Neglected Traumatic Bilateral Anterior Fracture Dislocation of the Shoulder: A Case Report

Dr Anil Kumar Joshi[1], Dr Narender Rohilla[2], Dr Dharmendra Singh[3], Dr. Vivek Trikha[4]

ABSTRACT

Introduction: Traumatic bilateral anterior dislocation is rare as the mechanism to produce such injury is unusual. Dislocation of shoulder is almost always posterior.

Case Report: We present a 43 years schizophrenic old man presented to our centre with bilateral anterior fracture dislocation of the shoulders with displaced Neer's 3-part fracture of the proximal humerus on right side and a 4-part fracture on the left side. The patient was treated by delto- pectoral approach using plating bilaterally. The follow up at 1 year was a reasonably good range of movements.

Conclusion: Open reduction and internal fixation by PHILOS (Proximal humerus interlocking osteosynthesis) preferred in 3 or 4 part displaced fractures presenting late.

Key words: Anterior fracture dislocation of the shoulder, Schizophrenia, Traumatic

[1]Associate professor,VCSGG Medical Colleges and Research Institute, Srinagar, Pauri Garhwal, Uttarakhand, India.

[2] Consultant, Fortis hospital, New Delhi, India.

[3]Consultant Spine surgeon, Medanta, The Medicity, Gurgaon, Haryana, India

[4]Additional Professor, JPNATC, AIIMS New Delhi, India

Corresponding author mail: aniljoshi11@gmail.com

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Study Centre: The case report was designed and reported in J.P.N.A. Trauma Centre, All India Institute of Medical Sciences, New Delhi, India.

Conflict of interest: None

INTRODUCTION

The shoulder is most commonly dislocated joint in the body accounting for 85% of all dislocations. 95% dislocations of shoulder are anterior; 10% of these are associated with greater tuberosity fracture. Bilateral anterior dislocation after injury however is rare as the mechanism to produce such

injury is unusual [1] and dislocation of shoulder is almost always posterior. Such dislocations are usually caused by the violent muscle contraction in-patient with seizure disorders or who experiences electric shock or undergoes electroconvulsive therapy [(2-4)]. Anterior fracture dislocation is very rare moreover bilateral anterior fracture dislocation is even rarer. Most of the cases reported in the literature were 2 part fracture [5] .We report a case of bilateral anterior traumatic dislocation of the shoulder with right sided 3 part fracture and left sided 4 part fracture of proximal humerus operated bilaterally with PHILOS (Proximal humerus interlocking osteosynthesis) plate. To the best of our knowledge, this is the first case report of such condition.

CASE REPORT

A 43 years schizophrenic old man presented to J.P.N.A. Trauma Centre, All India Institute of Medical Sciences, New Delhi, India in June 2007 with pain and restriction of movements of both shoulders. The patient with low socioeconomic status had history of third person hallucinations, with someone calling him up on the roof. When he was up on the ladder he was frightened and fell back from a height of 10 feet on shoulders with abducted and externally rotated arm and elbow. He has a history of massage for 4 weeks with a bonesetter and then he presented to our department. His clinical examination was suggestive of bilateral anterior shoulder dislocation. He had altered sensations over his right lower deltoid region. However deltoid function was normal on both sides. The radiological examination revealed bilateral anterior dislocation of the shoulders with displaced 3-part fracture of the proximal humerus on right side and a 4 part fracture on the left side according to the classification described by Neer [6] (Figure1). Physical examination revealed "Squared Off" shoulders with fullness over the anterior aspect.

