



(CASE REPORT)



Bilateral anterior shoulder dislocation: A 3 cases report

Anas RGUIBI *, Mohamed FARGOUCH, Bienvenu Jean Celien OKOUANGO, Oussama Eladaoui, Yassir ELANDALOUSSI, Ahmed Reda HADDOUN, Driss BENNOUNA and Mustapha FADILI

Department of Traumatology and orthopedics Wing 4, University hospital center Ibn Rochd Casablanca, Morocco.

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Abstract

Introduction: Shoulder dislocations, common in emergency departments, often include anterior dislocations. Bilateral dislocations, particularly posterior, are rare and are generally caused by sporting accidents or convulsions. Bilateral anterior dislocations are even rarer and often of traumatic origin.

Case report: We analyzed three new cases of bilateral anterior shoulder dislocation, examining the mechanisms, risks and treatments

Discussion: Bilateral dislocation, often posterior but sometimes anterior, is rare and can result from high-energy trauma or convulsions. A careful clinical examination is crucial to avoid diagnostic errors. Approximately 15% of patients have greater tuberosity fractures. Arthroscopic Bankart and open Latarjet procedures are often recommended for the treatment of residual instability.

Keywords: Shoulder Dislocation; Bilateral Dislocation; Reduction; Instability

1. Introduction

Shoulder dislocations are among the most common dislocations encountered in emergency departments. The most common form is anterior dislocation. Bilateral shoulder dislocation is a very rare entity and is almost always posterior. Sporting accidents, seizures, electric shocks or electroconvulsive therapy usually causes such dislocations. However, simultaneous bilateral anterior shoulder dislocation is very rare and is usually of traumatic origin, with only a few cases described in the literature. A thorough clinical examination of the patient is essential to ensure that a bilateral dislocation is not missed. In this study, we report three new cases of bilateral anterior shoulder dislocation, analyzing injury mechanisms, risk factors and treatment approaches

2. Case report

2.1. Case 1

In this first case, we present a 32-year-old man who was admitted to the emergency room after a car accident. On initial examination, he complained of bilateral shoulder pain and inability to move his arms. Further clinical evaluation revealed notable deformity of both shoulders with loss of contour of the anterior glenohumeral joint, indicating bilateral dislocation. The patient's history revealed a significant frontal impact during the accident, suggesting a mechanism of injury consistent with bilateral shoulder dislocation. Radiographs confirmed the diagnosis of bilateral anterior shoulder dislocation. The patient was treated urgently with reduction maneuvers under general anesthesia,

* Corresponding author: Anas RGUIBI

followed by immobilization of the shoulders in slings. Short-term follow-up showed gradual recovery of mobility and relief of pain, demonstrating the effectiveness of emergency treatment in this case of bilateral shoulder dislocation.



Figure 1 Clinical aspect of the first patient bilateral anterior dislocation of the shoulder



Figure 2 Anterior-posterior of the two shoulders of the first patient; showing bilateral anterior shoulder dislocation

2.2. Case 2

In this second case, we report the case of a 45-year-old man who presented with bilateral shoulder dislocation after an accidental fall down the stairs. Upon arrival at the emergency room, the patient complained of severe pain in both shoulders and was unable to move her arms. Clinical examination revealed obvious deformation of the shoulders with significant limitation of joint mobility and signs of anterior dislocation. There was no disturbance in the sensitivity of the stump of both shoulders. The radial pulse was present in both limbs, the neurological examination was normal. Clinical history confirmed a fall onto the shoulders, resulting in direct trauma to the glenohumeral joints. The radiographs confirmed the diagnosis of bilateral anterior dislocation of the shoulder with tearing of the greater tuberosity of the left side. The patient was treated urgently with reduction maneuvers under anesthesia, followed by immobilization of the shoulders in slings. Short-term follow-up showed progressive improvement in pain and mobility, with satisfactory recovery of shoulder functions. This case highlights the importance of prompt assessment and appropriate intervention for the effective management of bilateral shoulder dislocations



Figure 3 Clinical appearance of the second patient bilateral anterior shoulder dislocation



Figure 4 Anterior-posterior and lateral view of both shoulders of the second patient: showing bilateral anterior shoulder dislocation



Figure 5 Control radiograph after reduction of shoulder dislocation

2.3. Case 3

In this third case, we describe a 35-year-old man who was admitted to the emergency room after being found unconscious at his home 4 days before. On initial examination, the patient was confused and complained of pain in both shoulders. Clinical evaluation revealed obvious shoulder deformity with limited mobility and extensive ecchymosis on the anterior aspect of the right arm. By interviewing his family members, we learned that the patient had a history of seizures. The radiographs confirmed a bilateral anterior dislocation of the shoulder with a tearing of the right greater tuberosity. The patient's history and radiographic findings suggested that the dislocations occurred during a seizure.

The patient was treated urgently with reduction maneuvers under anesthesia, followed by immobilization of the shoulders in slings with arthroscopic screwing of the greater tuberosity. A complete neurological assessment was performed to assess possible nerve damage. The patient was also referred to a specialist for further evaluation and management of his epileptic condition.

