

## Irreducible Acute Posterior Shoulder Dislocation: About A Case

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### Case Report

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**Abstract:** Posterior shoulder dislocations are still a challenge for the treating physician. The mechanisms of trauma are varied, which complicates diagnosis. Missed or delayed diagnosis and treatment can have serious deleterious effects on shoulder function. Here we present the case of a young patient who suffered a direct trauma on the left shoulder stump, resulting in posterior glenohumeral dislocation, irreducibly orthopedic. Preoperative CT scan and surgical exploration, performed by a delto-pectoral approach, showed the presence of "Hill-Sachs lesion" not exceeding 15% of the humeral circumference, and coming to stop against the posterior border of the glenoid cavity, without ligamentous or capsular interposition. The shoulder was stable after reduction. The surgical procedure was completed by a capsulorrhaphy, without the need to fill the humeral defect.

**Keywords:** Posterior shoulder dislocation, Irreducible, Reverse Hill-Sachs, Orthopedics.

### INTRODUCTION

Posterior glenohumeral dislocation is a very rare entity among all shoulder dislocations. In 2/3 of the cases the diagnosis is very late, which considerably changes the therapeutic choice as well as the prognosis. We report a rare case of a patient who presents an irreducible acute posterior glenohumeral dislocation, without ligamentous or capsular interposition.

### CASE REPORT

This is a 28-year-old male patient with no specific history, ictim, the same day during a physical violence, of a direct trauma on the stump of the left shoulder, causing a pain with functional impotence of the upper limb.

The patient had an upper limb in internal rotation with limitation of external rotation. There was no neurological deficit, and the pulse was present at the left upper limb. X-rays of the shoulder face and profile performed in emergency showed posterior dislocation of the shoulder (Figure-1).

The patient received an attempt at orthopedic reduction under general anesthesia in the operating room, but the dislocation was irreducible, thus imposing the realization of a CT complement which allowed objectifying the presence of a previous notch of Mac Laughlin occupying 15% of the circumference of the humeral head (Figure-2).

The patient was readmitted to the operating room for open reduction. The shoulder was approached by an anterior deltopectoral approach; the surgical exploration objectified the presence of an anterior

humeral defect around 15% of the circumference of the humeral head, abutting the posterior edge of the glenoid cavity, without ligamentum or capsular interposition (Figure 3). A simple and gentle traction has achieved the reduction of the glenohumeral joint. The surgical procedure was completed by a capsulorrhaphy. A scanner control showed that the humeral head is in place (Figure 4).

In post-operative, the shoulder was immobilized in a 20° abduction splint and neutral rotation for 6 weeks, with passive mobilization assisted by the third week and active assisted by the sixth week (Figure-5).

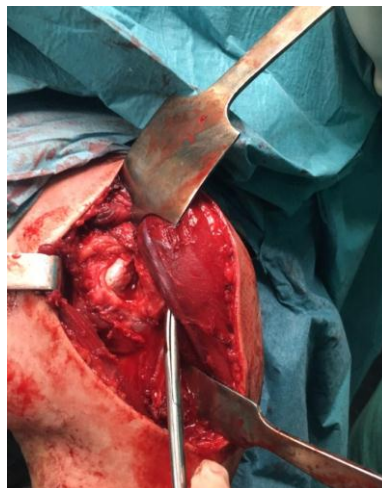
The functional result, with a decline of 6 months, was satisfactory, without recurrence or limitation of shoulder mobility.



**Fig-1: X-ray of the left shoulder showing aspect of posterior glenohumeral dislocation**



**Fig-2: CT images of our patient with 3D reconstruction showing posterior dislocation of the shoulder with "Hill-Sachs lesion" resulting from the impact of the humeral head on the posterior rim of the glenoid cavity**



**Fig-3: Per-operative view showing the "Hill-Sachs lesion" not exceeding 15% of the perimeter of the humeral head**



**Fig-4: postoperative CT images a humeral head in place with a minimal humeral notch**



**Fig-5: Immobilization of the shoulder in abduction of 20% and neutral rotation**

## DISCUSSIONS

Posterior shoulder dislocations are rare and represent only 2% of all shoulder dislocations. Posterior shoulder dislocations are missed on initial diagnosis in more than 60% of cases. Posterior shoulder dislocations result from axial loading of the adducted and internally rotated shoulder, violent muscle contractions (resulting from seizures or electrocution), a direct posterior force applied to the anterior shoulder [1-3].

The use of CT in the preoperative evaluation of an irreducible shoulder dislocation can aid the surgeon in his operative approach, looking especially for the existence of a humeral defect (reverse Hill-Sachs lesion) while specifying its size. MRI may also be beneficial in seeking capsular or ligamentous interposition.

Hill-Sachs lesion is a crucial factor in the therapeutic management of posterior dislocation of the shoulder [4]. When the defect does not exceed 25%, the therapeutic course will depend on the delay in management and all authors agree that closed-area orthopedic reduction is possible before 21 days [5, 6].

Indeed, acute posterior dislocations of the shoulder are almost universally treated by closed reduction. Irreducible acute posterior shoulder dislocation is rare, unless there is associated fracture [1]. Almost all cases to date have been irreducible

anterior dislocations. When roentgenograms reveal no fracture of the head of the humerus or glenoid cavity, it must be assumed that soft tissue lying between the humeral head and glenoid fossa is blocking the reduction [1]. The three soft tissue lesions that prevent reduction include the biceps tendon which is displaced and lies between the humeral head and glenoid fossa, the torn rotator cuff in front of the glenoid fossa, and the avulsed inferior portion of the capsule drawn into the joint between the humeral head and glenoid fossa.

In the case of orthopedic irreducibility, open reduction remains the rule [6]. This is, for most authors, conducted by anterior delto-pectoral approach, but some prefer a posterior approach. Causes of irreducibility are rarely found [6, 7].

As was the case of our patient, after surgical reduction, if the shoulder is stable to intraoperative testing with the same defect of less than 25%, no additional gesture is recommended, and the shoulder will be immobilized for 6 weeks, by forbidding to carry a hand in the back. In case of instability after testing for reduction, Cicak [7] recommends transferring the proximal third of the subscapularis tendon into the defect according to the Mc Laughlin technique, or transferring the trochanter according to the technique of Hawkins and Neer for improve stability conditions.

## CONCLUSION

Posterior glenohumeral dislocation is a rare entity among all dislocations of the shoulder and its diagnosis is often late. The realization of tomography have a considerable importance in its management by highlighting and precision of the size of the cephalic defect; which is a crucial factor in the therapeutic management of posterior dislocation of the shoulder. MRI may also be beneficial in seeking capsular or ligamentous interposition, except that its accessibility in emergencies remains limited.

## Conflicts of interest

The authors do not declare any conflict of interest.

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