INTRODUCTION

The shoulder’s glenohumeral joint is the most frequently dislocated joint because of its unstable structure. The recurrence rate of shoulder dislocation ranges from 4% to 100% or even as high as 92% to 100% in younger populations.

About 90% of the cases were anterior dislocation. An anterior dislocation occurs when a strong force is applied to the shoulder in the external rotation and abduction. The presence of a defect in the glenoid cavity and relaxation of the ligaments especially young and professional athletes, aged under 20 years old, and conservative treatment in young patients have been mentioned to increase the risk of recurrence.

A Bankart lesion is commonly seen in patients with an anterior shoulder dislocation and is defined as detachment of the anteroinferior labrum associated with a glenoid rim fracture.

Open Bristow-Latarjet (BL) procedure has been used in cases in which more than 25% of glenoid deficiency occurs. Recent studies have reported rates of return to previous level of sport of about 50% in patients with glenoid deformities treated with Latarjet procedures and stability is increased with this procedure. This report aims to show a case of recurrent shoulder dislocation treated with BL procedure.

CASE REPORT

A 36-year-old male patient came to the hospital with the chief complaint of pain on the left shoulder since 2 hours before admission. The patient had an injury while riding a bicycle, in which he fell and landed with his left arm stretched out and holding the weight of his trunk. After the incident, the patient felt a “pop” sensation around his left shoulder and pain. This was a second episode of the event, were in the previous occasion, which occurred respectively 1 year prior, he was playing football and fell to the ground, but he only came to traditional bone setter to seek help, but only this time he sought for medical help because he felt this time was more painful and severe.

On the physical examination, the left arm was abducted and externally rotated, with a significant decrease in range of movement. The sulcus sign was positive, with the acromiohumeral interval of 3 cm (grade 3), which indicated a significant instability. Anterior apprehension test showed positive result. Jobe relocation test was negative as the patient did not feel any decrease of pain when posteriorly directed pressure was applied on the anterior humeral head. No neurologic abnormality was found. The dislocation was able to be closely reduced, but the instability was still a problem.

The patient was then taken for magnetic resonance imaging (MRI) and computed tomography (CT) scan investigation. There is a detachment of the anteroinferior...
labrum (3-6 o'clock) with complete tearing of the anterior scapular periosteum. The arrow points to the disrupted periosteum (Figure 1). While from the CT scan, it showed no osseous involvement of Bankart lesion (Figure 2).

After a thorough assessment and investigation, it was then decided to treat the instability by surgical means using the BL procedure through a deltopectoral approach. A 5 cm standard deltopectoral incision was made and soft tissues were dissected carefully. Coracoid osteotomy and transfer to the glenoid were done and then securely fixed with a screw (Figure 3). The exposed surface was cleaned thoroughly and then soft tissues were closed layer by layer.

After the surgery, prophylaxis antibiotics and analgesia were administered and the left shoulder was immobilized. The post-operative plain radiograph showed satisfactory placement of the screw (Figure 4). The patient showed good clinical outcome and shoulder stability at the follow-up.

**DISCUSSION**

The patient was a 36-year-old male who came with left shoulder pain after an injury where he fell from a bicycle and landed with the left arm stretched out and hold the weight of his trunk and felt a “pop” sensation around the shoulder. This was the second incident of a left shoulder dislocation, whereas the first occurrence happened when he fell while playing football. One year prior, without any medical treatment but to a traditional bonesetter.

