Edge-Slack Phenomenon after Arthroscopic Bankart Repair: A Possible Cause of Recurrent Instability Following Arthroscopic Bankart Repair

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ABSTRACT and BACKGROUND

The purpose of this study was to evaluate the capability of restoration of the labral height in the arthroscopic Bankart repair and its relationship with the position of arm after the surgery.

METHODS

The position of an arthroscopically repaired Bankart lesion was examined in the axial T2 images of magnetic resonance imaging-arthrogram in twenty-two shoulders within the first day of postoperative period. Three parameters (Height, Slope, and Medial overhang of the anterior labrum) were measured on the axial images at the anteroinferior portion of the glenoid (near the most inferior anchor) at 2 different arm rotations: with the arm held at the side of the trunk and positioned first in internal rotation (mean 30°) and then in external rotation (mean 19°). With these parameters comparison between two different arm positions were accessed.

RESULTS

Internal rotation position resulted in slack of the repaired labrum (edge-slack phenomenon). The height and slope of the labrum were both greater on average 1.47mm and 7°, respectively ($p<0.001$ for both measures) when the arm was in external rotation than when it was in internal rotation. Medial Overhanging on the glenoid rim was 81% positive when the arms were in internal rotation position whereas 86% negative in arms externally rotated ($p<0.001$).

CONCLUSIONS

In conclusion, edge-slack phenomenon can inevitably occur when the arm is immobilized in the internal rotation position after arthroscopic Bankart repair using suture anchors. To prevent the edge-slack phenomenon, we recommend not only the over-the-top fixation of the suture anchor but also immobilization of the arm in neutral rotation position after the surgery.