

## Case Report

**Coexistence of Bankart lesion and adhesive capsulitis in two shoulders: A Case Report**

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**Abstract**

Bankart lesion is a critical anatomical lesion in patients with recurrent anterior shoulder dislocation. It is successfully managed arthroscopically with the aim of satisfactory clinical and functional outcomes. Whereas frozen shoulder is common among the female population with agonizing pain and functional disability which usually gets better over years. The treatment is mainly focused on controlling pain, restoration of range of movements and strengthening the joint by conservative treatment, failing which arthroscopy will be the last resort of management with favorable postoperative outcomes.

A 45-year-old Asian male presented to the hospital with a 10-year history of recurrent right anterior shoulder dislocation and a 2-year history of left shoulder joint pain which was aggravated by movement of left shoulder. The special tests on right shoulder were suggestive of glenohumeral instability, whereas on left shoulder they showed supraspinatus injury with subacromial bursa or rotator cuff impingement. Recent Magnetic resonance imaging of right shoulder revealed evidence of Hill-Sachs lesion of the humeral head with soft tissue Bankart lesion of the labrum. An ultrasound scan of the left shoulder revealed evidence of a partial tear of supraspinatus tendon just proximal to its attachment. After conservative treatments failed, the patient received arthroscopic right shoulder joint stabilization and arthroscopic release of the left shoulder joint capsule. The patient was able to resume his daily activities as usual after completion of a 6-month long recovery program.

A patient with simultaneous Bankart lesion and adhesive capsulitis in two shoulders is a rare presentation to clinical practice. Even though the outcomes were excellent following arthroscopic management, further studies are required to design standard treatment protocols for patients with coexistence of these two pathologies.

**Keywords:** Frozen shoulder, Bankart lesion, Hill-Sachs lesion, Arthroscopy, Physiotherapy, Shoulder joint

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## Introduction

The glenohumeral joint is an innately unstable ball-and-socket joint with complex anatomy and a large range of movements. Though its stability is maintained by an anatomical arrangement of soft tissue, muscle, and bone, it remains the most dislocated joint in the human body. Over 90% of glenohumeral dislocations are anteroinferior (1). Several key risk factors predispose to recurrent shoulder instability, including male sex, age <40 years at first presentation, joint hypermobility, and greater tuberosity fractures of the humeral head (2). The Bankart lesion is the most common sequelae of anteroinferior shoulder dislocation. There are two types of Bankart lesions: soft-tissue Bankart lesions are tears of the anteroinferior labrum and capsule, whereas bony Bankart lesions involve a fracture of the anteroinferior glenoid rim (3). Furthermore, compression fractures of the posterosuperior humeral head called Hill-Sachs lesions often arise from anterior shoulder dislocations. These lesions cause capsular laxity and decrease congruity between the humeral head and glenoid fossa, and may lead to recurrent shoulder dislocations. Arthroscopic stabilization is the most effective treatment for recurrent shoulder instability and is associated with low complication rates when performed under strict aseptic technique (4).

On the other hand, adhesive capsulitis is a chronic inflammatory disease that presents with pain and stiffness of the shoulder (5). It mainly affects individuals between 40-70 years of age and is more common among females (6). Adhesive capsulitis can be classified as either idiopathic/primary, or secondary; most cases are idiopathic. Although frozen shoulder is often a self-limiting disease, various treatment options are available including physical therapy, nonsteroidal anti-inflammatory drugs, corticosteroids, electrical stimulation, shoulder manipulation, hydrodilatation, and arthroscopic capsular release (7).

I present the case of a 45-year-old male patient with a coexistence of Bankart lesion and adhesive capsulitis in two shoulders who underwent arthroscopic Bankart repair and capsular release.

