

Hill-Sachs lesion – a complication of glenohumeral joint dislocation

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The undiagnosed presence of an occult fracture of the posterolateral portion of the humeral head may contribute to clinically obscure symptomatology following dislocation of a shoulder joint. A discussion relative to the etiology, pathogenesis and statistical incidence of the Hill-Sachs deformity is offered. An emphasis is placed on appropriate imaging and diagnosis. An accompanying radiographic example is provided in order to enhance practitioner appreciation. (JCCA 1988; 32(2): 89-90)

KEY WORDS: Hill-Sachs lesion, shoulder dislocation, humeral head, manipulation, chiropractic.

La présence non décelée d'une fracture occulte de la partie postérolatérale du chef épitrochléen peut contribuer à obscurcir cliniquement la symptomatologie à la suite de la luxation d'une articulation de l'épaule. Une discussion se rapportant à l'étiologie, à la pathogénie et à l'incidence statistique de la déformation Hill-Sachs est offerte. L'accent est mis sur une visualisation et un diagnostic appropriés. Un exemple radiographique est joint afin d'améliorer l'appréciation du praticien. (JCCA 1988; 32(2): 89-90)

MOTS CLÉS: Lésion Hill-Sachs, luxation de l'épaule, chef épitrochléen, manipulation, chiropractie.

It is an uncontested fact that the glenohumeral joint is considered to be a relatively unstable articulation. Anatomically, the articular surface of the glenoid fossa is approximately one-third the size of the articular portion of the humeral head. Consequently, stability of this articulation is heavily dependant upon the surrounding ligamentous structures. Because of its anatomic configuration and the inherent predilection of this joint to injury, dislocations of the shoulder are not uncommon. Of the multiple variations of glenohumeral dislocation, anterior is by far the most frequent.¹ In excess of ninety-five percent of all shoulder joint dislocations assume this orientation. In addition, it has often been observed that an associated compression fracture of the posterolateral aspect of the humeral head may be precipitated by the impaction of this structure against the anterior rim of the glenoid fossa.¹ Although the resultant defect within the humeral head had been recognized for a century, it wasn't until a report by Hill and Sachs in 1940 offered the first English language review of this condition. The defect has since been termed "Hill-Sachs lesion."¹

The conditions which favour the production of this defect include; recurrent dislocations, prolonged dislocation and antero-inferior direction of dislocation. Hill and Sachs observed the lesion in twenty-seven percent of 119 cases of acute anterior dislocation and in seventy-four percent of 15 cases of recurrent anterior shoulder joint dislocations. Still, other examiners have noted the defect in fifty to one hundred percent of cases manifesting recurrent dislocations.¹

The substantial statistical discrepancies are largely attributable to the varied approaches to radiographic assessment of glenohumeral joint dislocations. In any event, it is prudent to secure tangential studies of the humeral head in order to radiographically demonstrate this lesion. It has been suggested that the projection of internal rotation best discloses the defect.² The value of fluoroscopy and computed tomography has yet to be fully realized. Radioisotopic imaging is likely useful.

