ARTHROSCOPIC BANKART WITH METTALIC SUTURE ANCHORS FOR UNSTABLE DISLOCATING SHOULDERS: CASE REPORT

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ABSTARCT
WE PRESENT A CASE OF ARTHROSCOPIC FIXATION FOR BANKART LESION WITH METTALIC SUTURE ANCHORS AT A 18-YEAR-OLD TEENAGER WHO SUSTAINED RECURRENT DISLOCATIONS ON HIS LEFT SHOULDER, THE FIRST EPISODE HAVING OCCURRED TWO MONTHS BEFORE THE SURGERY. DISLOCATION OF THE HUMERAL HEAD IS A COMMON TRAUMATIC DISORDER AND MOST FREQUENTTHE DISLOCATION IS ANTEROINFERIOR ACCORDINGLY THIS CAUSES A DETACHMENT OF THE ANTEROINFERIOR CAPSULOLABRAL COMPLEX. THE CLINICAL EXAMINATION, RADIOGRAPHS AND MRI DESCRIBED THE BANKART LESION THUS THE ARTHROSCOPIC TREATMENT WAS CHOSEN AND THE FIXATION OF THE LABRUM WAS PERFORMED WITH SUTURE ANCHORS IN THE POSITION OF 1, 3 AND 5 O'CLOCK. AFTER THE SURGERY THE SHOULDER REHABILITATION WAS INTRODUCED ON THE INSTANT.

KEY WORDS: BANKART LESION, SUTURE ANCHORS, SHOULDER ARTHROSCOPY, RECURRENT DISLOCATIONS, ARTHROSCOPIC FIXATION.

INTRODUCTION

The Bankart lesion, also called the avulsion fractures of the anterior glenoid rim, represents the injury of the anterior glenoid labrum due to anterior shoulder dislocation and is associated with anteroinferiorglenohumeral instability. There are described two types of labral tears: SLAP tears and Bankart lesions. Concerning the Bankart lesions, these are located in the 3-6 o'clock position where the humeral head dislocates and due to the labral tears the shoulder is often unstable and suffers multiple dislocations. It is known that the incidence ranges from 4% to 70% in the literature the male patients having an increased prelevance.[3]

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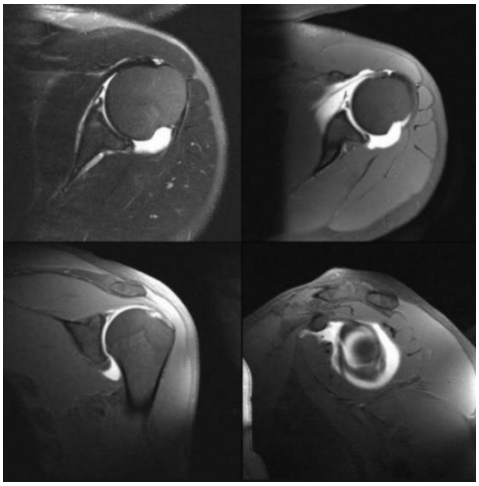
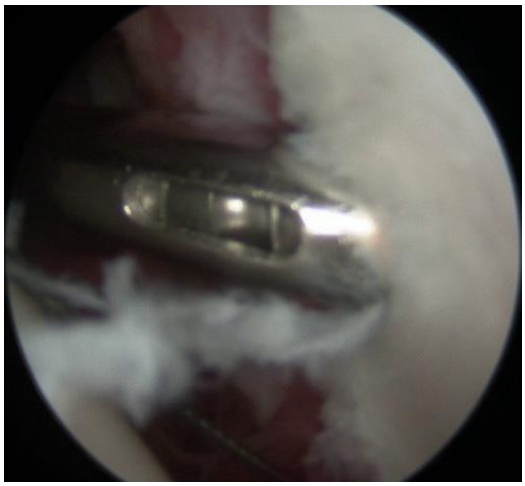
CASE REPORT:

A 18-year-old left handed teenager presents in our clinic with pain and partial functional impotence on his left shoulder. These simptoms occurred after recurrent anterior dislocations, two months before the first episode. After clinical, X Ray and MRI investigations(Fig. 1) the diagnosis of Bankart lesion is established. The recurent dislocations always occurred while the pacient's practice exercises with weights. The symptoms of severe pain and deformity decreased after a spontaneous reduction while lifting his left arm. During the clinical examination we also perceived shoulder instability and the patient noticed that his left shoulder was feeling unsteady and nevertheless the humeral head could actually slip out of the joint in distinct positions for instance when the arm was across the body. The physical exam highlighted differences between active and passive motion which indicates capsular contracture and therewith were performed tests for anterior instability such as the apprehension sign and sulcus sign. Manual examination of the left shoulder emphasized anteroinferior instability while the contralateral right shoulder showed no instability which indicates that the left shoulder instability was due to a traumatic injury. As well, the patient claimed that the pain in the past two months often interfered with sleep and sustained limitations in activity and the prior treatment he tried was rest and anti-inflammatory medication. After all the examinations it was decided to be performed the arthroscopic Bankart repair with 2 mettalic suture anchors. (Fig. 2).



