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Dwidmuthe Samir C
Associate Professor, Department of Orthopaedics, NKP Salve IMS & Lata Mangeshkar Hospital DigDoh Hills Nagpur.

Anuj Goel,
Post graduate Resident, Department of Orthopaedics, NKP Salve IMS & Lata Mangeshkar Hospital DigDoh Hills

Utsav Agrawal
Post Graduate Resident, Department of Orthopaedics, NKP Salve IMS & Lata Mangeshkar Hospital DigDoh Hills Nagpur.

Vikram Sapre
Assistant Professor, Department of Orthopaedics, NKP Salve IMS & Lata Mangeshkar Hospital DigDoh Hills Nagpur.

Correspondence
Dwidmuthe Samir C
Department of Orthopaedics, NKPSIMS & LMH, Hingana Road, Nagpur, Maharashtra, India. 440022

Bilateral anterior fracture dislocation of shoulder joint- A rare presentation

Dwidmuthe Samir C, Anuj Goel, Utsav Agrawal, Vikram Sapre,

Abstract
Introduction- Bilateral anterior fracture dislocation of shoulder is a very rare injury. Bilateral anterior dislocation has been less commonly reported as compared to bilateral posterior dislocation of shoulder joint. We are reporting a rare case of bilateral anterior fracture dislocation of shoulder joint.
Case History- 34 year male presented with 10 days old injury to both shoulder following giddiness. He sustained two distinct impacts over the shoulder. Radiographs showed bilateral fracture dislocation of shoulder joint. Three part fracture on right side and two part fracture (Greater tuberosity) left side. He underwent open reduction and fixation for right shoulder and closed reduction followed by open fixation of greater tuberosity fracture.
Discussion- Bilateral anterior shoulder fracture dislocation is rarely reported as compared to posterior dislocation. These injuries are typically occurs with two separate impacts. Commonest mechanism of injury is trauma unlike posterior dislocation. These injuries need prompt reduction of joint and appropriate management of associated fracture for good post-operative outcome.
Conclusion/clinical message- Although rare bilateral anterior fracture dislocation needs urgent reduction followed by fixation of associated humerus fracture.

Keywords: Anterior dislocation, Fracture.

1. Introduction
Fracture dislocation of shoulder joint is a less common injury and very few cases of bilateral anterior fracture dislocation of shoulder joint have reported in literature. Humerus proximal end fractures constitute 45% of the humerus fractures. Humerus proximal end fractures are encountered at the rates of 4-5% in the extremity fractures. Fractures of proximal humerus associated with dislocation are classified as type V by Neer [1]. Bilateral anterior dislocations are thought to be very rare. Fracture-dislocation of the proximal humerus is typically associated with epilepsy, electrocution or extreme trauma, the so-called “Triple E” syndrome coined by Brackstone [2]. There are few reports of bilateral anterior shoulder dislocation. Association with humeral fracture with dislocation is less commonly reported. We present a case of 34 year old male who had a history of fall with bilateral 2 part fracture humerus fracture with bilateral anterior shoulder dislocations who was treated with open reduction and internal fixation for both the sides.

2. Case history: A 34 year old patient came with complain of pain and inability to move both the shoulders. Patient had history of fall following an episode of giddiness sustaining injury to right shoulder 10 days back. Patient stood up and again fell on ground due to another episode of giddiness sustaining injury to left shoulder. Post trauma, patient was not able to move his both shoulder joints. There was no neurovascular deficit.
There were extensive bruises over both the shoulders. Radiographs showed 3 part Fracture surgical neck of humerus right side and 2 part fracture left side with greater tuberosity fracture with bilateral anterior shoulder dislocations.
Surgery was performed under general anaesthesia in beach chair position. Initially, closed reduction was attempted on right side but failed. The shoulder was opened by delto-pectoral approach (Figure 2). The humeral head was dislocated antero-inferiorly. Humeral head was relocated and stabilized to shaft with PHILOS PLATE (Figure 3). Left shoulder was reduced by manipulation and grater tuberosity fracture was open reduced and fixed with 4mm cannulated cancellous screw (Figure 4). Cuff and collar ling was given. Pendulum exercises were stated from day one to avoid stiffness

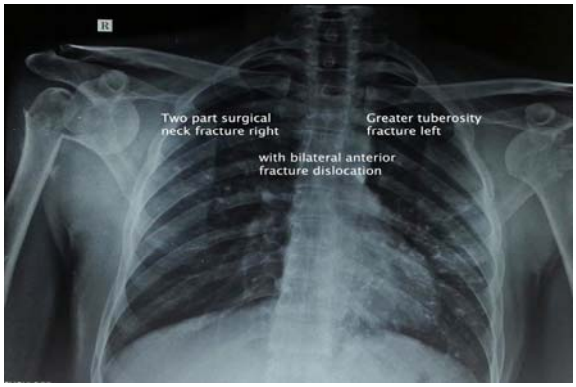

Fig 1: Radiograph showing bilateral fracture dislocation of shoulder joint

Fig 2: Post-operative clinical photograph.

