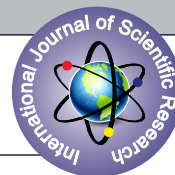


## SIMULTANEOUS BILATERAL ANTERIOR SHOULDER DISLOCATION: A RARE CASE REPORT



## Orthopedics

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## ABSTRACT

**Introduction:** Anterior dislocation of shoulder is most common dislocation found in orthopaedic emergency, but bilateral shoulder dislocation is rare and bilateral shoulder dislocations are mostly posterior, making the anterior one the extremely rare.

**Case Presentation:** We are representing a case of post traumatic (unbalanced backward fall in protective attitude with both arm abducted and externally rotated) bilateral anterior dislocation of shoulder in a 45 years old male.

**Conclusion:** Bilateral anterior dislocation can occur with unusual mechanism of injury. It needs proper evaluation to prevent missing diagnosis. Management remains the same as isolated dislocation. Early reduction and immobilisation followed by proper mobilisation resulted in good outcome. At the end of 3 months patient was able to perform activities of daily living.

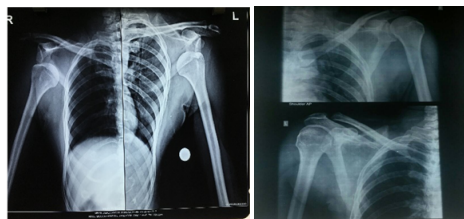
## KEYWORDS

Bilateral, Shoulder Dislocation, Anterior, Unbalanced fall

## INTRODUCTION

One of the common dislocation we witnessed in our orthopaedic emergency is shoulder dislocation, around 85% of all dislocation, out of which 96% is contributed by anterior dislocation followed by posterior, superior and inferior types. But bilateral shoulder dislocation is very rare unlike anterior one and they are mostly posterior, bilateral anterior dislocation is far rarer. It needs simultaneous synchronous force on both shoulder to occur bilateral shoulder dislocation, usually happens with seizure, electrocution or neuromuscular deficiency. It has been also reported in diving, in a weight lifter using the pull over bench movement with free weights, apart from trauma/fall. Usually seen in epileptic convulsion, where seizure causes violent muscle contraction leading to humeral head dislocation most commonly posterior. Bilateral anterior shoulder dislocation is rarer compared to posterior and rarely reported in literature. Bilateral anterior shoulder dislocation with fractures of the greater tuberosity has been reported, also described as bilateral anterior fracture-dislocations. A case of bilateral inferior dislocation has been complicated by axillary and median nerve palsies also reported.

In order to prevent missing of bilateral dislocation of shoulder apart from associated injury like fracture, neurovascular involvement, ligamentous injury or rotator cuff lesion careful history, proper clinical examination and adequate imaging should be done. We are reporting here a case post traumatic bilateral anterior dislocation of shoulder in 45 years old male.



**Figure 1: X-ray showing both shoulder dislocation**

**Figure 2: Post reduction X-ray of both shoulder**

## CASE REPORT

A 45 years old male presented to our emergency with complain of pain both shoulder. He fell following loosing his balance. He tried to prevent his backward falling by extending both arm behind back. There was no any history of seizure, alcohol intake of significant past history like previous glenohumeral dislocation or ligamentous laxity or others. Attitude of both upper limb was externally rotated and

abducted. Globular swelling noted in anterior aspect of both shoulders along with anterior flattening of shoulder contour below acromion tip. There was gross restriction of internal rotation, flexion and adduction. On the basis of above finding, we made a clinical diagnosis of bilateral anterior dislocation of shoulder. Diagnosis confirmed by imaging (X-ray) [figure 1]. Reduction done under sedation by Kocher's maneuver. Clinically reduction found to be achieved, range of movement and stability checked. Finally reduction confirmed by X-ray [figure 2]. Both shoulder immobilised by strapping for 3 weeks. After 3 weeks strapping removed and broad arm pouch sling given. Mobilisation started up with pendulum exercise, subsequently other mobilisation exercises (both active and passive) encouraged. By the 12 weeks, patient started doing activities of daily living with terminal pain and terminal restriction of movement (specially overhead abduction and external rotation). By the end of 6 months neither recurrence nor apprehension test was found to be positive.

