



Anterior Shoulder Instability with Type IX Superior Labral Anterior to Posterior (SLAP) Lesion—about a Clinical Case

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Abstract

Lesions of the superior labrum anterior to posterior (SLAP) are often associated with repetitive movements of the shoulder above the head or traumatic history. Types V to X lesions are much rarer, and their prevalence has not yet been described in the literature. In this regard, we report the clinical case of a 34-year-old man, who reported multiple episodes of anterior dislocation of the right shoulder, which he reduced on its own. The patient described onset of instability after a fall with the upper limb in extension and abduction, 2 years before presentation to the authors. An arthro-magnetic resonance was performed that showed a rupture of the upper labrum that extending through the anterior to posterior region reaching the lower edge of the glenoid, with damage to the cartilage at the anterior portion of the glenoid. Surgical treatment was proposed, with diagnostic arthroscopy and arthroscopic suture of the labrum using anchors. Four years after surgery, the patients presented with no pain complaints, without new episodes of dislocation. At physical examination, he presented a symmetrical range of motion, negative apprehension tests and negative rotator cuff strength tests. In the assessment of symptoms on the DASH scale, pre-surgery the patient obtained a score of 39.2, and four years later scored 1.6. In summary, although rare, extensive SLAP lesions are cause of significant morbidity for the patient and cause of accelerated degeneration of the glenohumeral joint, so surgical treatment, preferably arthroscopic, is recommended, with good clinical results.

Keywords: Instability, SLAP lesion, Labrum

Introduction

Superior labral anterior to posterior (SLAP) lesions have two incidence peaks: in young people between 20-30 years old and in adults between 40-50 years old. In the first group, they occur mainly after trauma, while in the second, due to degenerative causes, mainly associated with repetitive movements of the shoulder above head.¹ Shoulder pain is the most frequent complaint worst in movements at height, as well as sensation of blockage or shoulder bounce. On physical examination, pain on palpation of the rotator interval supports the diagnosis. The most common positive findings are related to shoulder instability: anterior drawer (53%), apprehension test at 90° abduction and external rotation (86%) and relocation test (86%).²

SLAP lesions were initially described and classified by Snyder as:²

Type I: fimbriation and degenerated appearance of the upper labrum. Usually asymptomatic, being considered by some authors to be the normal degeneration associated with aging and not causing shoulder dysfunction.³

Type II: detachment of the labrum from the upper portion of the glenoid, keeping the bicipital anchor stable.

Type III: labrum rupture type “basket wing”, with stable bicipital insertion.

Type IV: Similar to type III, but rupture with propagation to the bicipital tendon.

Later, other types were added to the initial classification, however these are rare:^{3,4}

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Type V: Bankart lesion (Antero-inferior labrum lesion) that spreads superiorly to the bicipital anchor.

Type VI: rupture of the type II upper labrums associated with unstable detached fragment.

Type VII: type II lesion with anterior rupture extension to the middle glenohumeral ligament.

Type VIII: Labrum lesion with posterior extension, not reaching 6am region of the glenoid.

Type IX: circumferential lesion of the glenoid labrum.

Type X: Type II lesion associated with postero-inferior labrum lesion (Reverse Bankart lesion).

Type II and III injuries are the most frequent. In a study of 2375 shoulder arthroscopies, Snyder² diagnosed 140 SLAP lesions, of which 21% represented type I lesions, 55% type II, 9% type III, 10% type IV and 5% lesions which he described as "complex". On the contrary, type VIII and IX lesions are particularly rare, and their prevalence has not been described in the literature. For this reason, there are no clear indications on the appropriate treatment of this type of injury.^{5,6} Magnetic resonance imaging (RMI) and arthro-RMI (imaging after intra articular contrast injection) are essential for diagnosis of this type of lesions.⁷ We intend to report the clinical case of a patient with anterior shoulder instability resulting from post-traumatic SLAP lesion.



Figure 1: Arthro-RM showing the Type IX SLAP lesion and the GLAD lesion.

