### FRACTURE DISLOCATION OF LEFT SHOULDER: A CASE REPORT

Mazharuddin Ali Khan<sup>1</sup>, Sujit Kumar Vakatir<sup>2</sup>, Mohammed Aman Ulhaq Qureshi<sup>3</sup>

### **HOW TO CITE THIS ARTICLE:**

Mazharuddin Ali Khan, Sujit Kumar Vakatir, Mohammed Aman Ulhaq Qureshi. "Fracture Dislocation of Left Shoulder: A Case Report". Journal of Evidence based Medicine and Healthcare; Volume 2, Issue 19, May 11, 2015; Page: 2944-2950.

**ABSTRACT:** Many systemic disorders present with orthopedic manifestations. A 40 year old male patient was brought in with pain and inability to move his left arm after he regained consciousness. The patient is a known case of Epilepsy since 2 years and had two episodes of seizure like activity and not on any medication. The diagnosis was fracture posterior dislocation of left shoulder following Grand mal Epilepsy. It was a 3 part fracture dislocation of left shoulder emergency closed reduction and 5 percutaneous K wires fixation was done under general anaesthesia and universal shoulder immobilizer was applied to immobilize the left shoulder in flexion, adduction and internal rotation. Treatment for epilepsy was continued. After four weeks K wires were removed. With physiotherapy, patient regained full range of movements by 8 weeks. We conclude, that a fracture posterior dislocation of left shoulder as a presenting feature should arouse us to evaluate the cause, in our case it was convulsion. Closed reduction and internal fixation with percutaneous k-wires reduces infection rate and hospital stay. Patient recovered well without any complications.

**KEYWORDS:** Grand mal Epilepsy, Fracture posterior dislocation of left shoulder, Percutaneous kwire fixation, Neers classification.

**INTRODUCTION:** In our clinical practice many systemic disorders present with orthopaedic manifestations. But few disorders will be diagnosed after evaluation of orthopaedic manifestation. In addition many patients present with subtle clinical manifestation which sometime pose diagnostic challenge to the orthopaedic surgeon. One such condition is fracture posterior dislocation of left shoulder (non-traumatic) which was a manifestation of generalized epilepsy. (1,2) In the presented case, the epileptic seizure of these patients was the causation for the injury. In literature, there are less than 40 cases of this type of injury described. High forces are needed to sustain this uncommon injury. This has been described by Brackstone et al. as the 'triple E syndrome': epilepsy, electrocution and extreme trauma. (3) For correct diagnosis, proper imaging is mandatory. (4,5) as this injury is often not or misdiagnosed in up to 80%

**CASE REPORT:** A 40 year old male patient was brought with pain and inability of left shoulder which was noticed when he regained consciousness after an episode of generalized epilepsy. Clinical examination revealed 15-20 degree abduction and internal rotation. There was severe tenderness over lateral and posterior aspect of both shoulders. All movements were severely restricted, painful and associated with muscle spasm. There was severe muscle spasm and resistance to external rotation and abduction of left shoulder. On careful palpation, resistance of left humeral head was not felt. This classical presentation forced us to suspect bilateral fracture posterior dislocation of left shoulder after ruling out other differential diagnoses. He was on

treatment for epilepsy for the last two years. X-Ray of left shoulder AP view showed 4 part posterior fracture dislocation of shoulder (NEER's Classification) (Fig. 1). As per the neurologist advice patient was started on injection diazepam 10 mg intravenous stat and injection phenytoin 100mg intravenous three times a day. Patient was taken to operation theatre in the golden time within 6 hours for closed reduction of left shoulder and fixed with 5 percutaneous kirschner wires (Fig. 2, 3, 4).

Under General Anaesthesia sequential closed reduction was done by "reverse kocher method" Traction in adduction and internal rotation followed by gentle abduction and external rotation and extension rotation and extension. But the left shoulder was unstable with redislocation on release of traction and corrective forces. Hence we decided to stablise the shoulder with trans articular 5 percutaneous kirschner wires (15cmx3cm) in the position of 15 degree abduction 15 degree external rotation and 15 degree extension. Tablet phenytoin 100 mg was continued in 1-0-2 as per the neurologist advice. Check x-ray of left shoulder congruent reduction of left shoulder with 5 percutaneous kirschner wire in situ with fracture of greater tuberosity on the left side displaced greater than 5 mm and universal shoulder immobilizer was applied (Fig. 5). 5 percutaneous k wires were removed after 6 weeks and patient regained full range of movements by 16 weeks by regularly physiotherapy. (Fig. 6, 7)

**DISCUSSION:** In a case report, Nazzar K Tellisi et al observed that redislocation occurred 4 weeks after successful closed reduction of right shoulder which required open reduction and trans-fixation using percutaneous guide wires for 6weeks. Hemiarthroplasty of left shoulder was done at 2 years for pain and stiffness following initial open reduction because of irreducibility. It gave satisfactory results.

