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Case Report

Posterior Glenohumeral Dislocation: Two Cases

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Received: June 07, 2020; **Published:** July 29, 2020

Abstract

Posterior glenohumeral dislocation is rare, representing less than 3% of all dislocations of the shoulder. The main causes are direct or indirect trauma, convulsive episode or electrocution. The diagnosis is missed in 50 to 80% of cases during the initial presentation. Clinical signs are not very noisy and radiological imaging is often inadequate. Late diagnosis requires complicated surgery with complications. The purpose of this article is to detail the clinical and radiological aspects of this pathology to increase its diagnosis rate.

Keywords: *Dislocation; Posterior; Shoulder*

Introduction

Posterior glenohumeral dislocation is a rare entity, representing less than 3% of dislocations of the shoulder. The main etiologies are direct and indirect trauma, seizures and electrocution. Clinical and radiological signs of posterior dislocations of the shoulder have been well defined in the literature by Bernageau and Patte, but they usually go unnoticed during the initial consultation with important consequences on the functional prognosis of the shoulder [1]. Here we report the cases of two patients with posterior glenohumeral dislocation.

Observations

A 37-year-old man, a handball player with no particular antecedent, goes to the emergency room for a total and painful functional impotence of the right shoulder, following a trauma during sports practice by falling on his right shoulder. On examination, the patient presents himself in the attitude of the trauma of the upper limb. There is no change in the curve of the shoulder, the mobility of the shoulder is very limited with a total loss of external rotation, and the shoulder is spontaneously in internal rotation. Anteflection is possible but very limited and vasculonervous examination of the right upper extremity without particularity. The radiograph of face and profile shows signs consistent with posterior dislocation (Figure 1). The patient underwent a reduction under general anesthesia and then immobilization of the shoulder in external rotation for one month.

A 54-year-old woman falls heavily on the anterior aspect of her left shoulder. She shows up in the emergency department with a violent pain and total functional impotence, the left shoulder being frozen in internal rotation. The clinical examination does not find any bone deformity and the curve of the shoulder is respected. The frontal and lateral X-rays confirmed the diagnosis of posterior glenohumeral

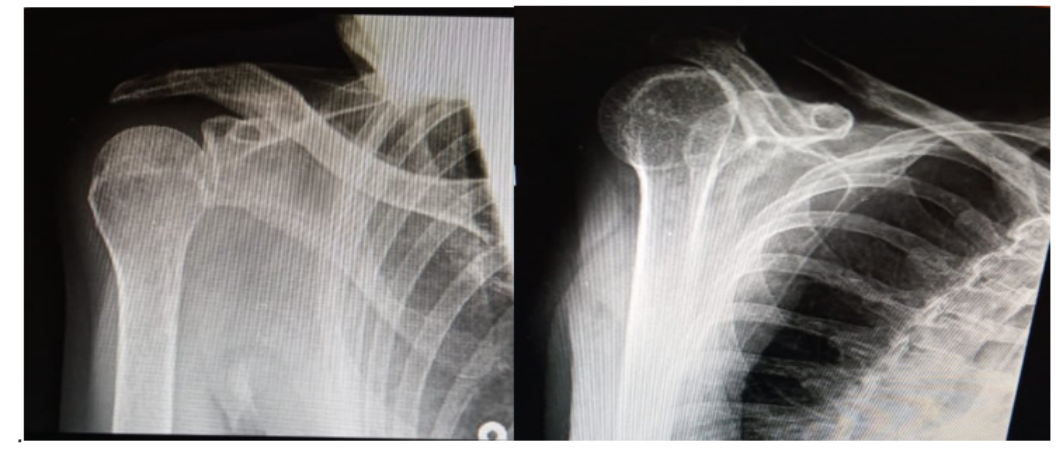

Figure 1: *X-ray of face and profile illustrating the rotation internal humeral head with the sign of the bulb.*

dislocation (Figure 2). The patient benefited from a reduction under sedation and then from immobilization of the shoulder in external rotation during 4 weeks.

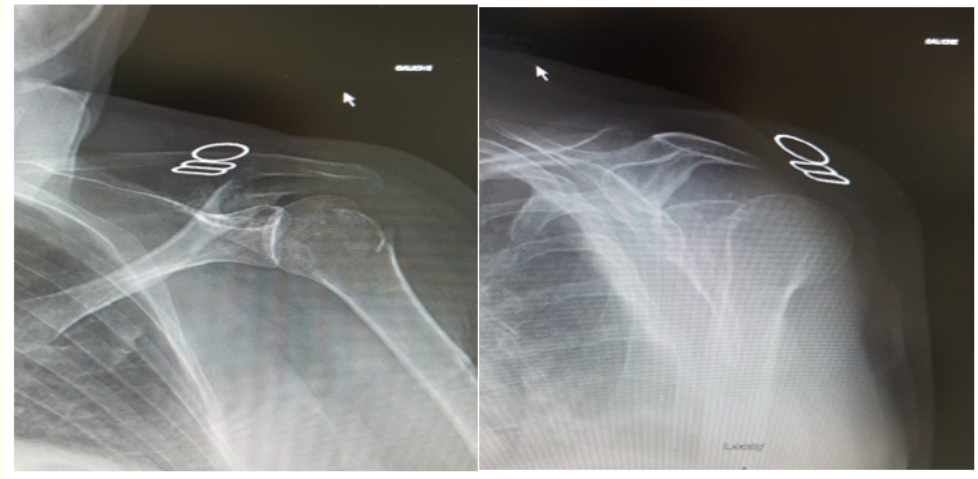

Figure 2: *X-ray of face and profile highlighting internal rotation and posterior position of the humeral head.*