Clinical Case

A 34-year-old male patient presented to the authors complaining of recurrent anterior shoulder instability since a fall from height with the upper limb in extension and abduction 2 years earlier, with consequent first anterior shoulder dislocation. Since then, with multiple episodes of dislocation that he has reduced. The patient presented no signs of multidirectional instability. Magnetic resonance imaging with intraarticular contrast injection diagnosed rupture of the upper labrum that extends through the anterior and posterior region reaching the lower edge of the glenoid (SLAP type IX lesion), with damage to the cartilage in the anterior portion of the glenoid (GLAD lesion) (Figure 1). No signs of rotator cuff injury and no Bankart or Hill-Sachs injury were present. Intraoperatively, in diagnostic arthroscopy, the labrum was disinserted in the upper, anterior and posterior side, being stable only in a pericentimeter area in the lower portion of the glenoid (confirming a type IX lesion). Long biceps tendon presented with no visible tears or other associated injuries. Debridement of the entire uninserted labrum bed and arthroscopic suture was performed with anchors placed at 12, 4 and 5 hours position in the glenoid. Figures 2&3 present radiographs at two weeks post operatively. Four years after surgery, patient presented without pain complaints and no new episodes of dislocation, and was able to perform all activities of daily life and sports. At physical examination, were found symmetrical range of motion, negative apprehension tests and negative rotator cuff strength tests. Radiographs demonstrated very slight glenohumeral degenerative changes over time Figures 4&5. In the assessment

of symptoms according to the DASH score, pre-surgery, the patient scored 39.2, and four years later 1.6, representing an excellent functional result.

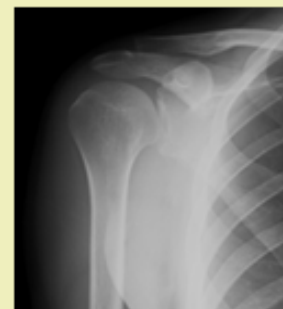


Figure 2: Shoulder Antero-posterior radiograph two weeks after surgery.



Figure 3: Stryker notch view shoulder radiograph two weeks after surgery.



Figure 4: Shoulder Antero-posterior radiograph 2 years after surgery.



Figure 5: Shoulder Antero-posterior radiograph 4 years after surgery.

Discussion

In this case, the imaging description as a pan-labral lesion differs slightly from the intraoperative findings of labrum insertion preservation in a small area in the lower portion of the glenoid. The discrepancy between imaging and intraoperative findings highlights the importance of rigorous diagnostic arthroscopy, not only for rigorous evaluation of the SLAP lesion but also for the diagnosis of other associated lesions. Indeed, Kim et al.,⁸ and Eren et al.,⁹ described the association of SLAP and Bankart lesions in patients under 40 years old, and with rotator cuff tears in older patients. Furthermore, the interobserver agreement for the actual classification used is low, reinforcing the importance of being aware of this less common types of SLAP lesions.⁵ In the literature, there are few descriptions of the treatment performed on this type of lesions, the existing ones agree to recommend arthroscopic treatment, with a variable number of anchors for labrum reinsertion, debridement, and biceps tenodesis or tenotomy.^{5,6,10,11} In this case, despite the labral lesion being almost circumferential, debridement of the entire disinserted labral bed was performed, but reinsertion with anchors was only performed in the anterior and superior labrum due to intraoperative technical problems with the arthroscopy optics that limited the operative time. This fixation was accepted as it was an unidirectional anterior shoulder instability. Despite this fixation, an excellent functional result was obtained, without recurrence of instability and no pain. Mazzocca et al.,¹⁰ described recurrence of instability in 3 of 20 shoulders submitted to surgical treatment for 270° labrum lesions.

In the case presented, 4 years after surgery, degenerative changes are very slight and with no apparent progression over this

period. However, early glenohumeral osteoarthritis is a possible complication in this type of lesions, with need for reintervention and arthroplasty being described (1 of 7 cases operated by Lo.¹¹ SLAP lesions, occurring mostly in working age patients, are cause of significant morbidity and absenteeism to work. Early arthroscopic surgical treatment is recommended, with good clinical results.¹²

Conclusion

There are, in the literature, few cases described of this type of lesions, the treatment performed and the subsequent clinical result, therefore, it is important and challenging to further study this area. In SLAP-type injuries, surgical treatment is generally recommended as they are a source of pain, crackling sensation, instability and early progression to osteoarthritis. The decision about the number of anchors to be used in complex surgery requires experience, in order not to exceed the recommended period of intraarticular pressure required for arthroscopy and subsequent water tissue infiltration. Therefore, the presence of an experienced and differentiated surgeon is essential.

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Conflicts of interest

Author declares that there is no conflict of interest.

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