

Bilateral Posterior Fracture Dislocation of Shoulder.

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ABSTRACT

Posterior dislocation of shoulder is relatively uncommon entity. Posterior fracture dislocation of shoulder is even rare and bilateral posterior fracture dislocation of shoulder is even rarest entity. We present a case of 45 years of adult male having bilateral posterior fracture dislocation of shoulder following convulsive seizure and treated with open reduction and internal fixation with satisfactory functional outcome.

INTRODUCTION

Though shoulder dislocation is relatively common joint dislocation, posterior dislocation of shoulder is uncommon, accounting for about 2% of all dislocations¹. Even less common is the posterior fracture dislocation of shoulder. Bilateral fracture dislocation of shoulder is rarest form of presentation which occurs in relatively young middle aged group of predominant male patients and caused by seizures or electric shock². Only a few cases have been reported in the literature so far justifying the case report.

We report a case of 45 year old adult male having bilateral posterior fracture dislocation of shoulder after an episode of convulsive seizure, early diagnosis with radiology with bilateral open reduction and internal fixation produced satisfactory result in this patient.

CASE REPORT

45 year old adult male working in a private sector as supervisor had an isolated first episode of convulsive seizure witnessed by his wife at market place followed by which he was unable to move both upper limbs even after regaining consciousness from convulsion within 1-2 minutes. He was brought to emergency department for inability to move both upper limbs with severe pain at both shoulders.

Both of his upper limbs were in adducted and internal rotation. X rays were taken and he was diagnosed to have bilateral posterior fracture dislocation without neurovascular deficit. The diagnosis was confirmed with 3D CT scan. The left shoulder was having posterior fracture dislocation with greater tuberosity fragment with undisplaced fracture of surgical neck humerus and

the right shoulder was having head splitting posterior fracture dislocation. He was investigated for 2 days for possible intracranial condition for development of seizures after which he was operated for both shoulders at same sitting under general anaesthesia. Right shoulder was operated first with open reduction through deltopectoral approach and fixed with conventional proximal humeral plate and k wires with tension band wiring for greater tuberosity fragment. The left side was also approached by deltopectoral approach and fixed with k wires with tension band wiring.

Both shoulders were immobilized with universal shoulder immobilizer. Both shoulders' total sutures were removed by 10th day postoperatively. Both shoulders were immobilized for 3 weeks with continued passive physiotherapy. After 3 weeks, passive with active shoulder mobilization and assisted shoulder mobilization started. After follow up of 8 months, patient has satisfactory functional outcome as per Neer assessment system with back to preinjury occupation.

DISCUSSION & REVIEW OF LITERATURE.

Posterior dislocation of shoulder is uncommon representing about 1.7 to 4.3 percent of total joint dislocation². Posterior fracture dislocation is even rare³ but important group of proximal humeral fractures,

