

ASES 2018 CLOSED MEETING ABSTRACTS

Paper #1 PROSPECTIVE EVALUATION OF GLENOID BONE LOSS AFTER FIRST-TIME AND RECURRENT ANTERIOR GLENOHUMERAL INSTABILITY EVENTS

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Introduction: Determining the amount of glenoid bone loss in patients following anterior glenohumeral instability events is critical to guiding appropriate treatment. One of the challenges in managing shoulder instability in young athletes is the absence of clear data showing the impact of each event. The purpose of this study was to prospectively determine the amount of bone loss associated with a single instability event, in the setting of both first-time and recurrent instability.

Methods: We conducted a prospective cohort study of 714 athletes surveilled for four years. Baseline assessment included a subjective history of shoulder instability. Bilateral noncontrast shoulder MRIs were obtained in all participants with and without a history of previous shoulder instability. The cohort was prospectively followed during the study period and those who sustained an anterior glenohumeral instability event were identified. A post-injury MRI with contrast was obtained and compared to the screening MRI. Glenoid width was measured for each patient's pre- and post-injury MRI. The projected total glenoid bone loss was calculated and compared for patients with a prior history of shoulder instability.

Results: Of the 714 athletes (1428 shoulders) that were prospectively followed during the four-year period, 23 shoulders in 22 subjects sustained a first-time anterior instability event (5 dislocations, 18 subluxations), and six subjects with a previous history of instability sustained a recurrent anterior instability event (1 dislocation, 5 subluxations). On average, there was statistically significant glenoid bone loss (1.84 ± 1.47 mm) following a single instability event ($P < .001$), equivalent to 6.8% (95% CI: 4.46%, 9.04%, range 0.71%-17.6%) of the glenoid width. Twelve shoulders (52%) demonstrated glenoid bone loss $\geq 5\%$, 4 shoulders demonstrated glenoid bone loss $\geq 13.5\%$ and no shoulders had $\geq 20\%$ glenoid bone loss after a first-time instability event. Pre-existing glenoid bone loss in subjects with a history of instability was 10.2% (95% CI: 1.96%, 18.35%, range 0.6%-21.0%). This bone loss increased to 22.8% (95% CI: 20.53%, 25.15%, range 21.2% to 26.0%) following additional instability ($P = .0117$). All six shoulders with recurrent instability had $>20\%$ glenoid bone loss.

Conclusion: Glenoid bone loss of 6.8% was observed after a first-time anterior instability event. In the setting of recurrent instability, the total calculated glenoid bone loss was 22.8%, with a high prevalence of bony Bankart lesions (5/6). The findings of this study support early stabilization of young, active subjects following a first-time anterior glenohumeral instability event.

Keywords: First-time, Shoulder Instability, Bone Loss, Recurrence

Paper #2 LONG-TERM RESULTS OF THE OPEN LATARJET PROCEDURE FOR RECURRENT ANTERIOR SHOULDER INSTABILITY IN PATIENTS OLDER THAN 40 YEARS

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Background: Age older than 40 years at surgery is known to be an independent risk factor for outcome after the Latarjet procedure. So far, no long-term results about the Latarjet procedure in elderly are available. It was the purpose to analyze long-term results of the open Latarjet procedure for recurrent anterior shoulder instability in patients older 40 years.

Methods: Thirty-two patients (33 shoulders) with a mean age of 49 (range, 40-66) years were evaluated at a mean of 11.3 (range, 8-16) years after open Latarjet procedure for recurrent anterior shoulder instability. Eleven patients (33%) underwent previous soft-tissue based stabilisation surgery and four (12%) received a concomitant supraspinatus repair. Clinical and radiographic (with CT-scan) long-term results were assessed.

Results: At final follow-up, the relative preoperative Constant score and SSV had improved from 80% to 89% ($P = .003$) and from 60 to 90 points ($P < .001$). The postoperative total Rowe score averaged at 92 (range, 55-100) points and 30 patients (96%) rated their final overall results as good or excellent. Seven patients (22%) underwent joint preserving surgery and one (3%) underwent reverse total shoulder arthroplasty for severe dislocation arthropathy and shoulder dysfunction. There was one redislocation (3%) and apprehension persisted in seven patients (22%), which was associated with too medial (>4 mm) graft positioning ($P = .005$). Postoperative dislocation arthropathy according to Samilson was severe in 14 patients (44%) and progressed ≥ 2 grades from preoperatively in 17 patients (41%). Progression of dislocation arthropathy was associated with too lateral (>1 mm) graft positioning ($P = .023$) and correlated with older age at surgery ($r = 0.650$; $P < .001$).

Conclusion: The open Latarjet procedure for recurrent anterior shoulder instability in patients older than 40 years is associated with good functional outcome and stability. In contrast, it is associated with a substantial rate of dislocation arthropathy and progression of arthropathy correlates with lateral graft positioning and older age at surgery.

Paper #3 RETURN TO SPORT FOLLOWING LATARJET VERSUS DISTAL TIBIA ALLOGRAFT FOR ANTERIOR SHOULDER INSTABILITY: A MATCHED COHORT ANALYSIS

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Introduction: The Latarjet procedure is recognized as the gold standard for return to function in recurrent anterior instability patients by virtue of the triple-block effect with respect to increased articular arc, dynamic stability from the subscapularis split, and the sling effect from the conjoint tendon. However, anatomic glenoid reconstruction, most recently evaluated using distal tibial allograft (DTA), is an alternative modality that has recently demonstrated similar clinical