

## Bilateral Anterior Glenohumeral Dislocation A Case Report and A Review of the Literature

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Volume 3 Issue 5- 2020

Received Date: 24 Apr 2020

Accepted Date: 04 May 2020

Published Date: 07 May 2020

### 1. Abstract

We report an unusual case of simultaneous bilateral anterior shoulder dislocation following trauma. There was no peripheral motor, sensory or vascular deficit. The patient was treated by closed reduction of both dislocations followed by immobilization for 4 weeks and subsequent rehabilitation. A review of the literature is presented.

### 2. Key Words:

Simultaneous bilateral anterior shoulder dislocation

### 3. Introduction

The glenohumeral joint dislocation is the most common type of joint dislocation [1, 2]. Anterior dislocation has a higher incidence than posterior dislocation [3]. However, bilateral dislocation, either anterior or posterior, has rarely been diagnosed and reported in the literature [3-7]. Bilateral anterior dislocation occurs less frequently than bilateral posterior dislocation [8, 9]. Bilateral posterior dislocation occurs in patients with seizure disorders, after electroconvulsive therapy, in neuromuscular deficiencies and in emotionally disturbed individuals [10-14].

Simultaneous bilateral anterior dislocation of the shoulder occurs rarely and the mechanism of the injury is usually

the same as unilateral shoulder dislocation secondary to trauma [15]. A review of the literature reveals 44 published studies reporting on 52 cases of bilateral dislocation of the shoulder .

In this study we report an unusual case of simultaneous bilateral anterior shoulder dislocation following trauma.

### 4. Case Presentation

A 39-year-old female was presented to our emergency department with complaints of pain and deformity in both shoulders. The patient described that while she was walking, carrying a heavy bag on the left shoulder, she stumble over pavement and fell forwards, landing on her outstretched hands. There was no history of concomitant pathological status. Physical examination revealed obvious bilateral anterior glenohumeral dislocation with no peripheral motor, sensory or vascular deficit. These clinical findings were

confirmed with anteroposterior radiographs. No fracture was observed (picture 1).

Closed manipulations successfully and easily reduced both dislocations, by Kocher's manoeuver. Post-reduction

examination and radiographs were satisfactory (picture 2). She was placed in bilateral slings for 4 weeks. Progressive and controlled mobilization started after this period. The recovery was successful in that she regained a normal range of motion on both shoulders.

The literature review which follows would seem to suggest that this may not be as rare as previously thought.



Picture 1. Bilateral anterior glenohumeral joint dislocation is evident in antero-posterior view of thorax.



Picture 2: Anteroposterior shoulder's view after reduction.

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## 5. Discussion

Posterior shoulder dislocations account for only 4% of all shoulder dislocations [16, 17] anterior shoulder dislocations (95%) are far more common. Inferior shoulder dislocations (luxatio erecta), occurring in only 0.5% of cases, are extremely uncommon [18].

The combination of abduction, extension, and external rotation forces applied to the arm may result in an anterior

dislocation. Axial loading of the adducted, internally rotated arm may produce a posterior dislocation and may result from violent muscle contraction, by electrical shock or convulsive seizures. The combined strength of the internal rotators (latissimus dorsi, pectoralis major, and subscapularis muscles) simply overwhelms the external rotators (infraspinatus and teres minor muscles) [19].

Simultaneous bilateral anterior dislocation of the shoulder occurs rarely and the mechanism of the injury is usually the same as unilateral shoulder dislocation secondary to trauma [15].

Acute dislocations of the glenohumeral joint should be reduced as quickly and gently as possible. Various principles have been used in the reduction of shoulder dislocation, as Stimson's, Milch's or Kocher's technique [20].

Kocher's manoeuvre is a widely practiced method to reduce the dislocated shoulder and was our preferred technique for the reduction both of shoulders. The patient was placed in bilateral slings for 4 weeks and after this period she was referred in a physiotherapy department for 3 months. The final stage of rehabilitation involved a good return of the patient to her daily activities. Although her both shoulders were clinically stable and had no pain with a sufficient range of motion after treatment and 3 months follow-up, we recommended her an MR I control of the shoulders to eliminate the labral and the other soft tissue problems. Although our case had no fracture, the greater tuberosity is displaced in approximately 15% of all anterior dislocations [21]. According to the literature, bilateral shoulder dislocation was first reported by Mynter in 1902 in patients with excessive muscle contractions secondary to camphor overdose. Reviewing the literature, 44 studies were found, with 52 cases of bilateral anterior or posterior fractures-dislocation of the shoulder. The most common mechanisms producing bilateral anterior dislocation or fracture dislocation of the shoulder are fall while walking or from height (14 studies, 21 cases) or after

seizure (11 studies, 13 cases). Some others reason of bilateral shoulders fractures-dislocations was electric shock (4 studies, 4 cases), road traffic accident (2 studies, 2 cases), minor trauma in 1 study and finally in 2 studies no obvious cause was identified (Table 1).

As seems to literature research this type of injury may not be as rare as previously thought.

## 6. Conclusion

We report a case of bilateral shoulder dislocation following a fall in a young female patient that was successfully reduced in the emergency department of our institution. The literature review seems to suggest that this type of injury may not be as rare as previously thought.

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