Discussion

Posterior glenohumeral dislocation falls within the spectrum of posterior instabilities, including acute dislocation (duration of less than six weeks), chronic dislocation (duration greater than six weeks) and recurrent dislocation; the latter form is the most common [2] and will not be discussed in this article. It is an infrequent lesion whose diagnosis is often missed in 50 to 80% of cases due to its rarity,

lack of knowledge of the clinic generally not very noisy and radiological assessment inadequate or difficult to interpret [3]. The typical mechanism of post-traumatic dislocation is an axial force exerted on the arm extended in front elevation and internal rotation. More rarely, it may be due to direct anteroposterior trauma [4]. In epilepsy and electrocution, the posterior dislocation mechanism is a desynchronization between the muscles responsible for internal rotation that take over those of external rotation. Rarely posterior dislocation can be bilateral (7%). It preferably affects the young adult male. It is important to think systematically about posterior dislocation of the shoulder in the face of unexplained functional impotence or secondary to a high velocity accident or a tetanization (seizures, electrocution).

Thorough clinical examination of the shoulder is fundamental because it often helps to correct the diagnosis. The following classical signs described for the first time by A. Cooper in 1839 [5].

At the inspection, the patient presents himself in the attitude of the trauma of the upper limb. There may be an inconstant hollow in the anterior aspect of the shoulder with a prominent coracoid process and bulging of the posterior aspect of the shoulder. Examination of mobility shows a fixed internal rotation with a complete and pathognomonic loss of external rotation, as well as a limitation of anterior elevation of the arm and supination of the forearm [6]. It may also be accompanied by bone lesions in the glenoid and humerus, labral or rotator cuff lesions, and vascular lesions that are important to detect in order to eliminate a complication that aggravates the disease. functional prognosis [7]. The diagnosis is based on complete and complete radiological clinical examinations, including a true face incidence of the glenohumeral joint and an axillary view. In a frontal view, the radiographic abnormalities are subtle but very evocative: disappearance of the glenohumeral line, internal rotation of the humerus, disappearance of the acromio-humeral space and above all sign of the bulb, translating a rounded appearance unusual of the humeral head which is in forced internal rotation. The axillary profile, the most contributive, has a humeral head behind the glenoid and evaluates the volume of the eventual anterior notch. If this incidence is not feasible, a Bloom-Obata (glenohumeral profile) or Lamy (cuff profile) profile helps with the diagnosis. Finally, the radiological signs being very subtle on the standard images, the scanner makes it possible to affirm the diagnosis and to highlight any associated bone lesions. The treatment consists of a reduction of dislocation under general anesthesia, ideally performed in the operating room by an orthopedic surgeon followed by immobilization in abduction lateral rotation at 10° for two to three weeks. Early specialized rehabilitation is then fundamental. Surgical intervention may, however, be appropriate depending on the size of the humeral defect, the various associated lesions, the patient's age and eventual history. Specialized rehabilitation is then fundamental [8].

Conclusion

Posterior glenohumeral dislocation is a rare diagnosis and still too often missed during its initial presentation.

Careful anamnesis and clinical examination with adequate radiological assessment minimizes the risk of non-diagnosis timely management, a closed reduction under sedation is the guarantor for a better prognosis.

Consent

The patient has given their informed consent for the case to be published.

Competing Interests

The authors declare no competing interest.

Authors' Contribution

All authors have read and agreed to the final version of this manuscript and have equally contributed to its content and to the management of the manuscript.

Bibliography

1. Cunningham G and Hoffmeyer P. "Luxation postérieure de l'épaule, défis diagnostiques et thérapeutiques". *Revue Médicale Suisse* 7 (2011): 2489-2493.

2. Ramsey ML and Klimkiewicz JJ. "Instability shoulder: Diagnosis and management. in: Disorders of the shoulder: Diagnosis and management". London: Lippincott Williams and Wilkins (1999): 295-297.

3. Robinson CM and Aderinto J. "Posterior shoulder dislocations and fracture-dislocations". *Journal of Bone and Joint Surgery American* 87 (2005): 639-650.

4. Blasier R., *et al.* "Posterior glenohumeral subluxation: Active and passive stabilization in a biomechanical model". *Journal of Bone and Joint Surgery American* 79 (1997): 433-440.

5. Cooper A. "On the dislocations of the os humeri upon the dorsum scapulae, and upon fractures near the shoulder joint". *Guy's Hospital Reports* 4 (1839): 265-284.

6. Buhler M and Gerber C. "Shoulder instability related to epileptic seizures". *Journal of Shoulder and Elbow Surgery* 11 (2002): 339-344.

7. Rowe C and Zarins B. "Chronic unreduced dislocation of the shoulder". *Journal of Bone and Joint Surgery American* 64 (1982): 494-505.

8. Walch G., *et al.* "Unreduced posterior luxations and fractures-luxations of the shoulder. About 30 cases". *Revue De Chirurgie Orthopedique Et Reparatrice De L'appareil Moteur* 76 (1990): 546-558.

Volume 11 Issue 8 August 2020