lesion involved only 15% of the humeral head, and had only an open

reduction/ Laterjet procedure with satisfactory outcome.

In conclusion; though a neglected anterior shoulder dislocation may occasionally be successfully managed with conservative treatment, however for the bulk of symptomatic patients, open reduction and a Laterjet procedure leads to a satisfactory outcome.

Fig A: Showing an old dislocation of the shoulder joint with a displaced greater tuberosity fracture



Fig C: Post operative radiograph



Fig B: Showing anteriorly dislocated humeral head, which has been partially skeletonized



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