

## Bilateral Anterior and Posterior Shoulder Dislocation: Case Report

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### ABSTRACT

**Background:** Shoulder dislocations are the most common major joint dislocations encountered in the emergency departments. Bilateral shoulder dislocations are rare and of these, bilateral posterior shoulder dislocations are more prevalent than bilateral anterior shoulder dislocations. Bilateral anterior shoulder dislocation is very rare.

**Objective:** We present a case of traumatic bilateral anterior and posterior shoulder dislocation and review the literature on this rare type of injury.

**Case report:** A 35 years old male patient known case of epilepsy had history of loss of consciousnesses and fell down from standing height. Patient came complaining of sever bilateral shoulder pain and inability of movement. Upon examination, patient was conscious, alert and oriented and vitally stable. Local examination showed right shoulder deformity, no open wounds and no ecchymosis. There was swelling around the shoulder joint and distal neurovascular exams were unremarkable with painful range of motion.

**Conclusion:** Bilateral anterior and posterior shoulder dislocation are the rarest of all shoulder dislocations. It is important to take accurate clinical history, a thorough clinical examination and adequate imaging in order to exclude this injury.

**Keywords:** Bilateral anterior, Posterior shoulder dislocation.

### INTRODUCTION

Shoulder dislocation is the most common type of joint dislocation encountered in humans <sup>(1, 2)</sup>. Anterior shoulder dislocation represents 95% of unilateral shoulder dislocations while unilateral posterior dislocation is far less common (4%) <sup>(2, 3)</sup>.

Bilateral shoulder dislocations do occur and unlike unilateral dislocations they are most commonly of the posterior type <sup>(2, 4)</sup>. Bilateral posterior dislocations are usually associated with seizures, electrocution and electroconvulsive therapy while bilateral anterior dislocations result from significant trauma <sup>(2, 5)</sup>. Asymmetrical bilateral dislocations with one shoulder dislocated anterior and the other one posterior are extremely rare and have been reported in the literature <sup>(6)</sup>.

Simple bilateral anterior and posterior shoulder dislocation without associated fracture are extremely rare. Very few cases have been reported in the literature <sup>(4, 7)</sup>.

### CASE REPORT

A 35 years old male patient known case of epilepsy had history of loss of consciousnesses and fell down from standing height.

Patient came complaining of sever bilateral shoulder pain and inability of movement.

#### Upon examination:

- Patient was conscious, alert and oriented.
- Vitally stable

#### Local examination of right shoulder:

- Right shoulder deformity
- No open wounds
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- No ecchymosis
- There was swelling around the shoulder
- Distal neurovascular exams were unremarkable
- Painful range of motion

#### Local examination of left shoulder:

- No open wounds
- No ecchymosis
- There was swelling around the shoulder joint
- Distal neurovascular exams were unremarkable

#### X-ray done showed:

- Right anterior shoulder dislocation with proximal humerus fracture (Figures 1, 2, 3 & 7).
- Left proximal humerus fracture and posterior dislocation (Figures 4, 5, 6 & 7).

#### Right shoulder CT showed:

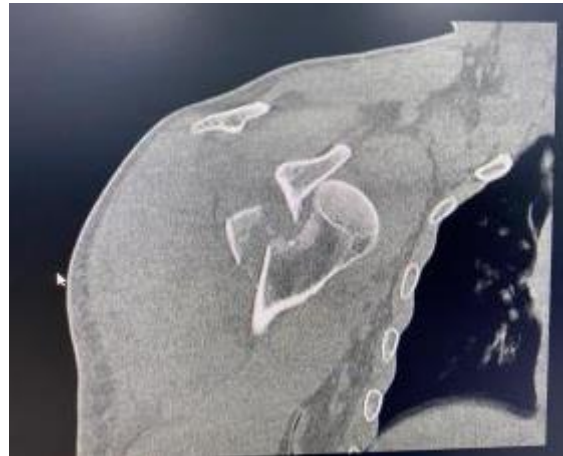
- Anterior shoulder dislocation. Hill sachs comminuted fracture was noted. Bony bankert was seen. There was shoulder joint effusion and surrounding soft tissue edema and hematoma.

#### Left shoulder CT showed:

- Posterior shoulder dislocation. Reversed comminuted hill sachs was noted. No definitive reverse bony bankert lesion. Shoulder joint effusion and surrounding soft tissue edema and hematoma were seen.
- Patient was admitted for fracture reduction and fixation.
- Neurology consultation was done
- Patient was given good analgesia
- And consented for operation.



**Figure (1):** X-ray Right shoulder showed anterior shoulder dislocation with proximal humerus fracture.



**Figure (2):** CT scan showed anterior shoulder dislocation and proximal humerus fracture.



**Figure (3):** 3D view CT scan showed: Anterior shoulder dislocation and proximal humerus fracture.



**Figure (4):** X-ray left shoulder: Posterior shoulder dislocation.



**Figure (5):** CT scan left shoulder showed posterior shoulder dislocation and reverse hill sachs lesion.



**Figure (6):** 3D CT scan of left shoulder showed posterior shoulder dislocation with fracture



**Figure (7):** Scout view showed right anterior shoulder dislocation with proximal humerus fracture and left posterior shoulder dislocation with reverse hill sachs lesion.



**Figure (8):** Reduced right shoulder and fixed with philos plate.



**Figure (9):** Reduced left shoulder and fixed with screw.

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#### **Treatment:**

The patient was taken to theatre and under general anaesthesia, the patient underwent open reduction and internal fixation of both shoulders (Figures 8 & 9).

