

Atrhoscopic footpring fixation for SLAP lesion: A new technique for SLAP repair

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Introduction

In the treatment of SLAP lesions, various methods including V-shape SLAP repair, repair with a Bioknotless suture anchor, and repair through the trans-rotator cuff portal, have been introduced to fix the torn superior labrum to the glenoid rim. However, these techniques did not improve the strength of fixation and not increase the contact area between the superior labrum and glenoid bone. The current technique, which was developed by one investigator, is focused on strong initial fixation and anatomical reconstruction of superior labrum on the glenoid rim.

The purpose of this study was to introduce a new method for SLAP repair and elucidate its usefulness by comparing with conventional method.

Materials and Methods

41 patients who underwent the arthroscopic SLAP repair between January 2005 and December 2006 were investigated prospectively. The patients who had combined lesions including rotator cuff tear, ganglion, arthritic of adjacent joint and stiffness were excluded. All 33 patients were available for follow-up. The patients were divided into two groups: new method group 9 patients and conventional method group 24 patients. Average follow-up period of the patients who underwent surgery with new technique was 3.7 months (2~5 months) after surgery. All patients were evaluated with physical examination and scored using the American Shoulder and Elbow Surgeons (ASES) score system and simple shoulder test (SST). We compared the score between two groups and assessed the preoperative/postoperative score of the patients who underwent surgery with new technique. Mann-Whitney U test and Wilcoxon Signed Ranks test were used for statistical analysis. P values less than 0.05 were considered significant.

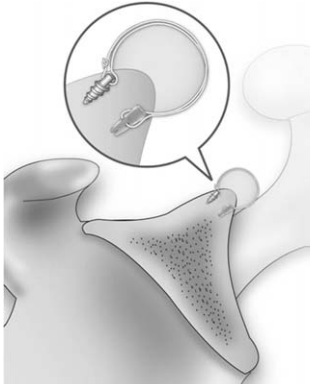
Surgical Technique

Fig. 1. One FASTak suture anchor (Arthrex, Naples, FL) is inserted into the medial portion of the glenoid rim passing via the medial portion of the superior labrum through the trans-rotator cuff portal. In contrast, all of the strands that are connected in the hole of a bioknotless anchor device (DuPuy Mitek, Norwood, MA) are removed, and one strand of suture loop from a Fastak screw at the trans-rotator cuff portal is inserted into the hole of the bioknotless anchor device. The bioknotless anchor is inserted deeply within the predrilled hole, just lateral to the Fastak screw insertion site through the trans-rotator cuff portal. After the bioknotless anchor is securely fixed into the bone, the strands are tied securely with a non-sliding knot.

Results

Twenty two male and two female patients were enrolled in this study. The average age of the new method group was 38.7 years (range, 25 to 56 years) and that of conventional method group was 36.1 years (range, 22 to 53 years). In new method group, the preoperative ASES score (34.6 ± 8.8 points) was significantly increased to 61.1 ± 13.4 points at last follow up ($p < .05$) and preoperative SST score (2.5 ± 2.7 points) was significantly increased to 6.5 ± 3.2 points at last follow-up (average 3.7 months) ($p < .05$). The ASES score and SST score of the conventional method group were 49.7 ± 16.8 points and 5.6 ± 3.9 points each at the same follow-up period (average 3.8 months after surgery) with that of the new method, but there was no significant difference ($p > .05$).

Discussion & Conclusion

We demonstrated that the new technique is clinically useful method for SLAP repair by evaluation the results after the surgery and comparing the results of conventional method. The clinical result of the new method group was better than that of conventional method, but the difference was not significant and the follow-up period was too short to validate the efficacy. Further study should be performed to prove the usefulness of this new method.

This technique is a new method for reconstructing the bony contact of the superior labrum using two anchor systems, Fastak anchor screw and a Bio-Knotless anchor. The new method enables to restore the original anatomy of superior labrum onto glenoid rim and double-strand sutures for each anchor provide rigid initial fixation, which enables the patients to start their rehabilitation program immediately after the surgery.

Although further investigation regarding biomechanical aspects and clinical efficacy are needed, we believe that this technique improves not only the initial strength of fixation, but also the healing potentials in SLAP lesions.