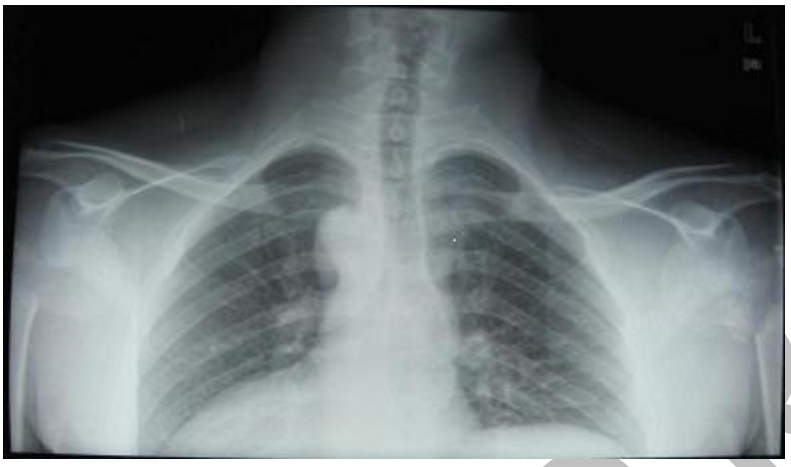

Figure 1: Bilateral anterior fracture- dislocation of the shoulders.

The patient was treated with open reduction and internal fixation by delto-pectoral approach using PHILOS plate bilaterally. Greater tuberosity was severely displaced and irreducible because of lot of fibrous tissue and soft callus. Till date, with our best knowledge no surgical procedure has been reported in 5-week-old fracture dislocation of anterior shoulder with severely displaced tuberosities and head. With our best surgical skills, we removed the fibrous tissue and released the soft tissue to reduce both the tuberosities to the possible anatomical reconstruction. The patient was kept on physiotherapy from the Ist postoperative day. The patient was asked to resume work 3 months after surgery. At 1 year follow up, the patient had an excellent and comfortable range of motion in both shoulders. The active range of motion in both shoulders was as follows:

Table-1

	Flexion	Abduction	Extension	External rotation	Internal rotation
Right Shoulder	0^0-110^0	0^0-100^0	0^0-20^0	0^0-20^0	0^0-35^0
Left Shoulder	0^0-100^0	0^0-95^0	0^0-20^0	0^0-20^0	0^0-30^0

Shoulder movements did not elicit any pain however the patient occasionally needed analgesics. Radiographs showed good fracture union with concentric joint (Figure 2,3).

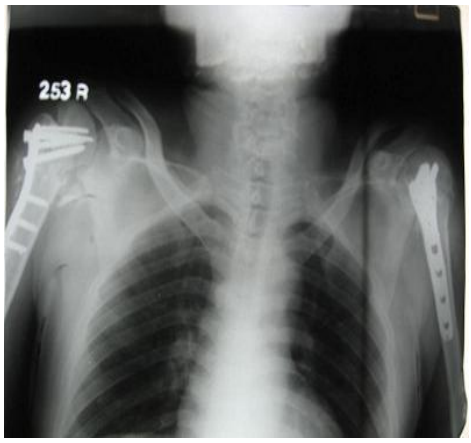

Figure 2: 1st preoperative day

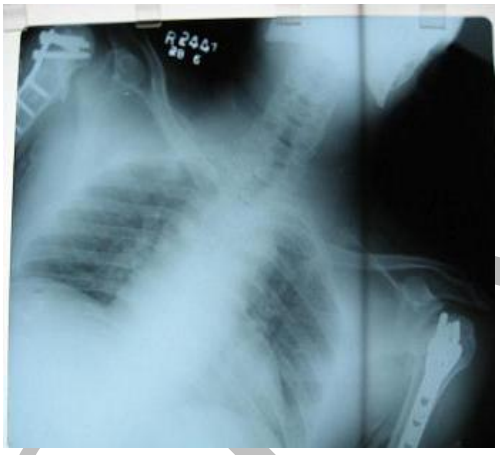

Figure 3: Follow up at 1 year with union

DISCUSSION

Bilateral posterior shoulder dislocation was first described in 1907 in a patient with muscular contraction caused by a camphor overdose. A review of literature revealed about 30 reports of bilateral anterior shoulder dislocation. Fifteen of which were fracture dislocation, mostly 2 parts. Most were due to violent trauma or electrocution; the remaining few were attributed to epilepticus or hypoglycemic seizures [7].