KM Din et al reported a case of bilateral 4-part fracture with posterior dislocation of shoulder in a 36 year old man with convulsive seizure due to cerebrovascular malformation. After failure of an attempt at closed reduction, bilateral sequential open reduction through delto-pectoral approach was done. Fractures were fixed with silk sutures on right side and 2 cancellous screws on left side to prevent further devascularisation. At 18 months follow up, patient was well satisfied with the function of both the shoulders. They concluded that delay in diagnosis and treatment has an adverse effect on prognosis.<sup>(5)</sup>

Hannor reported persistant painful and stiff shoulder with only 200 of abduction in a case of bilateral posterior fracture dislocation diagnosed late. Shaw JL obtained 900 flexion, 450 extension, 600 abduction, 900 internal rotation and 200 external rotation after prosthetic replacement in bilateral posterior dislocation.<sup>(6)</sup>

Shankar B et al reported a case of posterior shoulder dislocation during an episode of generalized convulsion in a 29 year old patient with no history of prior dislocation after which his left shoulder was extremely painful and stiff. The shoulder eased-off (Auto reduction) following a second convulsion an hour later but X-ray axillary view showed a large reverse Hill-Sachs lesion. 6 months after adequate seizure control and rotator cuff strengthening, the shoulder was stable.

He concluded that these injuries can also be missed on initial diagnosis due to an autoreduction of the posterior dislocation with subsequent seizures.<sup>(7)</sup>

An Ivkovicand N. Cicak, J reported irreducible bilateral posterior dislocation of the shoulder in a man of 52 years of age following grandmal seizure presenting 3 months later. CT scans revealed large compression defects on the antero-medial aspect of the heads of both humeri (50% on right side & 40% on left). He was treated by a one-stage operation with a hemiarthroplasty on one side and reconstruction of the head by an osteochondral autograft on the other. The clinical and radiological results were excellent at 3 years. (8)

In the absence of trauma, bilateral posterior fracture dislocation or dislocation is virtually pathognomonic of convulsive episode. The rising prevalence of diabetes mellitus and of alcohol and drug dependency has led to a greater proportion of dislocations occurring during seizures. They present with nocturnal injuries with no history of trauma as in our case. The allusive nature of this injury is compounded by mild presenting signs and symptoms and possible auto reduction with subsequent seizures.<sup>(9)</sup>

Nocturnal injuries in which the patient cannot recall any trauma must raise the suspicion of a convulsive disorder as the cause of the injury. In a unilateral presentation of a possible seizure induced shoulder trauma, it is extremely important to radiograph the contra-lateral shoulder as 30% of cases present bilaterally. 2-part posterior fracture dislocation involving greater tuberosity as in our case has not been described in the literature but 2 part lesser tuberosity and anatomical neck and complex 3and 4 part fracture dislocations have been described by C. Michael Robinson et al. Bilateral and symmetrical injury in our case indicates a generalised convulsion. Posterior dislocation in association with minimally displaced fracture of greater tuberosity indicates probably a short duration of generalised convulsion.

We conclude that a nocturnal, bilateral posterior fracture dislocation of shoulder as a presenting feature should stimulates to evaluate the cause of convulsion: an intracranial mass lesion - tumour or cerebrovascular malformation or metabolic abnormality - alcohol withdrawal 21 or insulin induced nocturnal hypoglycemia. (Reduction of humeral head even at late presentation is preferable because even if AVN occurs, on-weight bearing shoulder would have better function than with surgical removal of humeral head.

**CONCLUSION:** Shoulder pain following convulsive disorder should always raise the suspicion of posterior fracture dislocation of shoulder and should be evaluated and treated accordingly. Percutaneous k-wire fixation is an ideal treatment of choice to fix and reduce fracture dislocation of shoulder. A minimal invasive technique which reduces hospital stay and the patient gets full range of movements within 4 months.