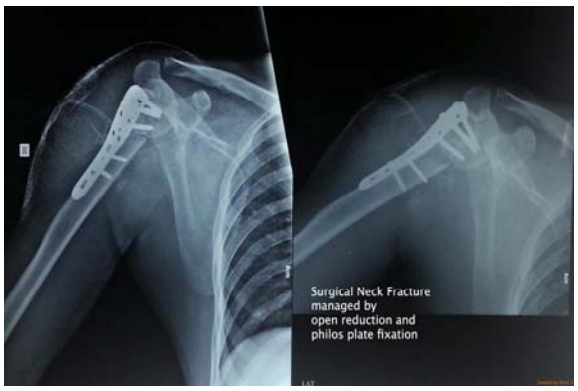

Fig 3: Three part fracture on right side fixed with plate.

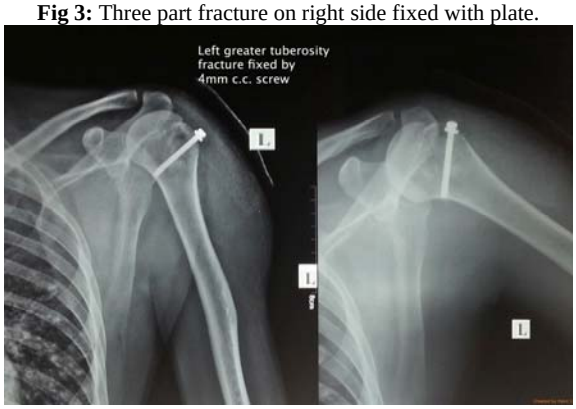

Fig 4: Greater tuberosity fracture on left side fixed with cancellous screw.

Sutures were removed on day 10. Active assisted abduction and external rotation was started after 2 weeks. Both the fractures united at 3 months. The abduction (90 degree) and external rotation (20degree) were regained on right side. Left shoulder he regained almost complete range of motion without any evidence of recurrent anterior instability.

3. Discussion

Bilateral shoulder dislocation was first described in 1902 in patients in whom excessive muscular contractions occurred as a result of Camphor overdose. Posterior shoulder dislocations usually occur following unbalanced muscle contractions (electric shock, epileptic seizure etc) [3, 4]. The reason why the shoulder dislocates anteriorly after trauma is that as the arm extends and abducts impingement of the greater tuberosity on the acromion levers the humeral head out of the glenoid [1]. Moreover the rotator cuff pushes downwards the humeral head which is finally displaced anteriorly by the flexors and external rotators. The posterior dislocations are more common after seizure since the contraction of the relatively weak external rotators and the posterior fibres of the deltoid are overcome by the more powerful internal rotator. The succeeding adduction and internal rotation usually causes the humeral head to dislocate posteriorly [4]. One suggestion about bilateral anterior dislocation following a seizure is that this may occur not during the muscle contractions but from the trauma of the shoulders striking the floor, after the collapse[4]. Bilateral occurrence of anterior shoulder dislocation is rare because almost always one extremity takes the brunt of the impact during the traumatic episode [3, 4].

Dinopoulos *et al*. in 1999 found that only 28 cases had been reported since 1966 [5]. With the ever increasing availability of publications, a further search revealed another 17 patients reported from 1999 to 2002 [5-8]. This would suggest that bilateral anterior shoulder dislocation is perhaps not as rare as previously thought. Unlike the posterior dislocations, the anterior dislocations occurred more commonly following trauma rather than seizures. Of note is that of the 44 cases reported, five were diagnosed late [8]. Bilateral anterior dislocations associated with fractures of proximal humerus have been less frequently reported [5, 9, 10, 11].

The mode of trauma in described in such injury was reported to be seizures, fall from stairs, motor vehicle accident, and industrial accident [5]. Literature suggests that some of the patients with bilateral anterior fracture dislocation have been treated initially by closed reduction and immobilization without due attention towards the fracture which was diagnosed late [5]. The method of surgical management ranged from reduction and immobilisation in minimally displaced fractures to fixation using multiple k-wires and open reduction and plate osteo-synthesis.

