Latarjet procedure restores range of motion at six months postoperatively: a prospective cohort study utilizing motion capture analysis

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There is a common concern that range of motion (ROM) is negatively affected by the Latarjet procedure. We hypothesize that the Latarjet procedure results in full recuperation of ROM postoperatively and significantly improved patient reported outcome measures.

METHODS:

Patient data were prospectively collected from a randomized controlled trial to analyze outcomes after open Latarjet procedure. Inclusion criteria involved a minimum follow- up of six months and unilateral shoulder instability. Study outcome was assessed by postoperative ROM at six months postoperatively and compared to the preoperative ROM of the ipsilateral shoulder as well as the ROM of the unaffected contralateral shoulder. All ROM measurements were performed utilizing a motion capture system to ensure consistent and reliable measurements. RESULTS:

The study included a total of 84 patients. ROM was measured in external rotation with the shoulder adducted (ER1), external rotation with the shoulder abducted 90 degrees (ER2), internal rotation with the arm abducted 90 degrees (IR2), and active forward elevation (AE). The average difference in ROM between the operated arm vs. the contralateral healthy arm at six months postoperatively was 3.4 degrees in ER1 (p=0.19), 4.2 degrees in ER2 (p=0.086), 2.2 degrees in IR2 (p=0.36), and 2.4 degrees in AE (p=0.045). Sub-analysis of patients with and without sling use revealed no significant difference in ROM between the operated arm and 79 degrees in the exception of ER2 in the sling group. In this latter group, ROM was 71 degrees in the operated arm and 79 degrees in the contralateral arm (p=0.0094). Average preoperative pain score was 25.7 (21.4-30.1, 95%CI) vs. 13.0 postoperatively at six months (83.6-88.7, 95%CI) (p < 0.0001). Average preoperative SANE instability was 42.9 (38.4-47.3, 95%CI) vs. 86.2 postoperatively at six months (83.6-88.7, 95%CI) (p < 0.00001). Average preoperative Rowe score was 38.5 (34.3-42.7, 95%CI) vs. 84.3 at six postoperative months (81.1- 87.4, 95%CI) (p < 0.00001).

DISCUSSION AND CONCLUSION:

Latarjet procedure performed for anterior instability utilizing a capsular repair result in complete ROM recovery in ER1, ER2, and IR2 at six months postoperatively, with only a slight discrepancy in active elevation. Sling use after the Latarjet procedure results in no benefit over postoperative recovery without the use of a sling. Sling use negatively affects the ROM in ER2, taking as reference the contralateral arm of the same patient, when compared to patients that did not use a sling postoperatively.