Bony Bankart: glenoid rim fracture (IRM- view)
Fig. 1



Mettalic suture anchor (Arthroscopic view)
Fig. 2

Therefore, the patient was placed in the so called beach-chair position under general anesthesia and a posterior and two anterior approaches were used. The Bankart lesion, the capsular tears and the rotator cuff were acknowledged and after the ligament has been completely disengaged just than the glenoid neck was prepared with a burr. Still than, we used an arthroscopic elevator to mobilize the capsulo-labral sleeve from the glenoid and we could also see the subscapularis muscle just underneath the mobilized labral tissue. (Fig. 3). Forwards, we used the burr for creating a bleeding bone surface on the glenoid rim and also

removed the cartilage from the glenoid face allowing the surgeon to place the suture anchors on the glenoid face. It was used the switching stick technique for placing one set of sutures outside of the working posterior cannula while the remaining suture pair was separated with one strand exiting the posterior cannula. Using a suture hook we saw into the inferior glenohumeral ligament in the immediate vicinity of the anchor using it as a suture shuttling device.(Fig. 4).

Anterior glenohumeral injury- Arthroscopic view
Fig. 3

Types of suture anchors
Fig.4

Moreover, we made the stability test but only after having inserted three double-louded anchors and six high-strength sutures retrograded through the detached labrum. We could observe from the antero-inferior portal the humeral head which was well centered into the glenoid cavity. After surgery an X-ray inspection has been made, (Fig.5), the patient's upper limb was settled in a sling in neutral rotation for a minimum of 30 days, passive exercise was permitted at postoperative 3 weeks and active exercise scarcely at 5 weeks after the Bankart surgery.

Mettalic suture anchor (X-Ray)
Fig. 5

DISCUSSION

Bankart lesions, over time, have been generally treated by open reduction, however, arthroscopic reduction and internal fixation using cancellous screws or suture anchors, newly, had successful effects concerning the recurrence rate and also functions in shoulders[4]. Arthur Sydney Blundell described the Bankart lesion as being a traumatic detachment of the glenoid labrum and this type of lesion is described in over 85% of all cases after traumatic anterior dislocation. The mechanism consists in the fact that the humeral head is forced against the joint capsule and inferior glenohumeral ligament which it stretches afterwords, by way of traction, the fibrous labrum is pulled off from the inferior half of the anterior rim of the glenoid[5].

Therewith, Bankart described the respectively lesion in no more than 27 cases in 1923-1938 and he insistently denied the presence of a glenoid rim fracture in any of his cases. The shoulder almost all the time dislocates antero-inferior because of the acromion, coracoid process and the rotator cuff that confines the motion to superior. In the case of the antero-inferior dislocation, damages are made to the antero-inferior rim of the glenoid in the 3-6 o'clock position mostly young patients having Bankart fractures or Bankart lesions. By these circumstances patients obtain instabillity and recurrent dislocations[6]. It is also very important to distinguish the shoulder instability from other causes of shoulder dysfunction for instance arthritis rotator cuff tear or snapping scapula. Always the efficiency of a surgical procedure depends, on one hand, on the health and motivation of the patient and on the other hand, on the condition of the shoulder and besides that, the surgery is considered for patients with recurrent instability, feelings of unsteadiness after a traumatic shoulder dislocation or with an atraumatic instability but that has not responded to the rehabilitation program. It is known that shoulder function and stability are restored after 2 years from the surgery in most cases, the range of motion is minimally reduced and only a few charge a 20 degrees loss of external rotation[7]. Sleeping, performing activities of daily living and engaging in recreational activities are just a few improvments. In another train of thoughts, it has been established that the majority of the arthroscopic Bankart repair failures were due to the presence of glenohumeral bone defects thus it is high-class recommended to assess the amount of glenohumeral bone loss at each patient[8]. All in all, the outcomes of arthroscopic repair of Bankart lesions are favorable, this case being confirmed by Netto et al who reported some encouraging results. A study based on a number of 50 patients under the age of 40 with traumatic anterior shoulder

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instability and a Bankart lesion, aimlessly assigned to receive open or arthroscopic treatment, showed afterv a follow-up period of 37 months a significant difference favorable to the patients treated with the arthroscopic technique but without clinical relevance. Furthermore, there was no statistically significant difference concerning complications, failure or range of motion between these two techniques.[9]

Waterman et al also analysed the outcomes of 3,854 military patients who passed through a Bankart repair, mostly having been performed arthroscopically,between 2003 and 2010. In this lot of patients a percentage of 92% was represented by men and the mean age was 28 years, The results showed that the rate of surgical failure for the patients who underwent arthroscopic Bankart repair was of 4,5%, significantly lower than the other lot, the patients operated by the open anterior stabilization technique, which recorded a percentage of 7,7% of failure. Thus, it was determined that the risk factors for surgical failure were the open repair, younger age and inpatient status and the retrospectively analyzed complications were turned out to be the, for both cases, recurrent instability, stiffness and nevertheless, neurovascular injury[10]. Therewith, Ateschrang A. et al preffered method was revealed to be the arthroscopic Bankart repair, the most important reasons being the shorter time of hospitalization after the surgery and the shorter operation time[11]. Kim et al also reported on 89 patients charging posttraumatic anterior shoulder instability that were treated in 59 cases arthroscopically and in 30 cases with open procedure. All the patients were received operation with suture anchors and at the follow-up evaluation it was highlighted that the percentage of good to excellent results meaning 91,5% was for the arthroscopic group,higher than in the open repaired group (86,6 %)[12].

CONCLUSIONS

The latest arthroscopic stabilization techniques are technically demanding and the most important benefits are represented by decreased morbidity, faster recovery and rehabilitation and, nevertheless, diminished patient pain.Suture anchors are an excellent mean of reinsertion of the capsule-labral complex andWalch-Duplay test is an easily applicable test for the evaluation of activity, stability, pain and mobility of the shoulder after arthroscopic Bankart repair[13]. The hospitalization time is shorter, thereby, the patient is discharged the next day after the surgery which leads to lower costs for maintenance.

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