

Neglected Bilateral Anterior Fracture Dislocation Shoulder : A Rare Case Report.

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Abstract : Bilateral anterior shoulder dislocations of the humeral head are uncommon injuries. . Even more infrequently reported are bilateral shoulder fracture-dislocations . When a systemic insult, such as a seizure, causes bilateral dislocations of the glenohumeral joint, the diagnosis of a musculoskeletal injury can be delayed, as treatment of the overlying condition is given priority. Historically, many terms have been used to characterize delayed presentation of a shoulder dislocation: missed, undiagnosed, unrecognized, unreduced, neglected, old, locked and chronic. Rowe and Zarins considered any dislocation with a delayed reduction of at least 3 weeks to be chronic. In the present report, we use such a delay to define chronic, bilateral, neglected anterior shoulder dislocations with bilateral greater tuberosity fractures. To our knowledge, this is the fifth reported case of bilateral Open Reduction and Internal Fixation (ORIF) for such an injury. To study the outcome of a neglected bilateral anterior shoulder dislocation treated by open reduction and K-wire fixation in a staged manner. We report a case of neglected bilateral anterior shoulder dislocation, 4 months old in a 35 years old male who presented to our institution due to trauma and who has been treated with open reduction in a staged manner and followed up for outcome. **Conclusion:** Neglected bilateral anterior fracture - shoulder dislocation is a very uncommon condition and has to be managed as early as possible. From our short term followup there is clear difference between acutely treated bilateral anterior dislocations and those managed after delayed presentation. Long term follow up is necessary to identify the development of avascular necrosis of humeral head and for further improvement in range of motion.

INTRODUCTION

The glenohumeral joint is the most frequently dislocated joint in the body^{6,7}, with 95% of dislocations being anterior, 4% posterior and rare variety of inferior dislocation (luxatio erecta) seen in 0.5% of cases². However bilateral dislocation of glenohumeral joint are relatively rare with most being posterior and bilateral anterior fracture dislocation is very rare^{1,2,6,7,8}.

Electrocution, epilepsy and electro convulsive therapy (Triple 'E' Syndromes) are frequent modes of injury in bilateral dislocation^{5,7,9}.

We report a case of neglected bilateral anterior fracture dislocation in a 30 years old male due to trauma without neurovascular deficit. Through our report we emphasize the importance of thorough physical examination of patient presenting with trivial trauma. We also review in detail the literature related to the subject and discuss management options in such patients.

CASE REPORT

A 30 years old male, right hand dominant presented to our clinic 4 months after the fall from the top of a Lorry due to epileptic attack, for the first time. He landed on the ground on his outstretched hand with both arms in abducted and externally rotated position. After the incident the patient had pain in both shoulders and was not able to abduct, flex or extend his shoulder joint. He underwent native treatment for this ailment from native bone setters.

At presentation left upperlimb was abducted and externally rotated and had a very few degrees of movements at shoulder joint The right limb was fixed in abducted and externally rotated position with no movements. No neurovascular deficit in both upper limbs and squaring of both shoulder joints was present fig.1. The Dugas test was positive in both shoulder joints.

The radiograph revealed bilateral anterior shoulder dislocation with fracture of greater tuberosity. The greater tuberosity fragments had begun to heal on both sides. (fig.2)

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Fig 1: Demonstrates Squaring Of Shoulders And Dugas Test Positive Both Sides



Fig 2: Shoulder X Ray



FIG 3: CT AXIAL CUTS

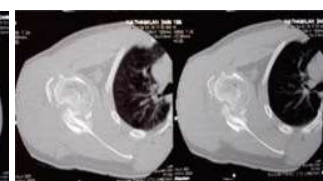


FIG 4: CT AXIAL CUTS



FIG 5: CT 3D RECONSTRUCTION



FIG 6: RIGHT SHOULDER AP VIEW

CT Scan confirmed bilateral anterior dislocation with greater tuberosity fracture.

Open reduction of the anterior dislocation and internal fixation of greater tuberosity fragments was done in a staged manner. There was an interval of 3 weeks between the two shoulders, right shoulder being operated first followed by left shoulder.

