

Paper #16

Arthroscopic Treatment for Shoulder Instability with Glenoid Bone Loss Using Distal Tibia Allograft Augmentation: Two-Year Outcomes

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Summary:

Retrospective chart review of two year outcomes for patients who underwent an arthroscopic glenoid reconstruction with distal tibial allograft.

Abstract:

Purpose

To analyse the clinico-radiologic outcomes of patients who underwent an all arthroscopic procedure to treat shoulder instability with glenoid bone loss using a distal tibial allograft (DTA); with a minimum 2 year follow-up.

Methods

A single surgeon retrospective chart review of prospectively collected data was completed for patients who underwent arthroscopic stabilization with Bankart and DTA augmentation of the glenoid. Western Ontario Shoulder Instability Index (WOSI), Disability of the Arm Shoulder and Hand (DASH), Veterans Rand - 12 and MARX questionnaires were completed pre and post-operatively. Radiological assessment was performed with radiographs and CT scans obtained pre-operatively and at approximately one year post surgery.

Results

A total of 41 patients (29 males, 12 females) with a mean age of 26 ± 9 years were included. An excellent safety profile was observed, with no intraoperative complications, neurovascular injuries, adverse events, bleeding, or infections. At two year follow-up, there was statistically significant improvement of the WOSI score when compared preoperatively (preoperative= 62.6 ± 17.06 ; at 2-year= 22.96 ± 12.92 ; $p < 0.001$). The mean pre-operative bone loss was 30.32 % (SD 7.90). There were no cases of non-union or partial union. Non-resorption of the graft (grade 0) was seen in 42% of patients, whereas 42% and 16% of patients had grade 1 and grade 2 resorption; respectively. There was 100% healing at the interface between allograft and native glenoid. The mean sagittal dimension of the remaining allograft post-operatively was 5.10 ± 2.27 mm in the patients with 50% resorption which indicates there was still bone graft present and there was no complete resorption. Mean post-operative external rotation for the population was also observed to be near full.

Conclusion

Arthroscopic stabilization with DTA augmentation has an excellent outcome at two-year follow-up; long-term follow-up studies are necessary for better assessment of outcomes.