## DISCUSSION

Unlike anterior dislocation shoulder, bilateral shoulder dislocation is rare. It was first described by Mynter in 1902 in a patient where vigorous muscle contraction occurred following camphor overdose. Following that many publications came in international literature. However Most of them are case report or small series. These literature suggest they are mostly posterior, anterior dislocation remains more rarer. Dinopoulos *et al.*, in 1999 found only 28 reported cases since 1966. Dunlop *et al.*, reported in 2002 of other cases in the literature, but most were associated with fractures. He also found that of the 44 cases, five were diagnosed late. Cresswell and Smith reported a case of bilateral anterior dislocation of the shoulder without any fractures in a bench-pressing athlete. Singh and Kumar reported a case of sequential bilateral anterior dislocation in which traumatic left shoulder dislocation was followed by atraumatic right shoulder dislocation. Extremely rare cases of asymmetrical bilateral shoulder dislocations also have been reported by Galois *et al.*, Fung *et al.* and Aufderheide *et al.*. However mechanism of injury for isolated dislocation is same for bilateral dislocation, only the force should act simultaneously on both shoulder in similar fashion<sup>11</sup>. The typical attitude external rotation and abduction of arm, greater tuberosity comes in contact with acromion, causes anterior directed force, in addition humeral head is pushed inferiorly by rotator cuff leading to anterior dislocation of shoulder by contraction of flexors and external rotators. In our case, patient had exactly same mode of injury. Our case got injured after falling backward with both of his arm extended behind his back. In our case, patient had a protective attitude in a unbalanced position and created a typical shoulder dislocation mechanism. This is extremely rare reported case to have bilateral anterior dislocation of shoulder by this mechanism. Management remains the same for both

unilateral or bilateral dislocation cases. Early reduction and immobilisation followed by definitive management. This became relatively difficult in bilateral dislocation case. Patient required prolonged stay in hospital. MRI is indicated to rule out rotator cuff injury, but MRI not done in this case because of financial limitation. Patient was able to do activity of daily living by the 3 months.

## CONCLUSION

The incidence of bilateral anterior dislocation of shoulder is very rare. Proper history, thorough clinical examination with adequate imaging is needed to rule this injury along with associated injury. The importance of above mentioned fact can be understood by the fact, reported rate of late diagnosis is more than 10%. Fracture, rotator cuff lesion or neurovascular deficit may be associated with bilateral anterior dislocation of shoulder.

## REFERENCES

1. Griggs SM, Holloway GB, Williams GR et al. Treatment of locked anterior and posterior dislocations of the shoulder. In: Ianotti JP, Williams GR, ed. Disorders of the shoulder. Philadelphia: Lippincott Williams & Wilkins, 1999:335-359.
2. Cave EF, Burke JF, Boyd JF. Trauma management. Chicago: Year Book Medical Publishers, 1974:437.
3. Honner R. Bilateral posterior dislocation of the shoulders. Aust N Z J Surg 1969;38(3):269-272.
4. Mathis RD. Bilateral shoulder dislocation: an unusual occurrence. J Emerg Med 1980;1:41-3.
5. MaVulli N, Mikhail HM. Bilateral anterior glenohumeral dislocation in a weight lifter. Injury 1990;21:254-6.
6. Mehta MP, Kottamasu SR. Anterior dislocation of the shoulders with bilateral brachial plexus injury. Ann Emerg Med 1989;18:589-91.
7. Markel DC, Blasier RB. Bilateral anterior dislocation of the shoulders with greater tuberosity fractures. Orthopaedics 1994;17:945-9.
8. Lal M, Yadav RS, Prakash V. Bilateral anterior fracture dislocation shoulder: two case reports. Indian J Med Sci 1992;46:209-10.
9. Mesa M, Carpintero P, Carpintero J. Bilateral luxatio erecta humeri. Acta Orthop Belg 1996;62:116-19.
10. Mynter H. XIV. Subacromial Dislocation from Muscular Spasm. Ann Surg. 1902;36(1):117-9.
11. Dinopoulos HT, Giannoudis PV, Smith RM, Matthews SJ. Bilateral anterior shoulder fracture-dislocation. Int Orthop. 1999;23:128-30. [PMCID: PMC3619786] [PubMed: 10422035]
12. Dunlop CC. Bilateral anterior shoulder dislocation: A case report and review of the literature. Acta Orthop Belg. 2002;68:168-70. [PubMed: 12051004]
13. Cresswell TR, Smith RB. Bilateral anterior shoulder dislocations in bench pressing: An unusual cause. Br J Sports Med. 1998;32:71-2. [PMCID: PMC1756066] [PubMed: 9562170]
14. Singh S, Kumar S. Bilateral anterior shoulder dislocation: A case report. Eur J Emerg Med. 2005;12:33-5. [PubMed: 15674083]
15. Galois L, Traversari R, Girard D, Mainard D, Delagoutte JP. Asymmetrical bilateral shoulder dislocation. SICOT Online Report. 2003 E024 February 27th.
16. Fung DA, Menkowitz M, Chern K. Asymmetric Bilateral Shoulder Dislocation Involving a Luxatio Erecta Dislocation. Am J Orthop (Belle Mead NJ) 2008;37:97-8.
17. Aufderheide TP, Frascione RJ, Cicero JJ. Simultaneous bilateral anterior and posterior shoulder dislocations. Am J Emerg Med. 1985;3:331-3. [PubMed: 4005006]
18. Peiro A, Ferrandis R, Correa F. Bilateral erect dislocation of the shoulders. Injury 1975;6(4):294-295.