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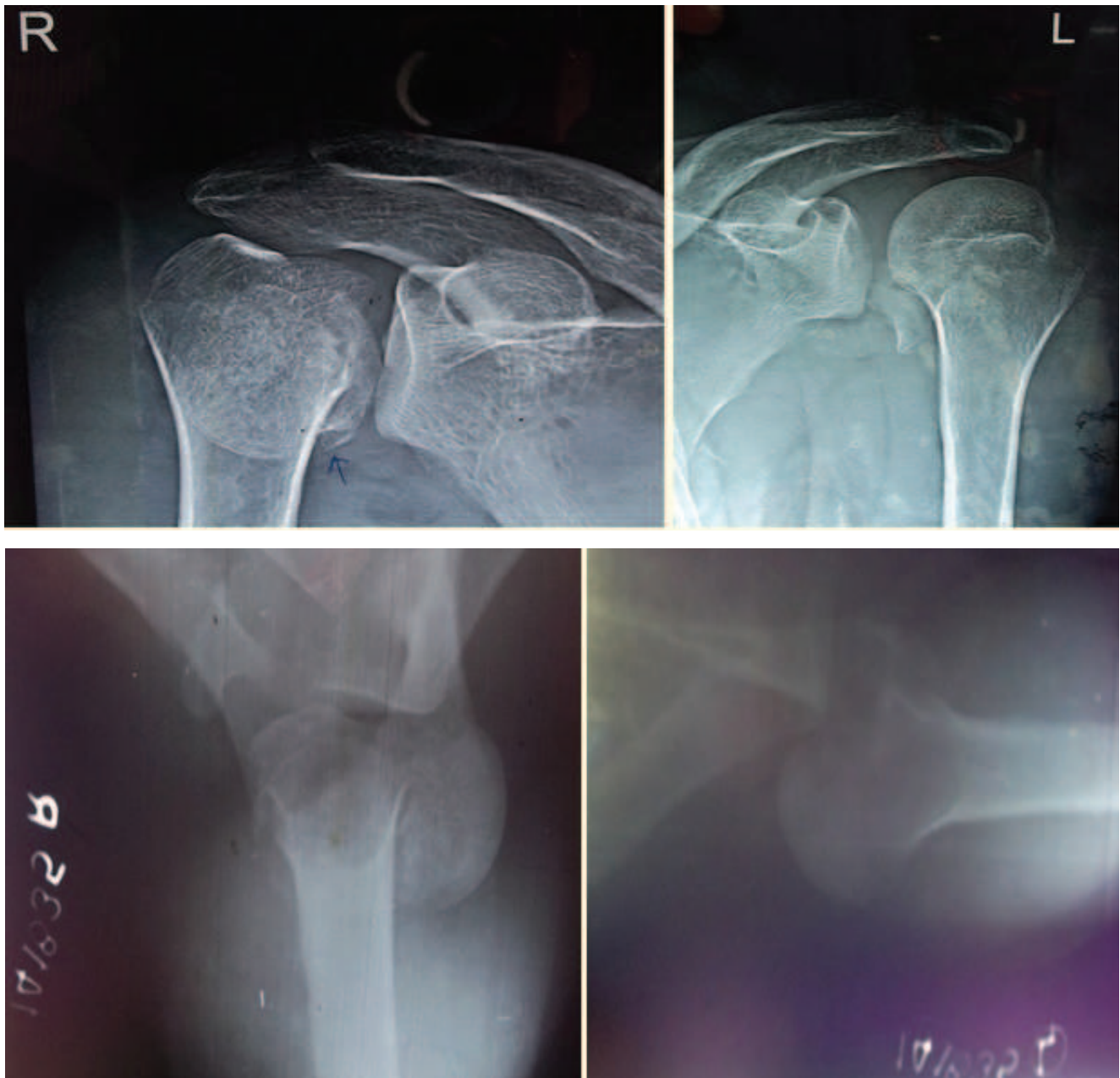


Figure 1. AP and Axillary Lateral view of both the shoulders.

which occur in a relatively young, middle aged group of predominantly male patients. This injury may be bilateral when it is usually preceded by seizure⁴. Neer reviewing about 1500 proximal humeral fractures and dislocations, noted 14 posterior fracture dislocation (0.9%)².

Convulsion is the single most common cause of posterior fracture dislocation of shoulder². Of all case reported in literature, majority of cases are because of convulsions. Clinical findings include internal rotation of shoulder with external rotation not possible. Flattening of anterior aspect of shoulder with prominent coracoid and prominence over the back of the shoulder are also noted⁴. The peripheral neurovascular compromise is

rare but can occur in the form of axillary or median nerve injury⁵. However C. Martens et al. has reported median nerve injury in their case of bilateral posterior fracture dislocation of shoulder⁵. The cause of bilateral fracture dislocation of shoulder could be from 'Triple E syndrome' (epilepsy, electrocution,

xtensive vehicular accident)³. Only 2 cases have been reported of bilateral anterior fracture dislocation of shoulder following grand mal epilepsy⁵.