## Case presentation

A 45-year-old, Asian male presented to the hospital with a history of recurrent right anterior shoulder dislocation. Ten years ago, he had fallen on his outstretched right hand with the elbow extended and shoulder hyper-flexed above the head. He described immediate, intense pain and deformity of the right shoulder. However, his symptoms decreased after spontaneous reduction of the glenohumeral joint which occurred while lifting his right arm. He subsequently had several episodes of right shoulder dislocation even while sleeping, all of which spontaneously reduced. The patient also had a 2-year history of insidious onset dull left shoulder pain which radiated down the left arm and was aggravated by movement of the shoulder. There was no history of trauma or surgery to the left shoulder. He did not report any allergies or psychoactive substance use. The patient's activities of daily living and social activities had been significantly disturbed due to fear of impending right shoulder joint dislocation and stiffness of the left

shoulder joint. Conservative management with ayurvedic treatment had failed to improve his quality of life.

## Physical exam

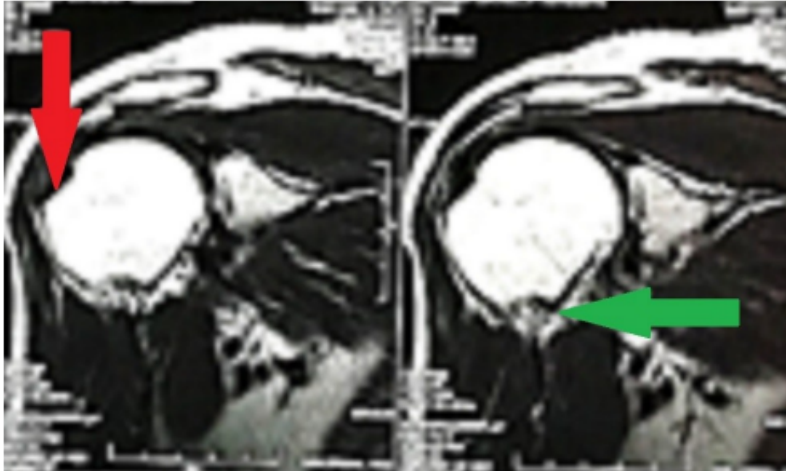
On inspection, the shoulders were symmetrical. There was restricted arm swinging on the left side and limited flexion and abduction on the right. The special tests on right shoulder were suggestive of glenohumeral instability, whereas on left shoulder they showed supraspinatus injury with subacromial bursa or rotator cuff impingement (Table 1). The neurovascular examination of the upper limbs and cervical spine was normal.

**Table 1.** Summary of the results of special tests on shoulder joints examination.

<i>Right Shoulder Joint</i>	<i>Left Shoulder Joint</i>
<ol style="list-style-type: none"> <li>1. (+) <i>Apprehension Test- Patient apprehensive of repeat dislocation.</i></li> <li>2. (+) <i>Load and Shift Test- Capsular laxity.</i></li> </ol>	<ol style="list-style-type: none"> <li>1. (+) <i>Jobe's Test- Supraspinatus injury.</i></li> <li>2. (+) <i>Neer's Test- Shoulder impingement.</i></li> <li>3. (-) <i>Drop Arm Test- No full thickness tear of supraspinatus.</i></li> <li>4. (-) <i>Speed Test- No pain in bicipital groove.</i></li> <li>5. (-) <i>Sulcus Sign- No indentation beneath the acromion.</i></li> </ol>
<i>Conclusion: Glenohumeral instability.</i>	<i>Conclusion: Supraspinatus injury with subacromial bursa or rotator cuff impingement.</i>

## Diagnosis

Magnetic resonance imaging (MRI) of the right shoulder revealed a Hill-Sachs lesion of the humeral head with a soft tissue Bankart lesion of the labrum (Figure 1). Therefore, it was decided to perform arthroscopic Bankart repair with stabilization of the shoulder joint using three shuttling suture anchors. An ultrasound of the left shoulder revealed a partial tear of the supraspinatus tendon just proximal to its attachment without evidence of bursitis, tendinitis, or calcification of the joint. Therefore, supraspinatus tendinitis associated with adhesive capsulitis was diagnosed, and arthroscopic release of the capsule was scheduled to be performed after the conclusion of physical therapy for the right shoulder.