Anterior glenohumeral dislocation during sports activities or social life is one of the most commonly seen pathologies in the clinical practice of orthopedic traumatology. The prevalence of anterior glenohumeral instability has been reported as 2%. It reported as the most commonly dislocated synovial joint of the human body. Forced abduction and external rotation of the shoulder can cause anterior dislocation resulting in instability.\(^{5}\)

Glenohumeral stability is achieved by a combination of both static and dynamic stabilizers. Throughout the range of shoulder motion, only 25–30% of the humeral head articulates with the glenoid, highlighting the importance of maintaining the small articulation through both the dynamic and static stabilizers of the shoulder. Effective glenoid arc is defined as the surface area of the glenoid that is available for articulation and compression by the humeral head. Damage to the anteroinferior glenoid during a dislocation event can dramatically alter the glenoid arc and therefore confer instability.\(^{6}\)

Defects in the glenoid cavity and relaxation of the ligaments especially young and professional athletes, aged under 20 years old, and conservative treatment in young patients have increased the risk of recurrence.\(^{2}\) The natural history of instability is influenced by a large number of variables, such as age, occupation, functional demands, sports, physical characteristics and familiar factors.\(^{7}\)

Physical examination showed abduction and external rotation of the left arm, with a positive sulcus sign with grade 3 acromiohumeral interval, a positive
anterior apprehension test, and a negative Jobe relocation test.

Specific tests need to be performed to delineate the extent and direction of instability better. Provocative tests include anterior apprehension, Jobe Relocation Test, and the sulcus sign. Anterior apprehension is best evaluated with the patient in the supine position. The arm is abducted to approximately 90°, with the elbow supported and maximally externally rotated. As external rotation increases, a positive test involves the patient feeling pain anteriorly and a subjective feeling of imminent dislocation as the humeral head begins to translate anteriorly over the glenoid rim. Grade 3 is an acromiohumeral interval greater than 2 cm. Displacement of greater than 2 cm is indicative of significant laxity. A positive Jobe relocation test should relieve the patient’s symptoms if the shoulder is truly unstable and the patient’s symptoms are not from impingement or labral pathology, but in this patient it was negative, thus labral pathology should be suspected.6

MRI examination was done to this patient and showed a detachment of the anteroinferior labrum (3-6 o’clock) with complete tearing of the anterior scapular periosteum, suggesting a Bankart lesion. After identifying the lesion, it was decided to use BL procedure to treat the shoulder instability for this patient. Good clinical and functional outcome was obtained in this patient.

A Bankart lesion is a detachment of the anteroinferior labrum associated with a glenoid rim fracture.3 MRI serves as an excellent modality to identify this structure. With its superior soft-tissue resolution, the glenoid labrum is best studied using proton density fat-suppressed or fluid-sensitive fat-suppressed sequences in the oblique coronal and axial planes on conventional MR imaging without arthrography.8

The BL procedure is a well-known surgical technique designed to treat shoulder instability. In this procedure, the coracoid process is transferred to the glenoid rim to augment an associated bony defect.9 Kashani et al.10 evaluated the outcome of this procedure in 31 patients with anterior shoulder instability and found the clinical outcome was excellent in 11 (31%) patients and good in 24 (69%) patients, but 2 patients had redislocation.

Figure 3. Bristow Laterjet Procedure; (a) deltopectoral approach; (b) identification of muscle origin; (c) Bankart lesion identification and coracoid osteotomy.

Figure 4. Post-operative Plain Radiograph of The Left Shoulder.
that were treated nonoperatively and remained symptom-free at the latest follow-up. Another study by Silva et al.\textsuperscript{11} also supported this finding in 51 patients (52 shoulders) and found good and excellent results in 82.7\% of cases.

**CONCLUSION**

Recurrent anterior shoulder dislocation is still a significant problem, especially in young individuals and athletes. Proper adequate treatment is required to achieve good functional outcomes and stability. A 36-year-old patient came to our center and was diagnosed with recurrent anterior shoulder dislocation due to Bankart lesion and was treated with an open BL procedure. The postoperative outcome was good. Several previous studies also supported the outcome of this procedure.

**ACKNOWLEDGEMENT**

None.

**AUTHOR CONTRIBUTION**

All author had contributed in manuscript writing and agreed for final version of publication.

**FUNDING**

This report doesn't received any specific grant from government or any private sectors.

**ETHICAL STATEMENT**

Patient had received signed written informed consent regarding publication of their respective medical data in medical journal.

**CONFLICT OF INTEREST**

All author declares there is no conflict regarding publication of current report.

**REFERENCES**


