

# Humeral avulsion of the glenohumeral ligament of the shoulder

R V P de Villiers (MB ChB, MMed (Rad D))<sup>1</sup>

J F de Beer (MB ChB, MMed (Orthop))<sup>2</sup>

K van Rooyen (MB ChB)<sup>2</sup>

P E Huijsmans (MD)<sup>2</sup>

C P Roberts (FRCS (Trauma and Orthop))<sup>2</sup>

D F du Toit (D Phil (Oxon), PhD, MB ChB, FCS (SA), FRCS (Ed), FICA (USA))<sup>3</sup>

<sup>1</sup> Dr van Wageningen and Partners, Vergelegen and Stellenbosch Mediclinics

<sup>2</sup> Cape Shoulder Institute, Cape Town

<sup>3</sup> Department of Anatomy, Stellenbosch University, W Cape

## Background

A 24-year-old rugby player presented to an orthopaedic surgeon with a history of dislocation of the left shoulder. It reduced spontaneously and dislocated again later during the same match.

On examination there was no residual instability, but the apprehension test for anterior instability was positive. Speed's test as well as O'Brien's test for SLAP (Superior Labrum Anterior to Posterior tear) lesions were negative. There were no signs of rotator cuff tear or impingement.

## Case report and diagnostic procedures

The patient was sent for an X-ray series consisting of the routine impingement series and additional views of the inferior glenoid (Bernageau and Westpoint). No fracture of the inferior glenoid was demonstrated.

A magnetic resonance imaging (MRI) scan was then requested to evaluate the labro-capsular structures and to exclude an occult fracture or articular surface tear of the rotator cuff. The MRI scan showed an avulsion on the inferior glenohumeral ligament attachment to the humerus (Figs 1 and 2). This is described as a HAGL lesion (Humeral Avulsion of the Glenohumeral Ligament).<sup>1</sup>

Arthroscopy of the shoulder confirmed the diagnosis of a HAGL lesion (Fig. 3). An open procedure was performed to repair the lesion. The postoperative period was uncomplicated and the patient made a full recovery with full range of motion and no residual instability.

## CORRESPONDENCE:

R V P de Villiers  
PO Box 317  
Somerset West  
7129  
Tel: 021-851 5545  
Fax: 021-852 2697  
E-mail: [rmldev@mweb.co.za](mailto:rmldev@mweb.co.za)



**Fig. 1. MR arthrogram of the shoulder. Coronal T1 fat-saturated study shows avulsion of the inferior glenohumeral ligament from the attachment onto the humerus (arrow). Note the J-shaped configuration of the axillary recess, which is normally U-shaped. Note the impaction fracture of the posterolateral humeral head (dotted arrow).**

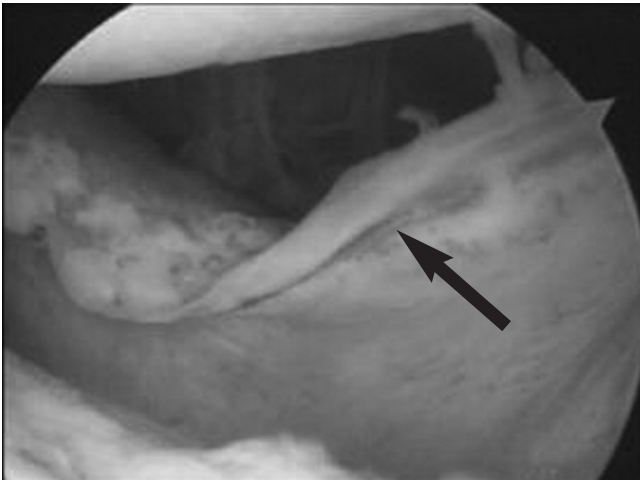
## Discussion

The HAGL lesion is an uncommon cause of recurrent dislocation of the shoulder<sup>1,10,13</sup> although biomechanical studies have found a higher percentage of HAGL lesions.<sup>2</sup> Because of the anterolateral to inferolateral location, HAGL lesions can be difficult to visualise during arthroscopy and a pre-operative diagnosis using MR arthrography can be useful. The most common consequence of a shoulder dislocation in the young subject is a Bankart lesion or a Bankart variant of the anterior glenolabral complex.<sup>5-7, 10, 11</sup>

In HAGL lesions there is a macroscopic tear of the capsule at the humeral attachment, also described as a reversed Bankart lesion. Associated injuries are common and include rotator cuff tears, Hill-Sachs fracture of the postero-superior humeral head, biceps tendon lesions and brachial plexus injury.<sup>3, 4, 12</sup>



**Fig. 2. MR arthrogram of the shoulder. ABER (abduction external rotation) view shows a lax inferior glenohumeral ligament.**



**Fig. 3. Arthroscopic view, looking from posterior through the joint at the anterior capsule. The capsule is torn off the humerus, with the fibres of the subscapularis seen deep to it.**

Imaging with MR arthrography is the non-invasive investigation of choice.<sup>4, 8, 9</sup> Management is usually surgical, although conservative management is used in selective cases.

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