Both the shoulders were approached by deltopectoral approach. Humeral head was found

dislocated anteriorly and subdeltoid position on both sides. Joint capsule was contracted and glenoid cavity was filled with fibrous tissue, which were excised and head reduced after sustained traction. The shoulder joints were stabilized with K-wires after reduction. On left side HA-ERI-CHARI'S (Modified Boytchev) procedure of osteotomising the coracoid process and rerouting behind the subscapularis along with the conjoint muscles and refixing the coracoid with the cancellous screw was done¹².

The greater tuberosity fracture on the right side was found consolidated and hence not fixed with K-wire, while the left was fixed with K-wire. Both shoulder joints were maintained in reduced position by a 'K' wire passing from glenoid to humeral head. Joint capsule was sutured and would closed in layers. Sutures were removed after 12 days.

POST OPERATIVE X-RAY

Post operatively the arms were supported in a shoulder immobilizer. The K-wires were removed after 3 weeks. At 4 weeks pendulum exercises were begun. Active and passive shoulder joint movements were also started and continued within range of motion.

The patient was followed up every month for first two months and every 2 months later. At the last follow up after 6 months both the shoulder joints were painless and range of movements were about 60° Abduction, 50° Flexion, 20° Extension, 30° External Rotation. The range of motion had improved than at the first presentation. The patient is being followed up for further improvements.

DISCUSSION

Anterior dislocations of shoulder joints are common unilaterally while posterior dislocations are common bilaterally. Bilateral anterior dislocation of shoulder joint is an uncommon entity^{1,4,9}. Unlike posterior dislocations anterior dislocations occur more commonly following trauma. The mechanism of anterior dislocation as in our case is forced abduction, extension and external rotation of arm^{1,6}. Greater tuberosity fractures are associated with 10% of cases^{9,10}. In literature, chronic bilateral anterior dislocations with associated greater tuberosity fracture have been seldom reported^{3,7}. To our knowledge, we have found five reported cases of this kind of injury³.

Ours is the sixth case to be reported and 2nd case with trauma as etiology. This is also the second reported case for which open reduction and internal fixation has been done for such a injury.

Table 1 : Profile of the present case compared with others reported in literature

Title	Year of publication	Aetiology of injury	Age/sex	Procedure
CarewMcColl	1980	Electrocution	78/F	OR
Salem	1983	Electrocution	37/M	OR
Thomas & Graham	1996	Trauma/fall	65/F	Shoulder hemiarthroplasty
Yadav	1977	Seizure	56/M	Benign neglect
SethD.Dodds	2008	Seizure	27/M	ORIF
Present case	2014	Trauma/Fall	30/M	ORIF

OR – Open reduction

ORIF – Open reduction and internal fixation

In a case report of Martens and Russel regarding anterior shoulder dislocations 23 of 41 reported cases were caused by trauma and only 14 were caused by seizure or hypoglycemia³.

Salem et al reported similar cases diagnosed 9 weeks after electrocution and was treated with bilateral ORIF without internal fixation of fracture. After 10 years of follow-up he had full range of motion in right shoulder and mildly limited range of motion in left shoulder³.

Thomas and Graham treated a similar injury in a 65 years old women diagnosed after 8 months with bilateral hemiarthroplasty due to osteoporosis. In our case considering the young age of patient and good bone quality ORIF was done, instead of hemiarthroplasty³.

In young patients, shoulder hemiarthroplasty is not without risk for wear and deteriorating function. In addition there are reports of revascularization in patients treated operatively³.

In our case, there was fracture of bilateral greater tuberosity with displacement of around 3mm on right side and 7 mm on the left side. Greater tuberosity fracture on right side was consolidated intraoperatively so fixation was not done, while the left side greater tuberosity was reduced and fixed with three K – wires.

CONCLUSION

Neglected bilateral anterior fracture dislocation of shoulder is a very uncommon condition. Those with bilateral greater tuberosity fractures are still more rare with very few cases being reported and has to be managed as early as possible. The procedure of choice is open reduction and internal fixation. From our short term followup there is clear difference between acutely treated anterior dislocations and those managed after delayed presentation.

To the best of our knowledge, only five cases has been reported till date, and ours is sixth case report. This review demonstrates the need for an accurate history taking, clinical examination and imaging. Classical rehabilitation with progressive passive and active physiotherapy of both shoulders is mandatory. Internal rotators (anterior dislocation) and external rotators (posterior dislocation) have to be strengthened at the same time to prevent recurrent dislocation.

In long term we need to follow up for detecting development of AVN of humeral head and for further improvement in range of motion³.

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