In our case the mechanism of injury was fall on shoulders with abducted and externally rotated arm and elbow. The mechanism of injury in anterior dislocation of shoulder is forced extension, abduction and external rotation. A direct blow to the posterior aspect of the shoulder or a sudden and violent contraction of muscles around the shoulder can result in anterior dislocation. Unilateral anterior dislocation of the shoulder is common because of the position naturally adopted by the upper extremity during a fall. However, bilateral occurrence is rare because in almost all instances our extremities take the brunt of the impact. Associated fracture of the greater tuberosity occurs in 15 % of the anterior dislocation cases and indicates an associated rotator cuff tear [8].

Three clinical factors are significantly associated with occurrence of fractures in such dislocation; age 40 yrs or older, Ist episode of dislocation and mechanism of injury. Age is associated with reduced bone mass, the Ist episode of dislocation signifies an intact ligamentous anatomy around the shoulder joint. Mechanism of Injury, such as a fall greater than one flight of stairs, a fight/ assault or a motor vehicle accident, are accordingly high energy trauma [9]. All the three factors present in this case (1st episode of dislocation and are 40 yrs or older & a high energy trauma).

Bilateral simultaneous traumatic anterior dislocation of the shoulder associated with a bilateral 3 or 4 part fracture of the proximal humerus is very rare with only 3 case reports available. In first report, a 49-year-old patient who had bilateral anterior dislocation of the shoulders with associated bilateral fractures of the proximal humerus. But the mechanism of injury was not clearly described. The fracture pattern was described as a Neer's type- 2 fracture on the right side and type-4 fracture on the left side. The right side was treated with open reduction and internal fixation, whereas the left side with Neer's hemi-replacement. The 2nd case was reported in 76 year old women with osteoporotic bones who fall in out stretched arms. She had anterior dislocation of both shoulders with a 3-part fracture of the right proximal humerus. The fracture through the surgical neck of the humerus was impacted. She was treated with closed reduction followed by immobilization, and the outcome was satisfactory. Third case was reported in a 42 year old male with bilateral simultaneous anterior dislocation of the shoulder and bilateral 3 part fracture of the proximal humerus presented to the department after 2 weeks of injury. He was treated by open reduction and internal fixation by multiple Kirschner wires with excellent results. Our patient was a middle-aged man with no pre-existing osteoporosis. Both humerus fractures were displaced suggestive of a high-energy trauma. Closed reduction was not possible because of skeletal discontinuity of bilateral head and shaft fragments and formation of soft callus and fibrous tissue in between. Open reduction and internal fixation were performed with PHILOS plate with excellent outcome with reasonably good range of movements (Figure 4, 5).

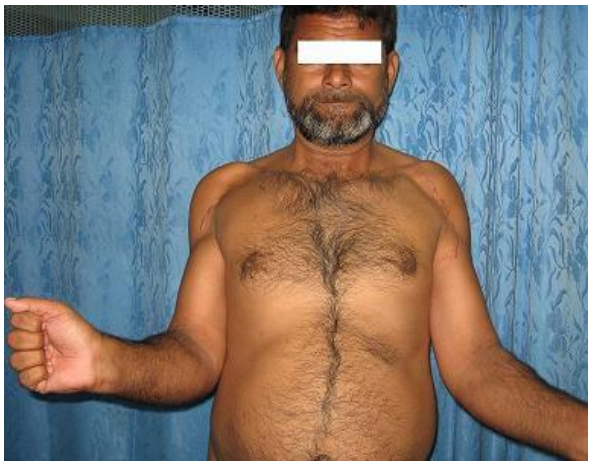


Figure 4, 5: Clinical photograph of patient showing range of movements.

CONCLUSION

Closed reduction is not possible in fracture dislocation because of skeletal discontinuity. Open reduction and internal fixation should be performed in patients with 3 or 4 part displaced fractures presenting late and PHILOS plate should be used in osteoporotic bone fractures. PHILOS plate application gives excellent outcome with reasonably good range of movements

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