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Posterior Shoulder Dislocation: About a Case and Literature Review

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Abstract **Original Research Article**

Posterior glenohumeral dislocation is a rare entity representing less than 3% of all shoulder dislocations. The main etiologies are direct or indirect trauma, seizures and electrocution. Due to clinical signs that are sometimes not very obvious compared to the anterior dislocation and inadequate radiological assessments, the diagnosis is missed in 50 to 80% of cases during the initial presentation. The non-diagnosis of a posterior dislocation most often results in a stiff and painful shoulder settling in chronicity. If the cause is not recognized, which is unfortunately too often the case, many useless rehabilitation and physiotherapy sessions ensue, or even the initiation of alternative medicine with, as a result, the loss of sports and, more seriously, professional activity. Other disabling complications are to be feared, in particular the appearance of glenohumeral instability with episodes of recurrent posterior dislocations, an osteoarthritis model or avascular necrosis of the humeral head. These situations are avoidable if the diagnosis is made from the outset because remedying them, after sometimes-long delays (several months), requires complex surgical reconstruction with a variable success rate. The purpose of this article is therefore to highlight and clarify the challenges and pitfalls presented by posterior shoulder dislocation, its diagnosis and management.

Keywords: Shoulder-Dislocation-Posterior-Pain-X Ray.

INTRODUCTION

Although shoulder dislocations are relatively frequent, posterior dislocations are rare (2 to 5% of cases). Posterior anatomic lesions may be isolated or associated with capsular distension, bone fractures or erosion of the posterior glenoid. The most common causes of posterior dislocation are seizures, electrocution, and trauma.

Posterior shoulder dislocation is a difficult diagnostic and can have serious consequences on joint function, including chronic dislocation, osteoarthritis, and avascular necrosis of the humeral head. We report the observation of a posterior dislocation of the shoulder associated with a fracture of the clavicle in a young 30-year-old patient victim of a road accident.

MATERIALS AND METHODS

This is a 30-year-old patient with no particular history who presented to the emergency room with pain and functional impotence of the right shoulder following a public road accident, during which he fells from his motorcycle with stitches impact on his right shoulder. The examination of the musculoskeletal system showed a traumatized attitude of the right upper limb, with external rotation and abduction impossible but without sensory neurological deficit. Palpation revealed a sunken anterior shoulder, a prominent coracoid process with a bulging posterior shoulder, and pain on palpation of the clavicle.

An X-ray revealed a loss of joint congruence with disappearance of the space between the head of the humerus and the anterior border of the glenoid. In addition, an ampulla sign was observed, reflecting maximum forced internal rotation as well as a displaced fracture of the middle 1/3 of the clavicle.

Figure 1: Frontal X-ray showing loss of joint congruence and joint space with a positive ampulla sign

Figure 2: Scope control of the reduction showing a congruent glenohumeral joint

Figure 3: Shoulder X-ray showing the reduction of the dislocation without other lesions associated with a reduction of the clavicle fracture

RESULTS

The patient was transported to the operating room, under general anesthesia, a reduction of the dislocation was carried out by external maneuver involving a 90° traction, an abduction and an external rotation, controlled by fluoroscopy, then stabilized in abduction and in external rotation by a sling with cushion, maintained for 4 weeks, followed by gentle rehabilitation of the shoulder. The follow-up radiograph

confirmed the reduction with no other associated lesions, including the reduction of the clavicular fracture.

DISCUSSION

Posterior glenohumeral dislocation is one of the posterior instabilities, which includes acute dislocation (< 6 weeks), chronic dislocation (> 6 weeks) and recurrent dislocation. The main etiologies are high energy trauma, epileptic seizures and more rarely electrocution. Traumatic posterior dislocation is often caused by an axial force exerted on the outstretched arm in anterior elevation and internal rotation, placing the shoulder in an unstable position. More rarely, it may be due to direct anteroposterior trauma. The typical presentation is an arm held in adduction and internal rotation with the following signs: mechanical limitation of the external rotation of the shoulder and the anterior elevation of the arm, limitation of the supination of the forearm, hollow of the anterior shoulder with a prominent coracoid process and bulging posterior shoulder. On the AP view, the classic sign is that of an ampulla due to the internal rotation of the humerus. Other signs include loss of joint space and humeral head injury caused by Maclaughlin's cephalic impaction or notch. Initial management involves emergency reduction of the dislocation to prevent complications. The reduction is generally performed under general anesthesia by combining adduction, internal rotation and traction in the axis of the upper limb. It is necessary to check the stability of the joint in different directions. If the dislocation remains irreducible, surgery will be necessary.

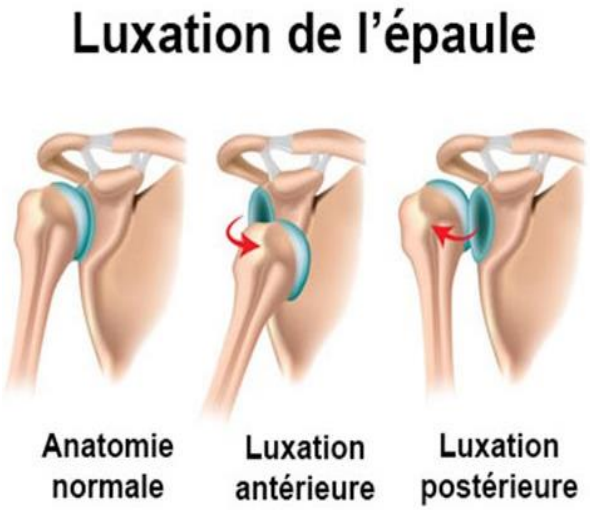

Figure 4: Representations of an anterior and posterior dislocation

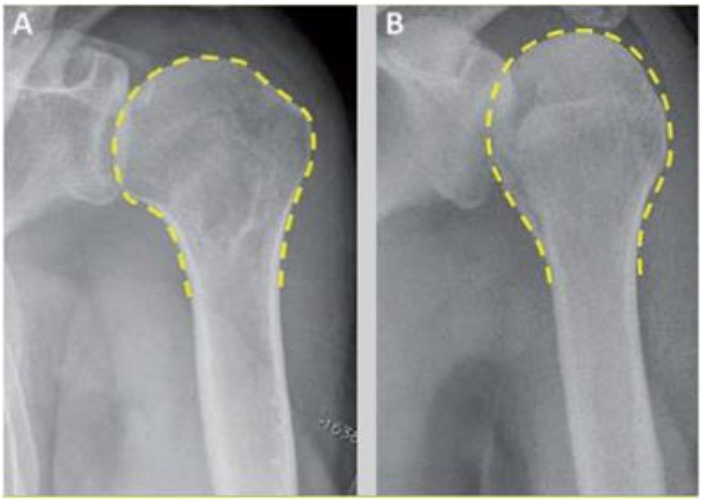

Figure 5: Radiological signs on frontal view; A) Normal shoulder. Congruent glenohumeral space; B) Rounding of the humeral head ("bulb" sign)

Figure 6: Posterior dislocation of the shoulder on an axial view

Figure 7: Posterior dislocation of the shoulder on a lateral view

CONCLUSION

Posterior glenohumeral dislocation constitutes a challenge diagnostic due to its rarity, mild clinical signs and frequent inadequacy of radiological assessments. It is therefore crucial to diagnose this condition early in order to prevent complications, because in the event of chronicization, the osteochondral lesions can worsen and lead to joint destruction.

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