Case Report

Bilateral recurrent anterior fracture dislocation of shoulder joint due to grand mal epileptic convulsions

Chandrashekara Chowdipalya Maliyappa, Bader Said Khamis Al-Marboi, Mulamootil Abraham George

Department of Orthopaedic Surgery, Al-Buraimi Hospital, Al Buraimi, Oman

Address for correspondence:
Dr. C. M. Chandrashekara,
Department of Orthopaedic Surgery, Al-Buraimi Hospital, Al Buraimi-512, Oman.
E-mail: specilist05@yahoo.com

ABSTRACT

Bilateral shoulder dislocation is very much common with convulsions of different etiology. Often, these dislocations are associated with fractures due to violent muscle contractions. The typical lesion is bilateral posterior dislocation or fracture dislocations. The recurrent shoulder dislocations are common with traumatic etiology. The lack of asymmetry of the shoulders is stressed as a potential pitfall in the clinical evaluation of patients with this condition. We present a rare case of bilateral recurrent anterior fracture dislocation of the shoulder sustained due to repetitive episodes of convulsive seizures. Patient was treated by close reductions and immobilization on each episode. In epilepsy although posterior dislocations are common, the rare possibility of bilateral anterior fracture dislocation should be kept in mind. Often these patients are vulnerable for recurrence, similar to traumatic cases.

Keywords: *Bilateral, shoulder dislocation, seizure*

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Introduction

Bilateral shoulder dislocation is very much common with convulsions of different etiology. Often, these dislocations are associated with fractures due to violent muscle contractions. The posterior fracture dislocations are the commonest type of bilateral dislocation associated with seizures.[1-3] Similarly, the bilateral anterior shoulder dislocation may not be as rare as previously thought and must be taken into account in emergency services.[4] However, bilateral anterior fracture dislocations are rare.[5] The instability of shoulder joint is common after initial dislocation in seizure patients due to vulnerability to further seizures and development of secondary bony changes of humeral head. This is the report of third case of bilateral anterior dislocation of the shoulder following a grand mal convulsion in literature.[6] We are presenting a first report of bilateral recurrent anterior fracture dislocation of shoulder joint following seizures. The hospital ethical committee approved and patient as consented.

Case Report

A 20-year-old male presented to accident and emergency department (A and E) on three separate occasions.

First episode

Patient presented with pain and deformity of both the shoulders following fall due to convulsive seizure. Patient was diagnosed case of grand mal epilepsy and was on irregular treatment. This was second episode of seizures. Physical examination showed bilateral squaring of shoulders. The humeral head was felt anteriorly on either side. Acromion was prominent bilaterally associated with painful limitation of all movements. There was no evidence of peripheral motor, sensory, vascular deficits, and both two shoulders were in fixed abduction and external rotation. Radiographic examination revealed bilateral anterior shoulder dislocation with minimally displaced fracture of greater tuberosities. Under short general anaesthesia , closed reduction of both the shoulders was done by Kocher's method. The tuberosity fractures were in position, confirmed under C-arm. The limbs were immobilized with bilateral shoulder immobilizers for 1 month. The check X-rays at 1 month showed uniting fractures. Both the shoulder joints were mobilized initial 2 weeks with pendulum exercises, followed by assisted and active rotations, abduction movements. At 10 weeks, bilateral fracture

united and patient had normal range of shoulder movements [Figures 1 and 2].

Second episode

Patient presented to A and E department 3 years after first episode with similar clinical feature of anterior fracture dislocations. The X-rays confirmed bilateral anterior fracture dislocation of shoulder joint with displaced symmetrical greater tuberosity fractures. Patient was treated in a similar manner as that of first episode [Figures 3 and 4].

Third episode

Patient came to A and E, 6 months after second episode with history of seizure followed by pain and deformity of both shoulder joints. In this episode, X-rays showed bilateral anterior dislocation of shoulder joints without fractures. The closed reduction was done under short general anaesthesia and immobilized with shoulder immobilizers [Figures 5 and 6].

After this episode, patient was counseled well and was under regular treatment for grand mal epilepsy along with regular shoulder rehabilitation exercises. At 15 months follow-up, following third episode, patient did not have any fresh episode of dislocation with or without fractures and had normal range of movements.

Discussion

Bilateral shoulder dislocations are rare and almost always occur in the posterior direction. Simultaneous bilateral anterior shoulder dislocation is even rarer and only a few cases are stated in the literature.[7] Glenohumeral instability following seizures is usually of the posterior type. Rarely patients can have anterior dislocation of the shoulder following an epileptic seizure.[8] The literature review which follows would seem to suggest that this may not be as rare as previously thought.