#### **Declaration of patient consent:**

An approval of the study was obtained from Dr. Suliman Fakeeh Hospital (Saudi Arabia) Academic and Ethical Committee. The patient and his relative were informed that the case would be published as case report and this was accepted. This work has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for studies involving humans.

#### **DISCUSSION**

The shoulder joint is the most commonly dislocated joint in the human body, accounting for 85% of all joint dislocations, of these 95% are directed anteriorly<sup>(8)</sup>.

However, while unilateral anterior shoulder dislocations are much more abundant than their posterior counterparts, review of the literature shows

that simultaneous bilateral shoulder dislocations are much more likely to be posterior rather than anterior<sup>(9)</sup>.

The mechanism of injury differs between the two types of dislocations. Posterior dislocations commonly result from maximal involuntary muscle contractions as in epileptic seizures and electric shocks<sup>(9, 10, 11)</sup>.

The most frequent mechanism of injury for anterior dislocations is trauma<sup>(10-12)</sup>, in which the shoulder is positioned in forced extension, abduction and external rotation or subject to a direct blow to its posterior aspect<sup>(10)</sup>. Other rare mechanisms of injury include weight training in young patients<sup>(11, 13)</sup>, seizures<sup>(13)</sup>, nocturnal hypoglycaemia and electric shock<sup>(2, 14)</sup>.

#### **Technique in our case**

Right shoulder: Proximal humerus fracture with anterior dislocation

Patient underwent general anaesthesia, supine position, trial of closed reduction of fracture dislocation was done but unstable. Beach chair position, under aseptic condition and sterilization of right upper limb, draping operating site, deltopectoral approach, reduction and fixation of greater tuberosity with philos plate and bone grafting with synthetic bone substance.

Then, repairing of infraspinatus muscle and reinserting it in hill sachs by anchor were done followed by suturing of subscapularis muscle. Finally, assessment of reduction by C-arm and drain was applied. The incision was closed in layers.

**Complication:** Yes, broken drill bit.

**Left shoulder:** proximal humerus fracture with posterior dislocation

Patient underwent general anesthesia, supine position, trial of closed reduction and assessment by C-arm unstable reduction, beach chair position, under aseptic conditions of left upper limb, draping operating site, deltopectoral approach, lesser tuberosity and subscapularis transfer and fixation with 2 anchors and 1 cannulated screw, using synthetic bone grafting, biceps tenodesis, assessment of reduction and stability by C-arm, then closure in layers.

**Complication:** No

Patient kept in shoulder immobilizer.

## CONCLUSION

Bilateral anterior and posterior shoulder dislocation are the rarest of all shoulder dislocations. It is important to take accurate clinical history, a thorough clinical examination and adequate imaging in order to exclude this injury. This is especially of concern, since the reported rate of late diagnosis is greater than 10%. Fractures, rotator cuff ruptures or neurovascular injuries may accompany such injury. Predisposition to bilateral dislocations may be higher in older age group because of balance problems.

**Financial support and sponsorship:** Nil.

**Conflict of interest:** Nil.

## REFERENCES

1. **Aronson P, Mistry R (2014):** Intra-articular lidocaine for reduction of shoulder dislocation. *Pediatr Emerg Care*, 30 (5): 358-62.

2. **Galanakos S, Christodoulou E, Panayi C et al. (2008):** Bilateral anterior glenohumeral dislocation: A case report and a review of the literature *EEXOT.*, 59 (4): 252-56.
3. **Ngim N, Udorroh E, Udosen A (2006):** Acute bilateral anterior shoulder dislocation following domestic assault - case report. *West Afr J Med.*, 25 (3): 256-57.
4. **Rouhani A, Zonooz K, Aghdam H (2010):** An unusual cause of bilateral anterior shoulder dislocation. *Pak J Med Sci.*, 26 (4): 976-77.
5. **Thakur A, Gupta R, Kotwal V et al. (2010):** A rare case of bilateral anterior dislocation of the shoulder. *J Clin Diagn Res.*, 4: 3567-69.
6. **Sandeep K, Nema D, Pai N et al. (2013):** A unique case of non-traumatic asymmetric shoulder dislocation with four-part fractures of proximal humeri following seizures. *J Emerg Trauma Shock*, 6 (3): 231-23.
7. **Botha A, Du Toit A (2010):** Bilateral anterior shoulder dislocation: A case report of this rare entity. *SA Orthop J.*, 9 (4): 68-70.
8. **Devalia K, Peter V (2005):** Bilateral anterior shoulder dislocation. *J Postgrad Med.*, 51: 72-73.
9. **Dunlop C (2002):** Bilateral shoulder dislocation: a case report and review of the literature. *Acta Orthopedia Belgia.*, 68: 2-6.
10. **Sharma L, Pankaj A, Kumar V et al. (2005):** Bilateral anterior dislocation of the shoulders with proximal humeral fractures: a case report. *J Orthop Surg.*, 13: 303-6.
11. **Cresswell T, Smith R (1998):** Bilateral anterior shoulder dislocations in bench pressing: an unusual cause. *Br J Sports Med.*, 32: 71-2
12. **Yuen M, Wai-Kit T (2001):** The use of the Spaso Technique in a patient with bilateral dislocations of shoulder. *Am J Emerg Med.*, 19: 64-6.
13. **Maffuli N, Mekhail H (2013):** Bilateral anterior glenohumeral dislocation in weight lifters. *Injury*, 21: 254-6.
14. **Lichfield J, Subhedar V, Beevers D et al. (1988):** Bilateral nocturnal dislocation of shoulders due to nocturnal hypoglycemia. *Postgrad Med J.*, 64: 450-2.