



## Double Hill-Sachs lesion : a report of two cases

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**Hill-Sachs lesions are common after anterior dislocation of the shoulder. We present two cases of uncommon double Hill-Sachs lesions composed of a typical Hill-Sachs lesion and an atypical extra compression fracture with a rim of normal cartilage in between. Both patients had two anterior shoulder dislocations before surgery. These case reports show that recurrent posttraumatic anterior glenohumeral dislocations can result in increased damage to the humeral cartilage.**

**Keywords :** shoulder anterior dislocation ; Hill-Sachs lesion.

### INTRODUCTION

Glenohumeral compression lesions (Hill-Sachs lesions) are common after anterior shoulder dislocation (2). They are generated when the humeral head dislocates over the anterior glenoid rim. We present two cases of uncommon glenohumeral compression lesions, the double Hill-Sachs lesion, composed of a typical Hill-Sachs lesion and an atypical extra compression fracture with a rim of normal cartilage in between.

### CASE REPORTS

#### Case 1

The first patient is a healthy 28-year-old male, left hand dominant recreational ice hockey player. During one of his ice hockey games he had a

traumatic anterior dislocation of his right shoulder which required reduction in the emergency department under conscious sedation. Following reduction he was treated conservatively in a sling with early range of motion. About two and a half months later while engaging in Ukrainian dancing he redislocated his right shoulder. Once again it was reduced and placed in a sling. Postreduction radiographs showed a Hill-Sachs lesion. At the time of examination three weeks after the second dislocation, he had significant pain with any range of motion of his right shoulder. Given the history and the available radiographs, MRI was felt to be unnecessary and an arthroscopic stabilisation was proposed. Haematoma suggestive of recent trauma or dislocation was noted during arthroscopy. The rotator cuff appeared intact. A large Hill-Sachs lesion was noted at the posterosuperior aspect of the humeral head. A second Hill-Sachs lesion was

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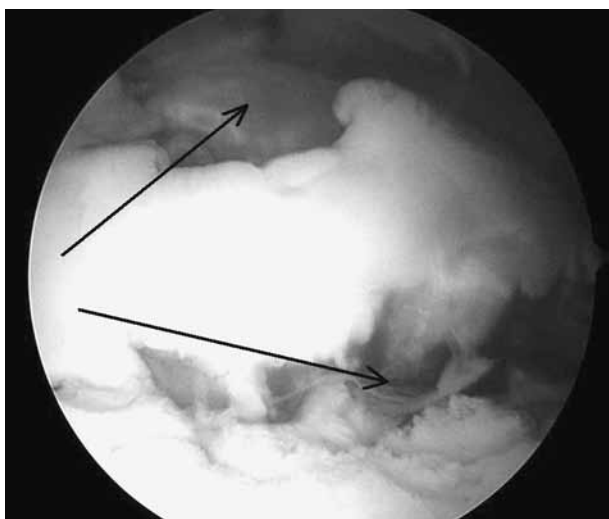
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**Fig. 1.** — Peroperative image of a double Hill-Sachs lesion (case 1- right shoulder).

noted more posterior and inferior to the first with a bridge of intact cartilage between the two lesions (Fig. 1). A Bankart lesion was present at the anteroinferior aspect of the glenoid and was repaired with suture anchors. The arm was taken out of the traction device and put through abduction-external rotation movements. The Hill-Sachs lesions were found to be non-engaging, and we therefore opted not to address these surgically.

## Case 2

The second patient is a 29-year-old, healthy, right hand dominant male who engages in recreational touch football. During one of his touch football scrimmages he fell awkwardly onto his left arm, resulting in an anterior dislocation of his left shoulder. Closed reduction was performed under conscious sedation. Postreduction radiographs confirmed the adequacy of the reduction and he was treated conservatively. He had no complaint of pain and instability for about a year and a half, until he had another fall resulting in a redislocation of his left glenohumeral joint. Once again it was reduced and placed in a sling. Preoperative MRI scan showed a double Hill-Sachs lesion (Fig. 2) as well



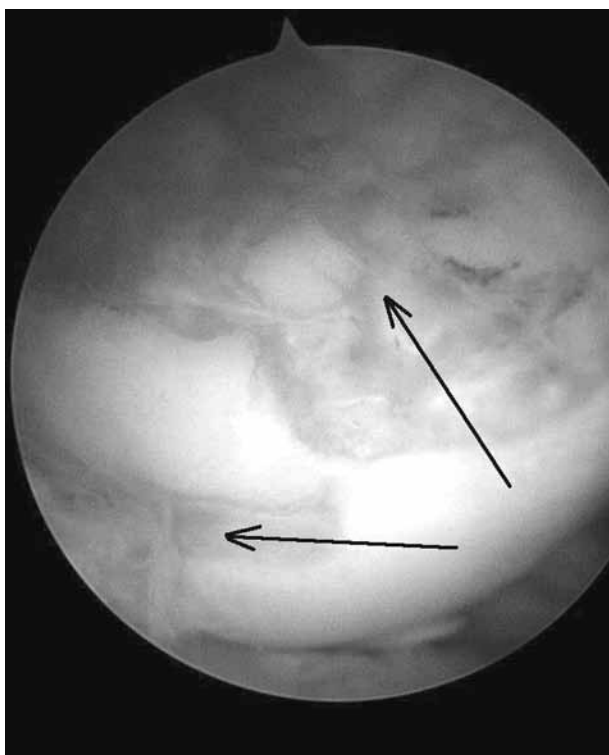
**Fig. 2.** — MRI showing the two Hill-Sachs lesions (case 2)

as a Bankart lesion. Arthroscopy showed also in this case a typical Hill-Sachs lesion, and a second smaller Hill-Sachs lesion separated by an intact cartilage bridge was noted (Fig. 3). The rotator cuff was intact, and the Bankart lesion was repaired with suture anchors. After stabilisation, the Hill-Sachs lesions were examined in abduction-external rotation and did not engage, so they were not addressed intraoperatively.

## DISCUSSION

As originally identified by Hill and Sachs, the posterolateral defect of the humeral head (Hill-Sachs lesion) is a common finding in patients with anterior dislocation of the shoulder (3). These lesions are caused by impaction of the posterosuperior aspect of the humeral head on the anteroinferior glenoid rim after anterior excursion of the humerus during an instability episode.

In a prospective observational study Taylor *et al* noted Hill-Sachs lesions in 57 of 63 first time dislocators; none of the lesions were noted to be large enough to affect glenohumeral stability (4). In their prospective multicentre arthroscopic study Spatchill *et al* found a significantly higher number



**Fig. 3.** — Peroperative image of a double Hill-Sachs lesion (case 2 – left shoulder).

of Hill-Sachs lesions in recurrent dislocators (83.9%) compared to first time dislocators (67.2%) (5). They also noted larger Hill-Sachs defects in patients with multiple dislocations compared to the first time dislocators.

Rowe *et al* described the size of the Hill-Sachs lesion as a percentage of the head involved – less

than 20% (minor defect), 20-50% (moderate defect), and greater than 50% (severe defect) (3). Burkhart *et al* showed inferior results with increased need for reoperations in patients with both a Bankart lesion and an engaging Hill-Sachs lesion (1).

To our knowledge there is no previous description of a double Hill-Sachs lesion in the literature.

These atypical double Hill-Sachs lesions show that recurrences after primary posttraumatic anterior-inferior shoulder dislocation can cause new compression fractures of the glenohumeral head. With repeated dislocation episodes these separate lesions maybe merge to form a larger defect and become engaging.

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