However, this patient had bilateral anterior fracture dislocation following grand mal seizures due to associated fall on out stretched hands. Dislocations are often associated with fractures of humeral head. We had fracture of greater tuberosity on either side. Clinically patient had classic features of

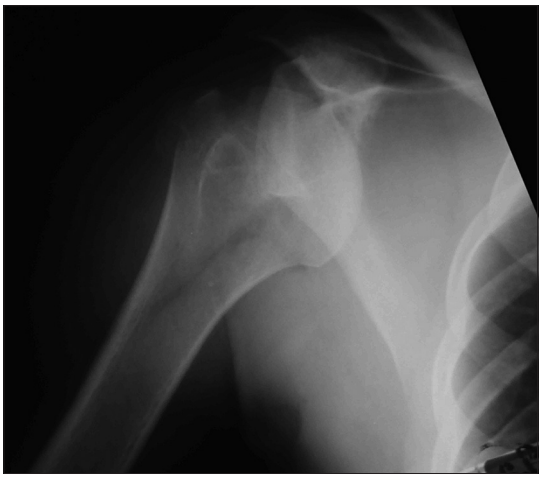

Figure 1: Anterior fracture dislocation in right shoulder joint on first episode

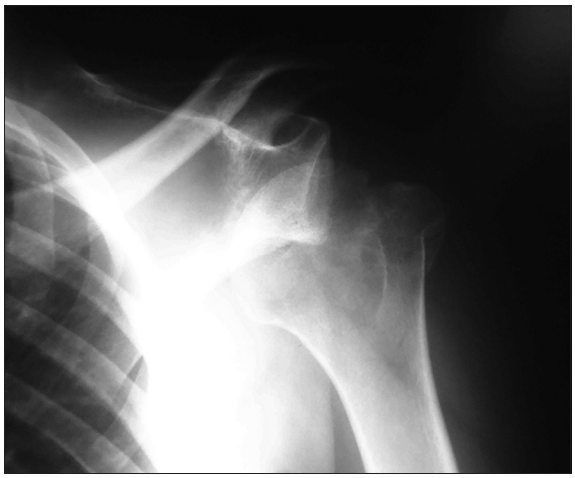

Figure 2: Anterior fracture dislocation in left shoulder joint on first episode

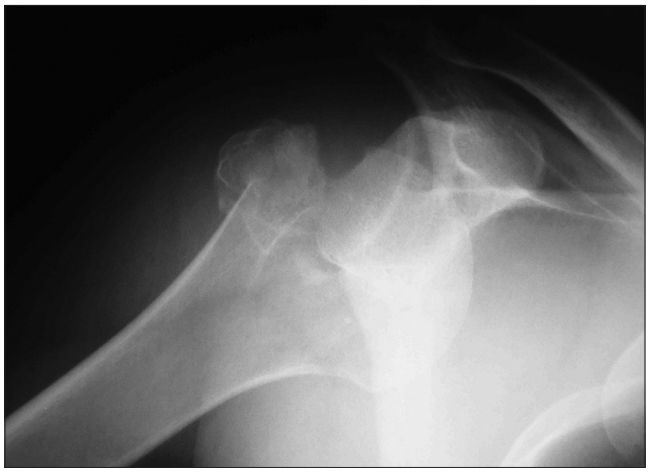

Figure 3: Anterior fracture dislocation in right shoulder joint on second episode