**Figure 1.** Magnetic Resonance Imaging showing Hill-Sachs lesion (red arrow) and Bankart lesion (green arrow).

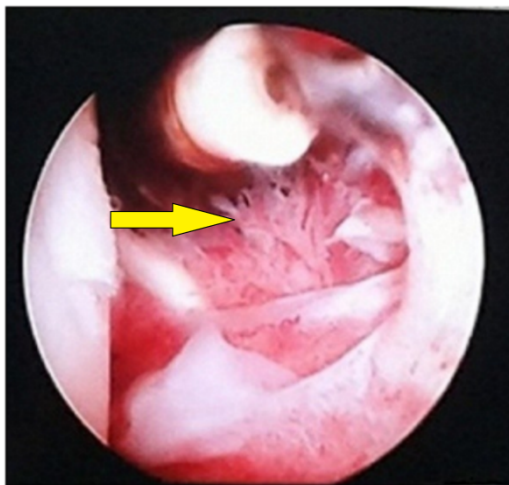
## Management

After performing diagnostic arthroscopy, a Hill-Sachs deformity and soft tissue Bankart lesion of the right labrum were identified (Figure 2). Then, the arthroscope was placed through an anterior-superior portal to mobilize the anterior-inferior capsulolabral complex. Finally, shoulder stability was achieved with three shuttling suture anchors placed at the 5.30-6.00, 4.30, and 3.00-3.30 clock positions. The patient's arm was placed in a sling postoperatively. He was instructed to wear a shoulder immobilizer for four weeks while beginning passive motion exercises. Supervised physical therapy was then initiated, with active and active-assisted range of motion. Strengthening exercises began eight weeks postoperatively. The patient was able to return to daily activities while maintaining strength, mobility, and stability of the right shoulder three months postoperatively.



**Figure 2.** Right shoulder in the beach chair position shows the arthroscopic view of soft tissue Bankart lesion of the labrum (blue arrow).

Once the patient was able to perform daily tasks without limitation using the right shoulder (approximately four months postoperatively), he presented for left arthroscopic capsular release. During diagnostic arthroscopy, a tight calcified capsule with minor tears in the supraspinatus tendon was identified. A partial synovectomy over the long head of biceps, rotator cuff, anterior superior capsule, coracohumeral ligament, and superior glenohumeral ligament was performed to adequately release the capsule. Hypertrophic and calcified tissues were then removed using a shaver (Figure 3). Finally, manipulation under anesthesia was performed, and the upper limb was placed in a sling. The patient was discharged following an uncomplicated postoperative period. He participated in six weeks of physical therapy and his left shoulder pain and activities of daily living improved gradually. The patient was able to resume his daily activities as usual after completion of a 6-month long recovery program.



**Figure 3.** Left shoulder in the beach chair position shows shaving of the hypertrophic and calcified tissue (yellow arrow).

## Discussion

A patient with simultaneous Bankart lesion and adhesive capsulitis in two shoulders has not been reported in the literature to date (8). Because of this patient's prolonged history of disability and combined pathology, he was offered arthroscopic treatment for both shoulders to minimize damage and maximize the chance of regaining full motion. The next challenge was determining which arthroscopic procedure to perform first. For that, we considered the possible sequelae of each pathology as well as the duration of rehabilitation after each procedure: recovery is usually 12-22 weeks for arthroscopic Bankart repair, and 12-16 weeks for arthroscopic capsular release (9,10). Because of the risk of brachial plexus injury and rotator cuff tears following recurrent shoulder dislocations, it was decided to perform the arthroscopic Bankart repair first.

The foremost limitation of this case report is our inability to make treatment recommendations based on a single patient's experience. Staging this kind of treatment can vary from patient to patient according to their clinical picture. Although we identified patient age and

level of motivation to return to work as key factors influencing the length of the rehabilitation program, further studies are needed to identify such factors to make better clinical judgments for this kind of situation.

## **Conclusion**

In this particular case, the patient had a Bankart lesion in his right shoulder and adhesive capsulitis in the left. Both pathologies were treated by standard arthroscopic procedures with staged treatment. Even though the outcomes were excellent, further studies are required to design standard treatment protocols for patients with coexistence of these two pathologies.

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