Acute traumatic posterior shoulder dislocation: MR findings

Nadja Saupe, Lawrence M White, Robert Bleakney, Mark E Schweitzer, Michael P Recht, Bernhard Jost & Marco Zanetti

PURPOSE
To retrospectively evaluate the appearance of lesions of osseous and soft-tissue structures of the glenohumeral joint on magnetic resonance (MR) images after first-time traumatic posterior shoulder dislocation.

MATERIALS AND METHODS
The study was institutional review board approved and HIPAA compliant, as appropriate, for the four institutions at which the involved patients were treated. Informed patient consent was obtained, where applicable. Thirty-six male patients (age range, 15-80 years; mean age, 40.2 years) with clinically documented first-time traumatic posterior shoulder dislocation were examined with MR arthrography (18 patients) or conventional shoulder MR imaging (18 patients). Causes of posterior shoulder dislocation were electric shock in one patient, seizure in one patient, and trauma in 34 patients. Hill-Sachs lesions, rotator cuff tears, biceps tendon abnormalities, posterior labrocapsular complex lesions, humeral head translation, and osseous glenoid version angle were evaluated. Spearman rank correlation and Student t test analyses were performed.

RESULTS
In 31 (86%) of the 36 patients, a reverse Hill-Sachs lesion was found. Eleven (31%) patients had a reverse osseous Bankart lesion. Twelve full-thickness rotator cuff tears were seen in seven (19%) patients: four supraspinatus tendon, three infraspinatus tendon, and five subscapularis tendon tears. Six (17%) patients had biceps tendon abnormalities. Posterior labrocapsular complex tears were identified in 21 (58%) patients: 10 (48%) with posterior labral sleeve avulsions and 11 (52%) with reverse Bankart lesions. Twenty-seven (75%) patients had a retroverted scaphoglenoid angle (mean, 4.5 degrees). The mean humeral translation distance relative to the osseous glenoid fossa was -4.8 mm; in 33 (92%) patients, this distance was translated posteriorly.

CONCLUSION
The MR appearance of traumatic posterior shoulder dislocation was characterized by reverse Hill-Sachs lesions in 86% of patients and posterocaudal labrocapsular lesions in nearly 60% of patients. Full-thickness rotator cuff tears were seen in approximately 20% of patients.

type: journal paper/review (English)
date of publishing: 05-05-2008
journal title: Radiology (248/1)
ISSN electronic: 1527-1315
pages: 185-93