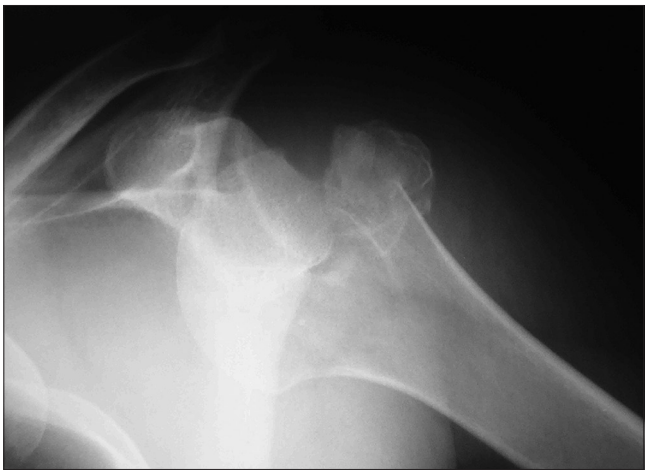

Figure 4: Anterior fracture dislocation in left shoulder joint on second episode

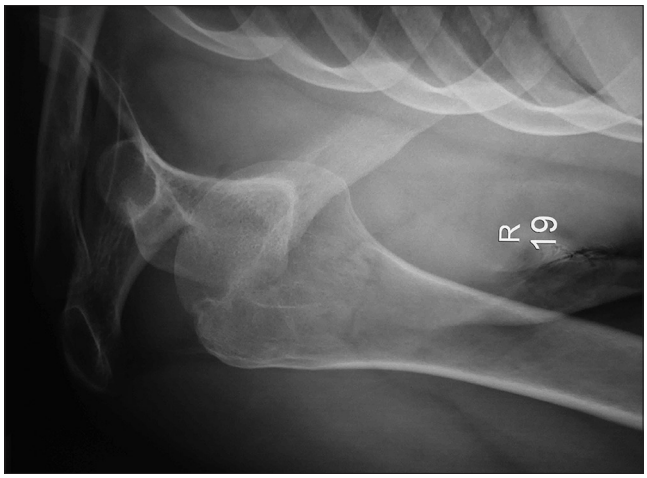

Figure 5: Anterior fracture dislocation in right shoulder joint on third episode

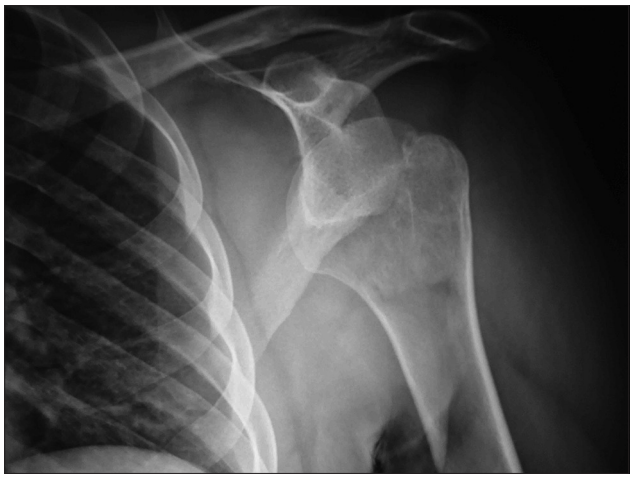

Figure 6: Anterior fracture dislocation in left shoulder joint on third episode

anterior dislocation. As fractures were undisplaced, computed tomography scan was not done. The dislocations were reduced by closed reduction under short general anaesthsia . As the fractures were undisplaced at post reduction X-rays, the need for further investigation and operative management was deferred. The shoulder instability following bilateral anterior dislocation is uncommon. However, few case of instability following anterior shoulder dislocation due to seizure has been reported.

Similarly, this patient had shoulder instability with total three episodes of dislocation. Various surgical procedures have been described for shoulder instability. However, we treated this patient by nonoperative treatment as there were no humeral head defects. In a study by Raiss *et al.*, due to the unacceptably high rate of redislocation after surgery in these patients, the most important means of reducing the incidence of further dislocation is the medical management of the seizures.[9] Goudie *et al.*, emphasized that, many patients have medical comorbidities, and successful treatment requires a multidisciplinary approach addressing the underlying seizure disorder in addition to the shoulder pathology.[10] In our case, patient did not had any recurrence of dislocation for a period of 15 months after last episode, possibly due to better multidisciplinary approach.

Conclusion

In epileptic patients, the orthopedic surgeons and emergency doctor should be aware of bilateral anterior fracture dislocation of shoulder joints. The multidisciplinary approach to such patients can give good results. The possibility of shoulder instability must be kept in mind and need for regular follow-up.

References

1. Parrish GA, Skiendzielewski JJ. Bilateral posterior fracture-dislocations of the shoulder after convulsive status epilepticus. Ann Emerg Med 1985;14:264-6.
2. Tellisi NK, Abusitta GR, Fernandes RJ. Bilateral posterior fracture dislocation of the shoulders following seizure. Saudi Med J 2004;25:1727-9.
3. Rodríguez-Jiménez I, Cereceda CN, Florensa J, Carreira C, Romero-Castellano C, García-Montero R. Posterior fracture-dislocation of both shoulders following a convulsive seizure. A case report. Rev Neurol 1997;25:2054-6.
4. Ballesteros R, Benavente P, Bonsfills N, Chacón M, García-Lázaro FJ. Bilateral anterior dislocation of the shoulder: Review of seventy cases and proposal of a new etiological-mechanical classification. J Emerg Med. 2013;44:269-79.
5. Sunku N, Kalaiah K, Marulasidappa G, Gopinath P. Bilateral anterior fracture-dislocation of shoulder joint- A rare case with delayed presentation. JOCR 2012;2:7-9.
6. Ribbans WJ. Bilateral anterior dislocation of the shoulder following a grand-mal convulsion. Br J Clin Pract 1989;43:181-2.
7. Tripathy SK, Sen RK, Aggarwal S, Dhatt SS, Tahasildar N. Simultaneous bilateral anterior shoulder dislocation: Report of two cases and review of the literature. Chin J Traumatol 2011;14:312-5.
8. Rethnam U, Ulfin S, Sinha A. Post seizure anterior dislocation of shoulder-beware of recurrence. Seizure 2006;15:348-9.
9. Raiss P, Lin A, Mizuno N, Melis B, Walch G. Results of the Latarjet procedure for recurrent anterior dislocation of the shoulder in patients with epilepsy. J Bone Joint Surg Br 2012;94:1260-4.
10. Goudie EB, Murray IR, Robinson CM. Instability of the shoulder following seizures. J Bone Joint Surg Br 2012;94:721-8.

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