

Case Report

Bilateral symmetrical anterior fracture dislocation of shoulder

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ABSTRACT

The incidence of simultaneous bilateral shoulder joint dislocation is rare and is almost always posterior usually caused by violent muscle contraction as in patients with seizure disorders or who experience electric shock or undergo electroconvulsive therapy. simultaneous bilateral fracture-dislocation is even rarer, with a few cases reported in the literature. We report an unusual case with dislocation of the both shoulder joints in anterior direction after a seizure episode. With symmetrical unifocal 2-part extraarticular vertical fracture of proximal end segment of humerus (11A3) both sides. Although there have been a few reports of bilateral symmetrical fracture dislocations of the shoulder in the past, an injury pattern resembling our case has, to the best of our knowledge, not been described in the literature so far. Our report describes regarding the mechanism of injury in a case of a bilateral symmetrical anterior fracture dislocation following a seizure episode that treated with open reduction internal fixation using proximal humerus internal locking system (PHILOS). At final follow-up, the patient had healed fractures, painless near normal range of motion.

Keywords: Symmetrical, Bilateral, Anterior fracture dislocation, Seizures

INTRODUCTION

The shoulder, by virtue of its anatomy and biomechanics, is one of the most unstable and frequently dislocated joints in the body, with a reported incidence of 17/100,000 per year.¹ Of the shoulder dislocations, 96% are anterior, 3% posterior and 1 % inferior.² anterior shoulder dislocation is the most common major joint dislocation and 15% are associated with fracture of the greater tuberosity.³

The incidence of bilateral shoulder joint dislocation is rare, is almost always posterior and is usually caused by sports injuries, epileptic seizures, electrical shock, or electroconvulsive therapy.⁴ However, simultaneous bilateral anterior shoulder dislocation is rare: only about 30 cases have been described in the literature. Bilateral fracture-dislocation is even rarer, with very few cases reported in the literature.³ In almost all cases, the associated fracture was a 2-part fracture majority with greater tuberosity fracture. We report a rare case of bilateral anterior dislocation of the shoulders with

symmetrical 2-part vertical fracture (11A3) of the proximal humerus.

CASE REPORT

A 35 years old female patient presented in emergency department with bilateral externally rotated deformed proximal arms, hollowness below the acromion process on either side and flattening of the normal contour of the shoulders. There was a history of seizure attack which followed by fall from height of about four to five feet's from sitting to leaning forward and landed on both flexed elbow with abducted and external rotated arms. patient was taken to nearby local hospital and primary treated with anticonvulsant and analgesics.

Radiological examination revealed anterior fracture dislocation bilateral shoulder with symmetrical, 2-part, extraarticular, vertical fracture of proximal end segment dislocated anteriorly sub-coracoid. Radiograph antero-posterior (AP) and axial view (Figure 1 and 2).

Both the dislocations were promptly attempted to reduce by closed manipulation in the emergency department and post-reduction radiographs showed persistent dislocations but decreased displacement of both the vertical fracture line. Radiograph AP view (Figure 3 and 4).

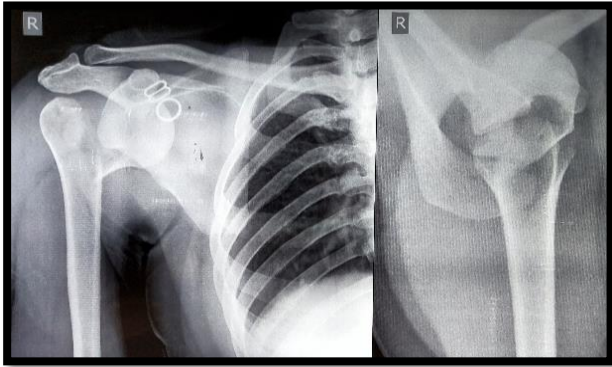


Figure 1: Radiograph AP and axial view of right shoulder.

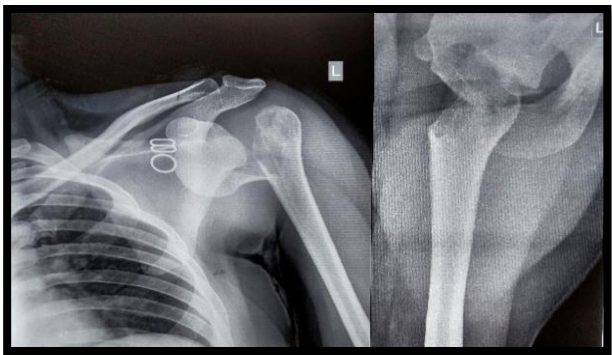


Figure 2: Radiograph AP and axial view of Left shoulder.



