

Failed Arthroscopic Bankart Repair: Outcomes of Revision Surgery in a Competitive Athlete Population

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INTRODUCTION:

There is a paucity of literature that has evaluated the outcomes of revision shoulder instability procedures in competitive athletes. Therefore, the best treatment option for this at-risk population after failed arthroscopic Bankart repair is still controversial. We hypothesized that patients undergoing open anatomic glenoid reconstruction as distal tibia allograft (DTA) or Latarjet procedures would have superior outcomes than soft tissue stabilization procedures.

METHODS:

Patients who had undergone intervention with revision surgery after a previously failed arthroscopic Bankart repair between 2000 and 2014 were retrospectively reviewed. The type of revision surgeries included revision arthroscopic Bankart repair (12 patients, 15%), open Bankart repair (9 patients, 11.3%), Latarjet procedure (30 patients, 37.5%), and DTA (27 patients, 33.8%). Patients were evaluated with the American Shoulder and Elbow Society score (ASES), Western Ontario shoulder instability index (WOSI), and single numerical assessment evaluation score (SANE) at a minimum of two years after surgery. Demographic and intraoperative findings as a percentage of glenoid bone loss (GBL), Hill-Sachs lesions (HSL), labral and capsule pathologies, and complications were also reported. Differences among groups were analyzed using the Chi-square and Kruskal-Wallis's tests. The post hoc tests used the Mann-Whitney U test to detect significant pairwise differences.

RESULTS:

A total of 78 patients (97.4% male) with a median age of 25.9 years (18.2 – 49.3) and a minimum follow up of 2 years were included. The revision arthroscopic Bankart and open Bankart groups had statistically lower ASES, SANE, and WOSI scores than the Latarjet and DTA groups ($p < 0.001$). In addition, there was a significant difference in ASES score between patients who presented with failure of arthroscopic stabilization and GBL < 25% (91) and > 25% (94), with a p-value of 0.035. However, there was no significant difference in subjective outcomes (SANE and WOSI) between the three different groups of GBL ($p = 0.069-0.438$). There was also no significant difference in the post-revision functional outcomes between differences in the size of HSL, labral, and capsule pathologies.

DISCUSSION AND CONCLUSION:

Patients who underwent revision open anatomic glenoid reconstruction as Latarjet procedure or DTA showed higher functional outcomes than soft tissue stabilization procedures after failed arthroscopic Bankart repair in the competitive athlete population. Additional work is needed to validate the outcomes and define the best treatment options in this high-risk population.

Table 1. Post-revision surgery functional outcomes between different type of revision procedures

Functional outcome at post-revision surgery	Total (n = 78)	Revision arthroscopic Bankart surgery (n = 12)	Open Latarjet procedure (n = 30)	Open glenoid reconstruction using DTA (n = 27)	Open Bankart repair (n = 9)	P value
ASES*	91 (70-100)	83.5 (70-89) ^a	92 (77-100) ^b	93 (87-100) ^b	82 (70-97) ^a	< 0.001
SANE*	90 (65-100)	77.5 (65-85) ^a	93.5 (70-100) ^b	90 (85-100) ^b	80 (70-95) ^a	< 0.001
WOSI*	88 (52-99)	78.5 (59-84) ^a	88 (52-99) ^b	89 (81-96) ^b	70 (58-91) ^a	< 0.001

* 4 of 6 pairwise comparisons, there were statistically significant difference in the functional scores. Different superscript letters indicate statistically significance difference at 5% level ($P < 0.05$).

Table 2. Post-revision surgery functional outcomes between different level of GBL

Functional outcome at post-revision surgery	Total (n = 78)	No bone loss (n = 1)	< 25% GBL (n = 61)	> 25% (n = 16)	P value
ASES	91 (70-100)	88	91 (70-98)	94 (70-100)	0.035*
SANE	90 (65-100)	80	90 (65-100)	90 (65-100)	0.438
WOSI	88 (52-99)	78	87 (52-99)	89.5 (58-93)	0.069

* There was statistical significant difference between two groups (< 25% GBL vs. > 25%)