This case highlights the importance of considering potential underlying causes of bilateral shoulder dislocations, particularly in patients with a history of seizures. Multidisciplinary management, including thorough neurological assessment and prompt orthopedic intervention, is essential to ensure optimal outcomes for these patients.



Figure 6 Clinical appearance of the 3rd patient bilateral anterior shoulder dislocation

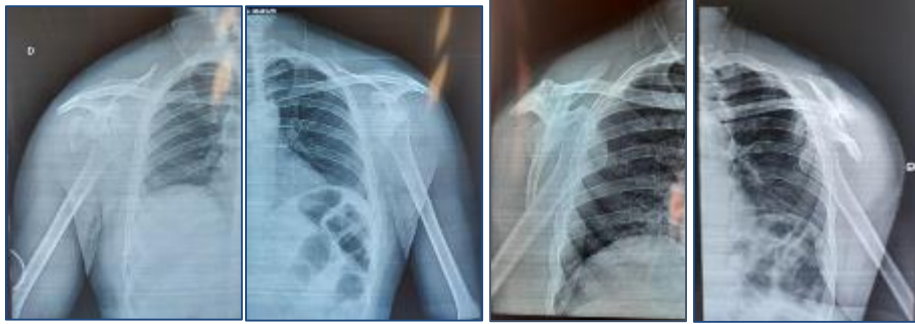


Figure 7 Anterior-posterior and lateral view of both shoulders of the 3rd patient .showing bilateral anterior shoulder dislocation



Figure 8 Control radiograph after reduction of shoulder dislocation



Figure 9 Control radiograph after screwing of the greater tuberosity

3. Discussion

Shoulder dislocations are the most common form of major dislocations treated in the emergency department, constituting 85% of all cases [1-3]. They are divided into three categories: anterior, posterior or inferior. Nearly 95% of shoulder dislocations are anterior, only 4% are posterior, and lower dislocations represent only 0.5% of all cases [4-5]

Bilateral shoulder dislocation can present in different forms, among which posterior dislocation is the most common. However, cases of bilateral anterior shoulder dislocation have also been reported, although they are rare and often associated with high-energy trauma, such as high-speed sports accidents. Monitoring of muscle contractions (37%) due to convulsions (33%) of different etiologies - epileptic (13%), toxic (13%), hypoglycemic (6%) or hypoxic (1%) - or electrocution (4 %) [6]. We reviewed three cases of bilateral anterior shoulder dislocation, each occurring in different circumstances. In these cases, we have found that even minor trauma, such as household accidents, can cause this form of dislocation. It is important to emphasize that the rarity of this lesion and the difficulty in detecting symmetry of dislocations during clinical examination may result in missed or delayed diagnosis. Previous studies have shown that more than 15.7% of bilateral shoulder dislocations are not diagnosed immediately [6], highlighting the need for a rigorous clinical examination followed by radiographs to confirm the diagnosis. Almost all of these cases were non-

traumatic and were due to violent muscle contractions caused by epileptic or toxic seizures (50%), electrocution (20%) or, in the rest of the cases, an unknown cause. After reduction, it is essential to carefully monitor the position of the humeral heads and look for possible complications, such as associated bone lesions. Approximately 15% of patients with shoulder dislocations have greater tuberosity fractures [7]. Bankart fractures, which affect the lower part of the glenoid, are more common in young patients and represent approximately 20% of anterior dislocations [8]. A literature review conducted for this case report found that among 12 cases of bilateral anterior dislocations, three were associated with fractures, while among six cases of bilateral posterior dislocations, four involved fractures. Thus, a higher percentage of bilateral posterior dislocations appears to be related to fractures compared to bilateral anterior dislocations. In addition to Hill-Sachs injuries and tuberosity avulsion fractures, other complications of shoulder dislocations can include rotator cuff tears and vascular injuries [9,10]. Although there are numerous reduction techniques described in the literature, there is no consensus on the best approach, thus highlighting the need for individualized assessment of each case. In younger patients, the main concern after reduction is the risk of recurrent shoulder instability. Studies have shown that a significant proportion of these patients develop recurrent instability within two years of the initial event [11], thus warranting a surgical approach to stabilize the shoulder and prevent future dislocations. Many options are possible, but the most recommended are the arthroscopic Bankart and open Latarjet procedures [12]. In our cases, we opted for a period of immobilization followed by early rehabilitation, with satisfactory clinical results. However, it is important to recognize that each patient has unique characteristics and the treatment plan should be tailored accordingly.

4. Conclusion

Bilateral shoulder dislocations, although rare, represent a complex clinical challenge. Through the analysis of three cases, we highlighted the importance of careful assessment, appropriate management and long-term monitoring to optimize clinical results. These cases highlight the need for an individualized approach, combining conservative or surgical treatment according to the patient's needs. Careful attention to prevention of recurrence and management of complications is crucial to improve the quality of life of patients with bilateral shoulder dislocations.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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