

Glenoid Morphology after Arthroscopic Osseous Bankart Repair for Recurrent Anterior Glenohumeral Instability: A 5 to 8 Year Follow-up

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Summary:

Arthroscopic osseous Bankart repair is effective procedure especially for shoulders with significant bone loss. The purpose of this study was to assess the clinical results after this procedure over at least 5 years. Arthroscopic osseous Bankart repair can expect successful outcome without recurrence once bony union is obtained. Glenoid morphology can be almost normalized.

Abstract:

Introduction:

Arthroscopic osseous Bankart repair was introduced almost a decade ago and, although technically demanding in some specific cases, not a few surgeons recognized the effectiveness of this procedure especially for shoulders with significant bone loss. However, due to the lack of reported mid to long term outcome, many surgeons are still skeptical about the benefits of this surgery. Therefore, this study was designed in order to assess long term outcome and glenoid morphologic change using 3DCT after the index surgery in a retrospective fashion.

Methods:

A consecutive series of 85 patients with chronic traumatic anterior glenohumeral instability associated with osseous Bankart lesion underwent arthroscopic osseous Bankart repair during January 2005 through December 2006. In all shoulders, a displaced osseous fragment together with adjacent labroligamentous complex was separated and reattached using suture anchors. Glenoid bone loss was measured as a percentage loss of the glenoid width against the diameter of the assumed inferior circle regardless of fragment size using en face view of 3DCT. Forty-seven patients with more than 15% glenoid bone loss were selected as a candidate of this retrospective study. However, 15 patients lost to follow-up, therefore, subjects consisted of 32 patients (follow up rate 68.1%), including 29 males and 3 females with an average age at the time of surgery was 23.9 years. During the final follow-up, each patient underwent clinical and 3DCT examinations. Clinical outcome was assessed using Rowe scoring system and Western Ontario Shoulder Instability (WOSI) Index. Glenoid bone loss was measured and compared with the preoperative bone loss. Statistical analysis was performed using the paired t-test. The significance level was set at $p = 0.05$.

Results:

Although one patient suffered redislocation 6 months after surgery before obtaining bony union, none of others experienced any events related to shoulder instability. The mean postoperative Rowe score and WOSI significantly improved from 30.3 ± 10.1 to 98.1 ± 3.1 and from 1460.5 ± 299.5 (30.5%) points to 312.8 ± 304.1 (85.1%) points, respectively. The mean postoperative glenoid bone loss was improved from preoperative $20.5 \pm 4.6\%$ to $-2.3 \pm 5.3\%$ ($p < 0.0001$), and glenoid morphology was normalized in all patients postoperatively.

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Conclusion:

Arthroscopic osseous Bankart repair for shoulders with significant glenoid bone loss can expect successful outcome without recurrence once bony union is obtained. Glenoid morphology can be almost normalized during mid to long term postoperative period.