Anterior Capsulolabral Repair in Arthroscopic Latarjet Reduces the risk of osteoarthritis development: A Matched-Pair Study

Emilio Calvo, Cristina Delgado, Jose María Martínez, Gonzalo Luengo-Alonso, María Valencia, Natalia Martínez-Catalán
Hospital Universitario Fundación Jiménez Díaz

Introduction: the arthroscopic Latarjet procedure has shown good short- and long-term outcomes, with low recurrence rates and high return-to-sports rates. However, there is concern regarding the development of osteoarthritis following this procedure. The role of preserving and repairing the capsulolabral tissue after Latarjet in these outcomes remains unknown[1]. The purpose of the study was to analyze the effect of capsulolabral repair in the arthroscopic Latarjet procedure on osteoarthritis development and postoperative outcomes.

Marial and methods: retrospective of prospective collected data study of patients with anterior glenohumeral instability managed with an arthroscopic Latarjet procedure as primary surgery. Patients who underwent capsulolabral repair following the arthroscopic Latarjet were matched-paired based on preoperative characteristics with patients who did not undergo capsulolabral repair. A minimum follow-up of two years was required for inclusion in the study. The primary outcome studied was glenohumeral osteoarthritis, assessed preoperatively, and 2- and 5-years after surgery, using CT scans and graded according to Ogawa et al. classification[4]. Recurrence at the time of follow-up, set as subluxation or dislocation, apprehension, the Rowe score, WOSI Index, subjective shoulder value (SSV) and return-to-sport rate at the final follow-up were also recorded and compared between two groups. Range of motion was evaluated preoperatively, and 6 weeks, 3, 6, and 12 months after the surgery.

Results: Eighty-six patients, 43 in each group, mean age 32.3 ± 23.2 years, with a mean follow-up of 7.16±4 were included. There were 5 (11.6%) cases of recurrence in both groups (p=.631). Revision surgery was required in 4 patients (9.3%) in the capsulolabral repair group, including 2 cases for arthrolysis and 2 for recurrence, and in 1 patient (2.3%) in the non-repair group due to screw removal (p = 0.158). There was no statistically significant difference between groups in rates of complications (2.3% in each group). Regarding postoperative outcomes, no statistical differences were found in postoperative degree of instability, ROWE, WOSI and SSV score between the two groups (p=.906, p=.420, p=.866, p=.163). Most patients were able to completely return to their previous sport (79.1%); no statistical differences between groups were found. The external rotation in arm adduction was significantly restricted in patients with capsular repair at 6 weeks follow-up (29±19.6 vs 20.1±21, p=.045). However, external rotation at 3, 6, and 12 months postoperatively did not differ between the groups. Similarly, no statistically significant differences were found in forward elevation or internal rotation throughout the follow-up period between the groups. Preoperative osteoarthritis was present in 18 of 43 cases (42%) across both groups. At the 2-year follow-up CT scan, osteoarthritis progression was observed in 60.5% (26/43) of patients in the repair group and 39.5% (17/43) in the non-repair group (p =.042). Overall, OA progression was more severe in cases without capsular repair, with 30.8% of patients experiencing an increase of two OA grades compared to 5.8% in the repair group. At the 5-year follow-up, CT scans were available for 20 patients in the capsulolabral repair group and 29 patients in the non-repair group. Osteoarthritis progression within five years was significantly higher in patients without capsular repair (82.8% vs. 55%, p = .035). Furthermore, patients without capsular repair showed a greater degree of OA progression compared to those with capsular repair (p=.024), with 27.6% and 15% of patients, respectively, experiencing an increase of two or more OA grades.

Conclusion: The arthroscopic Latarjet with concomitant anterior capsulolabral repair reduces the risk of osteoarthritis development at 2- and 5-years follow-up. No significant differences were found in postoperative outcomes. Although early postoperative external rotation was more limited in the capsulolabral repair group, external rotation at 2-years follow-up did not show significant differences between groups.

Keywords: anterior shoulder instability, long-term, bankart repair, arthroscopic Latarjet, capsulolabral repair

References:

1. Boileau P, Mercier N, Roussanne Y, Thélu C, Old J. Arthroscopic Bankart-Bristow-Latarjet procedure: the development and early results of a safe and reproducible technique. Arthroscopy 2010;26(11):1434-50. doi:10.1016/j.arthro.2010.07.011
2. Ogawa K, Yoshida A, Ikegami H. Osteoarthritis in shoulders with traumatic anterior instability: preoperative survey using radiography and computed tomography. J Shoulder Elbow Surg 2006;15(1):23-9. doi:10.1016/j.jse.2005.05.011

Disclosure: I hereby declare that no artificial intelligence or automated tools were used in the creation of this work. All content has been independently researched, written, and reviewed by me.

E.C. has received consulting fees from DePuy Synthes, Smith&Nephew, and Stryker.