Open Bankart versus Arthroscopic Bankart with Remplissage for Anterior Glenohumeral Instability with Subcritical Glenoid Bone Loss

Jordan Tropf[1], Michael David Bedrin, Bobby Yow, Robert Putko, Kelly G Kilcoyne, Jonathan F Dickens
[1]Walter Reed National Military Medical Center

INTRODUCTION:
The optimal surgical technique for the management of subcritical glenoid bone loss (GBL) with or without engaging Hill Sachs (HS) lesion is unknown. The purpose of this study was to define recurrence rates requiring reoperation and associated risk factors for patients with subcritical GBL undergoing either open Bankart or arthroscopic Bankart with remplissage.
METHODS:
A retrospective review of the Military Health System Data Repository Tool (M2) was performed for open Bankart (OB) (CPT 23455) and arthroscopic Bankart with remplissage (ABR) (CPT 29806, 22 modifier). Inclusion criteria were minimum follow up 2 years, <20% GBL, age 18-50. Exclusion criteria were combined instability, generalized hyperlaxity. Baseline variables assessed included age, gender, primary versus revision surgery, glenoid bone loss (GBL) measured using the perfect circle method on sagittal MRI, on- versus off-track Hill-Sachs (HS) lesion. The primary outcome was failure defined as documented dislocation or subluxation or revision surgery.
RESULTS:
31 patients with OB and 27 patients with ABR met inclusion criteria. Mean age in open Bankart cohort was 24.4 (range 18.5-46.5) versus 26.8 (range 18.7-40.9) in the remplissage cohort (p=0.16). Mean glenoid bone loss in the open Bankart cohort was 9.8 +/- 4.8 versus 10.5 +/- 5.1 in the remplissage cohort (p=0.60). The number of off-track HS lesions was 19 in the OB cohort and 18 in the ABR+R group. There were five (16.1%) failures in the OB cohort and 3 (11.1%) failures in the remplissage group (RR 1.45, 95% CI 0.38-5.50, p=0.58). Multivariate logistic regression analysis did not identify age, gender, procedure, GBL, index versus revision surgery, on versus off track as predictors of failure. Subgroup analysis of patients with on- vs off-track HS lesions as well as primary vs revision surgery showed no difference in patient baseline characteristics including GBL, and no difference in failure rates between patients with open Bankart and remplissage.
DISCUSSION AND CONCLUSION: Open Bankart and arthroscopic Bankart with remplissage have similar failure rates for the treatment of anterior instability with subcritical GBL at index instability surgery or in the revision setting.