#### **REFERENCES:**

- 1. Shaw JL. Bilateral posterior fracture-dislocation of the shoulder and other trauma caused by convulsive seizures. J Bone Joint Surg Am 1971; 53: 1437-40.
- 2. Hawkins RJ, Neer CS II. Pianta RM, Mendoza FX. Locked posterior dislocation of the shoulder. J Bone Joint Surg [Am] 1987; 69: 9-18.
- 3. Brackstone M,Patterson SD, Kertesz A. Triple "E" syndrome: bilateral locked posterior fracture dislocation of the shoulders. Neurology 2001; 56: 1403-4.

- 4. Posterior dislocation of the shoulder: a diagnostic pitfall for physicians. Practioner 1979;223:111-2
- 5. Din K et al, Bilateral 4 part fracture with posteriordislocation of shoulder, J Bone Joint Surg, 1983, 65,176-178
- 6. Shanker Aby NG; Rameto AS; Ali F; Bell MS Spontaneous reduction of posterior shoulder dislocation following repeated epileptic seizures
- 7. A Ivkovicand N. Cicak one stage operation for locked bilateral posterior dislocation of shoulder, Jbone Joint Surg, vol 89-B, 2007, 825-828 Sashikumar, mruthyunjaya, patel and ravishanker; Orthopaedic emergency revealing a neurological disorder.
- 8. Clugh TM, Bale RS. Bilateral posterior shoulder dislocation: the importance of the axillary radiographic view. Eur J Emerg Med.2001 Jun;8(2.:161-3)
- 9. OnderKilicoglu, MD, Mehmet Demirhan, Md, Yalcin Yavuzer, MD, Aziz Alturfan, MD. Bilateral posterior fracture-dislocation of the shoulder revealing unsuspected brain tumor: case presentation. J Shoulder Elbow Surg. 2001 Jan- Feb(1):95-6
- 10. Naviaser JS, Complicated fractures and dislocations about shoulder joint, J Bone joint Surg (Am), 196244 -A, 984-998.

**FIGURE 1:** CT SCAN IMAGE SHOWING POSTERIOR FRACTURE DISLOCATION OF LEFT SHOULDER NEERS CLASSIFICATION TYPE.



Fig. 1

**FIGURE 2:** POST OPERATIVE XRAY IMAGE SHOWING FRACTURE DISLOCATION OF LEFT SHOULDER NEERS CLASSIFICATION TYPE IV REDUCED UNDER C-ARM AND FIXED WITH 5 KIRSCHNER'S WIRES.



Fig. 2

FIGURE 3: INTRAOPERATIVE IMAGE OF LEFT SHOULDER SHOWING 5 KIRSCHNERS WIRES.



Fig. 3

**FIGURE 4:** 3 MONTHS POST OPERATIVE IMAGE OF XRAY SHOWING FRACTURE BEING HEALED AND RANGE OF MOVEMENT ACHIEVED.



Fig. 4

**FIGURE 5:** 3 MONTHS CT SCAN IMAGE SHOWING FRACTURE DISLOCATION OF LEFT SHOULDER REDUCED AND HEALED.



Fig. 5

**FIGURE 6:** 4 MONTHS POST OPERATIVE IMAGE SHOWING PATIENT ACHIEVED FULL RANGE OF MOVEMENTS.



Fig. 6

### **AUTHORS:**

- 1. Mazharuddin Ali Khan
- 2. Sujit Kumar Vakatir
- 3. Mohammed Aman Ulhaq Qureshi

### **PARTICULARS OF CONTRIBUTORS:**

- Professor & HOD, Department of Orthopaedics, Owaisi Hospital and Research Centre, Deccan College of Medical Sciences.
- 2. Assistant Professor, Department of Orthopaedics, Owaisi Hospital and Research Centre, Deccan College of Medical Sciences.

3. Post Graduate, Department of orthopaedics, Owaisi Hospital and Research Centre, Deccan College of Medical Sciences.

# NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Mazharuddin Ali Khan,
Professor & HOD,
Department of Orthopaedics,
Owaisi Hospital and Research Centre,
Deccan College of Medical Sciences,
Kanchanbagi-560053, Telangana.
E-mail: mazharuddinalikhan@gmail.com

Date of Submission: 16/04/2015. Date of Peer Review: 17/04/2015. Date of Acceptance: 25/04/2015. Date of Publishing: 11/05/2015.