

## **Diagnostic Shoulder Arthroscopy with Open Latarjet Surgery as a Method to Evaluate and Treat Associated Injuries**

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**INTRODUCTION:** In addition to the classic lesions observed in patients with anterior shoulder instability (Bankart and Hill-Sachs), a number of other intra-articular lesions have been described, including: superior and posterior labral lesions, chondral lesions, capsular tears, long head of biceps partial ruptures, and traumatic rotator cuff tears (1). It has been reported that the prevalence of these lesions is related to the number of recurrences. (2). Identifying and treating these lesions could improve the results of the primary intervention (3). On the other hand, Latarjet surgery has shown better overall results than arthroscopic labral repair, being performed in most cases as an open surgery. A complete intra-articular evaluation to therefore diagnose and treat any associated injuries is not possible during exclusively open surgery. The purpose of this study is to describe the associated lesions excluding Bankart and Hill Sachs lesions in patients undergoing open Latarjet surgery, during prior diagnostic arthroscopy and report the injuries that were treated.

**METHODS:** This is a retrospective case series of patients undergoing open Latarjet surgery between 2010 and 2021 in our institution. All patients who underwent open Latarjet surgery due to anterior shoulder instability were identified, and those who underwent previous diagnostic arthroscopy at the same surgical procedure were included. Both primary Latarjet and revision Latarjet surgery after failed arthroscopic procedure were included. The imaging studies findings (CT, MRI, arthro-CT, and arthro-RM) were compared with the arthroscopic findings.

**RESULTS:** In total, 110 of 158 patients were included. The average patient age was 22.9 years (15-45 years). Seventy percent had more than 1 episode of instability. In 95 patients, shoulder instability was a sport related injury: rugby (39%), soccer (15.5%), motorcycle/cycling (13.6%), and others (31.8%). Associated lesions were found in 66 patients (60%) (some patients presented more than one lesion). These were: 28 SLAP lesions, 20 posterior labral lesions, 18 loose bodies, 13 intra-articular biceps lesions, 13 chondral lesions, and 3 rotator cuff tears. Of the 66 patients, 59% underwent additional procedure for the lesion found. In those patients who presented more than 1 episode of instability, the associated injury repair rate was 63.6% versus 36.3% in those with only one episode of instability ( $p = 0.07$ ). In 30 of 65 patients (46%), the lesion was not diagnosed on imaging studies. In 34.5% of patients (35/110), the associated lesions were repaired. According to specific type of injury, 66.6% of rotator cuff tears were repaired, 60% of posterior labrum injuries were repaired, and 60.9% of SLAP/intra-articular biceps injuries were repaired (either with biceps tenodesis or superior labral repair). Chondral injuries were stabilized in 23% and 100% of the free bodies were removed.

**DISCUSSION AND CONCLUSION:** There is a significant number of associated lesions that may not be diagnosed or treated when anterior shoulder instability is treated with open Latarjet technique. In 46% of patients with additional lesions these were only visible during arthroscopy. Diagnostic arthroscopy is useful in the diagnosis and treatment of associated lesions. In approximately 1/3 of the patients an additional procedure was performed. In the future, it will be necessary to assess whether the treatment of these associated lesions has an impact on the clinical outcome.