Figure 3: Radiograph AP view of right shoulder.

After preoperative workup, preanesthetic check-up, physician consultation and informed and written consent, patient was taken up for surgery open reduction internal fixation through a deltopectoral approach using proximal

humerus internal locking system (PHILOS) plating bilaterally in the same sitting radiograph AP view (Figure 5 and 6).

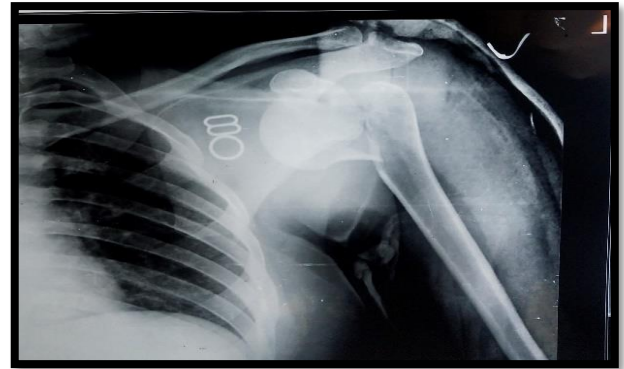


Figure 4: Radiograph AP view of left shoulder.



Figure 5: Postoperative radiograph AP view of right shoulder.

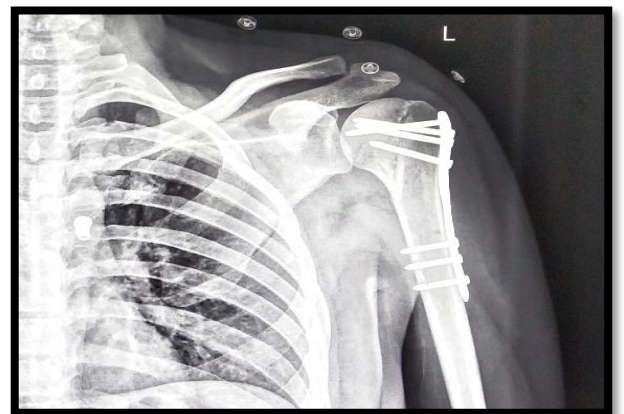


Figure 6: Postoperative radiograph AP view of left shoulder.

Post-operatively both the shoulders were immobilized by shoulder immobilizers for three weeks. Physical therapy was started as tolerated by the patient at four weeks. She was able to resume her daily activities by six weeks.

DISCUSSION

In our case simultaneous bilateral symmetric anterior dislocation of the shoulders with vertical fracture of proximal end segment of humerus. Although there have been a few reports of bilateral symmetric fracture dislocation of the shoulder in the past, an injury pattern resembling our case has not been described in the literature, to the best of our knowledge.⁵

In cases with anterior dislocation after a seizure episode, most authors believe that the mechanism was due to fall in an unconscious state with the flail upper limb held in abduction and extension at the shoulder, causing impingement of the greater tuberosity on the acromion process, levering the humeral head out of glenoid. Further, the humeral head is pushed downward by the rotator cuff, which is finally displaced anteriorly by the flexors and external rotators. Whether the anterior dislocation in a case of involuntary muscle contractions as in seizures is caused by trauma after fall or due to muscular forces still needs to be evaluated as there have been reports in which forceful muscular contractions without any history of fall have led to anterior dislocation.⁶ Thus, in any case of shoulder dislocation after involuntary muscular spasm, a specific history of fall and mechanism of injury must be sought to ascertain the cause of injury. Moreover, there is a need for a detailed study of such cases to define the actual mechanism of anterior dislocation.

Two-part proximal end segment of humerus fractures with displacement do poorly with nonoperative treatment. Close reduction and percutaneous pinning have been reported to be successful in fractures that are reducible and are not comminuted. Irreducible fractures, widely displaced fractures, fractures with comminution are stabilized with a locked-plate construct. Improved

proximal fixation of these internal locking system has increased stability and minimise the postoperative immobilisation. In the present case, open reduction and internal fixation of both sides were performed using PHILOS. The patient achieved satisfactory outcome at follow up at 3 months. There is no conflict of interest and no financial assistance was received for this study and report.

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Ethical approval: Not required

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