Associated fracture of the greater tuberosity occurs in 15% of the anterior dislocation cases and indicates an associated rotator cuff tear [12, 13]. If the greater tuberosity fracture is displaced the diagnosis of a rotator cuff tear is almost certain. This may cause long term instability and functional impairment if the fragment is not anatomically reduced. Thus internal fixation after the reduction must be the rule in cases with more than 5 mm displacement. In one case tuberosity was fractured on one side and full thickness rotator cuff tear on another side [14]. These rare injuries are often associated with neural complication and rarely with vascular compromise [16, 17]. Neural injuries vary from axillary nerve injury to brachial plexus injury [17]. Some these fractures have been missed during initial closed reduction and resulted into compromised shoulder function [18]. Late presentation in some cases required open reduction of dislocation [18].

4. Conclusion

This report suggests that bilateral anterior fracture dislocation of shoulder joint is a rare injury with not many reported cases in literature. Inability to diagnose a fracture associated with anterior dislocation at presentation is not uncommon. Prompt diagnosis and appropriate management leads to a satisfactory outcome with regaining of functional and acceptable range of motion.

5. References

1. Neer CS. Displaced proximal humeral fractures. J Bone Joint Surg [Am] 1970; 2:1077-1089.
2. Brackstone M1, Patterson SD, Kertesz A. Triple "E" syndrome: bilateral locked posterior fracture dislocation of the shoulders. Neurology. 2001 May 22;56(10):1403-4
3. Gazdzik T. A case of bilateral shoulder dislocation in a patient with Felty's syndrome. Chirurgia Narzadow Ruchui Ortopedia Polska 1996; 61:531-533.
4. Connor-Read L, Bloch B, Brownlow H: A missed orthopaedic injury following a seizure: a case report. J Med Case Reports 2007, 10(1):20.
5. Dinopoulos HT, Giannoudis PV, Smith RM *et al*. Bilateral anterior shoulder fracture-dislocation. A case report and a review of the literature. Int Orthop 1999, 23(2):128-130.
6. Ribbans WJ. Bilateral anterior dislocation of the shoulder following a grand-mal convulsion. Brit. J. Clin. Practice, 1989; 43:181-182.
7. Tanzman M, Segev Z, Kaufman B. Missed bilateral anterior dislocation of the shoulder following convulsions. Harefuah, 1983; 105:266.
8. Lal M, Yadav RS, Prakash V. Bilateral anterior fracture dislocation shoulder – two case reports. Indian J Med Sci 1992; 46:209-210
9. Gynning JB, Hansen HS. Bilateral anterior shoulder luxation – an overlooked case. Ugeskrift for Laeger 1995; 157:2327-2328.
10. Salem MI. Bilateral anterior fracture-dislocation of the shoulder joints due to severe electric shock. Injury 1983; 14:361-3.
11. Sunku N, Kalaiah KG. Marulasidappa P. Gopinath. Greater Bilateral Anterior Fracture-Dislocation of Shoulder Joint. Journal of Orthopaedic Case Reports 2012; 2(4):7-9.
12. Dlimi F *et al.* Bilateral anterior shoulder dislocation with bilateral fractures of the greater tuberosity: A case report. Journal of Clinical Orthopaedics & Trauma 2012; 3(2):122-125.
13. Shetty SK, Mathias JM, Rai HR, Babu PN *et al.* Shoulder with fractures of the simultaneous bilateral anterior dislocation of the greater tuberosity following trauma- a case report. NUJHS 2014; 4(1):129-130.
14. Jarvela T, Salmela M. Bilateral anterior shoulder dislocation and fracture of the humeral neck combined with a large rotator cuff tear on the left side. Sicot Online Report E028. Apl, 2003.
15. Sonnenblick M, Nesher G, Dwolatzky T. Recurrent bilateral shoulder dislocation resulting from dyskinesia associated with dopaminergic stimulation therapy. Brit. J. Clin. Practice 1995; 49:222-223.
16. Noczynski L, Pawlowski A, Makowski Z, Lubowicz B. Bilateral anterior dislocation of the shoulder with vascular and neurologic sequelae. Chirurgia Narzadow Ruchu I Ortopedia Polska 1973; 38:31-33.
17. Lin CY, Chen SJ, Yu CT, Chang IL. Simultaneous bilateral anterior fracture dislocation of the shoulder with neurovascular injury: report of a case. Int Surg, 2007 92(2):89-92.
18. Ferkel RD, Hedly AK, Eckardt JJ. Anterior fracture dislocations of the shoulder. Pittfalls in treatments. J Trauma 1984; 24:363-367.