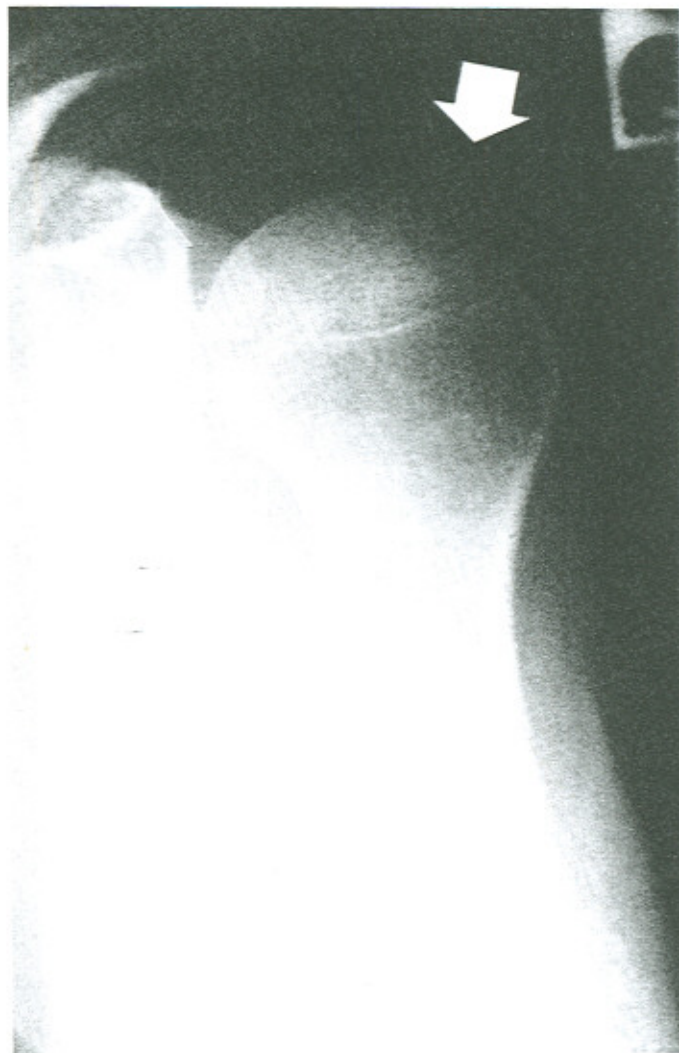


Figure 1 Internal rotation view of the left glenohumeral articulation disclosing the compression fracture (arrow) of the posterolateral aspect of the humeral head (Hill-Sachs defect).

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Figure 2 External rotation view of the left shoulder joint where the defect is not visualized.

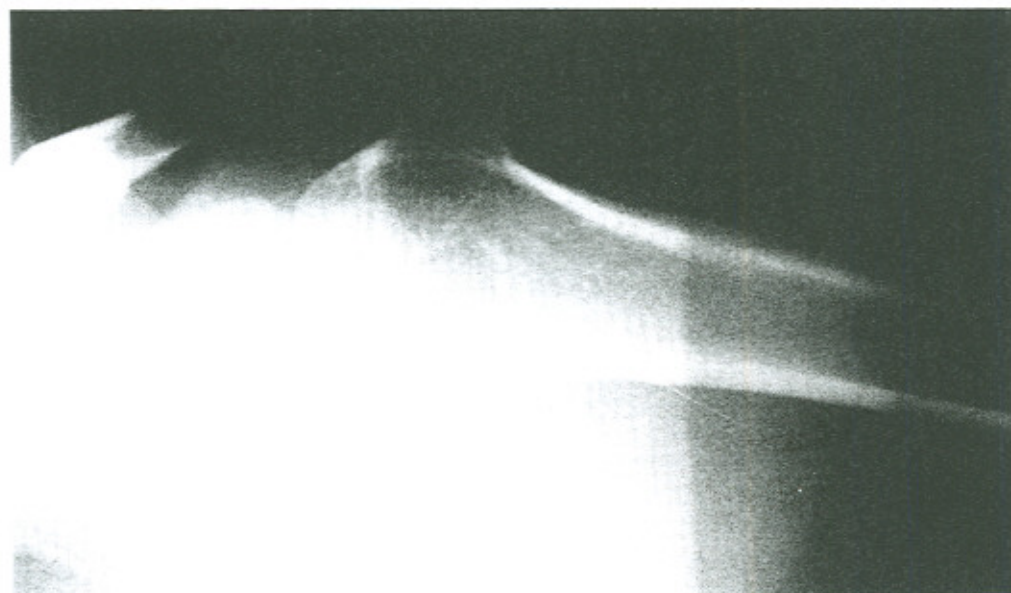


Figure 3 "Baby-arm" view of the left shoulder joint where the defect is once again completely obscured.

It is necessary to detect Hill-Sachs deformity in that it may be responsible for what might otherwise be clinically obscure symptomatology. The likelihood of potential recurrent dislocations and subsequent choice of therapeutic management may ultimately rely upon the recognition of such a disorder. A thorough search of the study for other variations and complications of glenohumeral joint dislocation including avulsive fragmentation of the anterior glenoid rim, Bankart lesions² or more obvious fractures through articular cartilagenous surfaces, should be conducted.

In conclusion, appropriate and accurate imaging, ideally appreciating the lesion in at least two or more projections is imperative to the successful disclosure, radiodiagnosis and management of this condition.

References

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