The mechanism of injury has been described by Shaw in 1971^{1,6}. For posterior fracture dislocation, the shoulder is usually in flexion, adduction and internal rotation when an axial load is applied and

humeral head is forced superiorly and posteriorly over the glenoidal edge^{1,4}.with this mechanism all muscles about the joint are contracted, the external rotators of the shoulder can overpower the internal rotators to cause posterior dislocation⁴. With posterior shoulder fracture dislocations, the defects are created on the anteromedial aspect of the humeral head and are known as reverse Hill Sach's lesion in the region of anatomical neck^{1,2,4,5}. This mechanism is suggested by autopsy and operative findings in posterior dislocation by McLaughlin, Cooper and Moullin and Keith². With further force of convulsion, the glenoid shears off the humeral head with associated avulsion of tuberosity caused by spasm of subscapularis and infraspinatus. Further comminution is created by contraction of humeral shaft muscles (biceps, coracobrachialis, deltoid) to force the shaft against the acromion¹⁻³.

difficult to perform as patient shoulder requires to be abducted which is very painful for the patient in acute condition. The 3 Dimensional Computed Tomography Scan is essential preoperatively to diagnose and plan the treatment options for the patient. Computed Tomography is helpful for presence of humeral defect, the size of each fragment³.

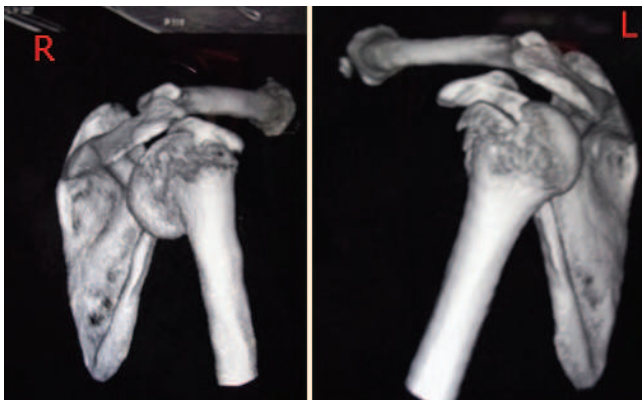


Figure 2. Preoperative CT Scan

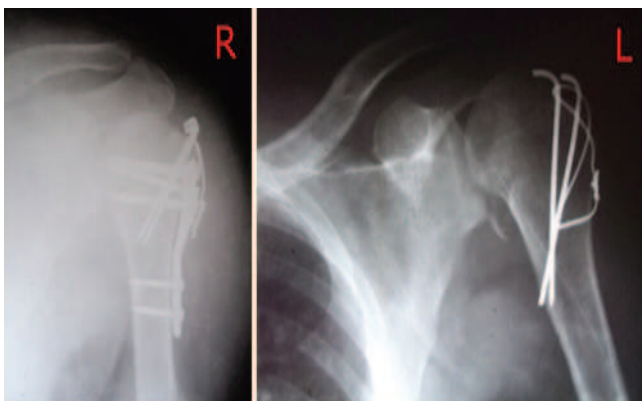


Figure 3. Immediate Postoperative X-Ray

nitially anteroposterior shoulder view and axillary view is essential for the diagnosis of posterior fracture dislocation of shoulder. However, the axillary view is



Figure 4. X-Ray at Final Followup

There are several treatment options for the bilateral posterior fracture dislocation of shoulder: closed reduction, open reduction and internal fixation, hemi replacement Arthroplasty, total shoulder Arthroplasty, McLaughlin or modification of such procedure³. The optimal treatment option for the patient depend on multiple factors like patient's age, occupation status, type of fracture dislocation (two part, three part or four part), chances of avascular necrosis of humeral head³.

In the view of literature, closed reduction is not feasible for posterior fracture dislocation. Many reports suggest open reduction and internal fixation or hemiarthroplasty for such condition. As per literature both the treatment options reveal good to satisfactory results using Neer scoring system⁶. Open reduction and internal fixation is good method of treating such patients of economically active life with satisfactory functional outcome⁷ as in our case.

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