Outcomes of Isolated Type II SLAP Lesions Treated With Arthroscopic Fixation Using a Bioabsorbable Tack

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Purpose: The objective was to clinically evaluate the treatment of type II Slap lesions repaired surgically using a bioabsorbable device. **Type of Study:** Retrospective clinical follow-up study. **Methods:** Forty-one patients with isolated type II SLAP lesions who were treated with arthroscopic fixation were identified. Patients were excluded for rotator cuff tears, instability, or subacromial decompression. Patients completed the L'Insalata and the American Society of Shoulder and Elbow Surgeons (ASES) questionnaires, and underwent a thorough shoulder examination at a minimum of 2 years postoperatively. **Results:** At a mean of 3.7 years follow-up, 33 of 41 patients returned for physical examination and 6 others returned the L'Insalata questionnaire. The mean L'Insalata and ASES scores were 86.7 and 86.8, respectively; 27 patients reported their satisfaction as good to excellent but only 14 of the 29 athletes returned to their preinjury level of athletics. The average ASES scores were statistically different in patients who had their rotator cuff pierced versus those who did not ($P < .05$). In addition, 13 of 16 patients who experienced night pain had a cuff piercing approach. **Conclusions:** Despite high outcome scores, overall patient satisfaction was only 71%. In addition, up to 41% continued to experience some degree of night pain. Patients treated with a rotator cuff piercing had a significantly poorer outcome. Moreover, the patients who were athletes performed poorer on their outcomes evaluation than did their nonathletic counterparts. Whereas the outcome scores overall were high, this problem is still difficult to treat successfully. This may be because of the high demands of athletes. The data also suggest that placing portals through the rotator cuff may be associated with poorer surgical outcomes. **Level of Evidence:** Level III. **Key Words:** Shoulder—Labrum—SLAP lesion—SureTac.

Injuries to the superior labrum–biceps tendon complex were initially described by Andrews et al.[1] in their report on biceps tendon injuries in a population of throwing athletes. They noted that the anterosuperior portion of the glenoid labrum could be lifted off the glenoid by a pull from the biceps tendon. In 1990, Snyder et al.[2] coined the term "SLAP" lesion describing the superior-labral anterior posterior lesion. The type II lesion, the focus of this study, results when the labrum and biceps anchor are detached from their insertion on the superior glenoid.

However, when the biceps-labral complex is unstable, as in type II and IV lesions, surgical repair is preferred. There have been unsuccessful outcomes with debridement alone for type II SLAP lesions.[3-5] As a result, several techniques have been used to repair the biceps-labral complex to the glenoid. These include arthroscopic suture anchors, staples, metal screws, transosseous suture, and bioabsorbable implants.[5-9]

Few studies, however, have examined the results of

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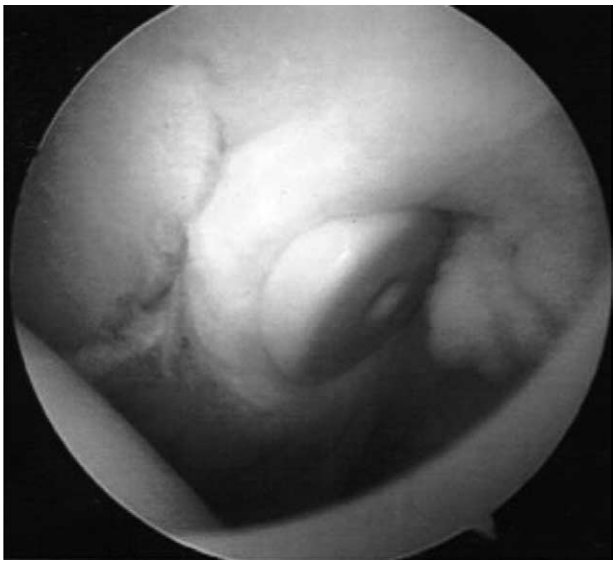

FIGURE 1. Arthroscopic view of a superoposterior labrum lesion fixated with the SureTac device.

these treatments. Those available involve limited numbers, limited follow-up (less than 2 years), and in all cases focus on populations with mixed labral pathologies or combined procedures. In part, this is because of the high frequency with which labral injuries involve associated pathology. As a result, it has been difficult to understand the impact that the labral tear has on a patient's future. This is the only study we are aware of that has identified and assessed a population of patients with an "isolated" type II SLAP lesion (no additional pathology) who underwent no additional procedures other than arthroscopic bioabsorbable tack fixation of the superior labrum to the glenoid. By focusing on this isolated subset of labral injuries, we hope to better elucidate the surgical outcomes both subjectively and objectively to more accurately guide patient and physician expectations when addressing this particular lesion.

METHODS

The authors reviewed the charts of 860 patients treated arthroscopically for any labral pathology at our institution between 1992 and 1998 by 4 surgeons. One hundred forty of these patients had arthroscopically documented superior labral lesions treated with debridement and/or tack fixation (Fig 1). These lesions included types I, II, III, and IV SLAP lesions as well as concomitant pathologies such as rotator cuff tears, Bankart lesions, and capsular laxity. Of these, 41 had isolated type II SLAP lesions treated with arthroscopic bioabsorbable tack fixation. All lesions were diagnosed by clinical examination and magnetic resonance imaging evaluation, which was confirmed at arthroscopy. A type II SLAP lesion was defined as any lesion of the superior half of the labrum that destabilized the biceps anchor and did not extend into the substance of the biceps tendon. Patients who had previously undergone any ipsilateral shoulder surgery, concomitant rotator cuff repair, stabilization, or subacromial decompression (bursectomy or acromioplasty) were excluded from our study. Therefore, this study examined only isolated type II SLAP lesions treated with arthroscopic stabilization using a bioabsorbable device. Follow-up was obtained on 39 of the 41 eligible patients. Thirty-three out of the 41 eligible patients (80%) were brought back to our institution for a thorough physical examination and were administered the L'Insalata and the American Society of Shoulder and Elbow Surgeons (ASES) questionnaires.[10,11] Six patients were unable to return for a physical examination because of travel considerations, but did complete the L'Insalata questionnaires. One patient died before the follow-up and we were unable to locate another.

The mean age of the 39 patients at surgery was 34 years (range, 16 to 56 years); there were 37 male and 2 female patients. Twenty-eight patients had surgery on their dominant shoulders, 8 patients were throwing athletes (6 pitchers, 2 fielders), and 21 patients were nonthrowing athletes (football, lacrosse, hockey, skiing, volleyball, soccer).

Nineteen patients could identify an acute injury to the shoulder, 15 of which were sports related. Twenty patients complained of chronically symptomatic shoulders, 14 of which involved athletics. Before surgery, all 39 patients complained of shoulder pain. Other symptoms in order of frequency were clicking or locking, pain with overhead activities, and weakness. The active compression test was positive in all 25 patients on whom the test was performed.[12] Arthroscopic tack placement was performed using a portal that penetrated only the rotator interval in 16 or a portal that penetrated the rotator cuff in 23 patients.

Operative Technique

Arthroscopic surgery of the shoulder was performed under interscalene block anesthesia with the patients in the beach-chair position. A standard arthroscopic examination was performed through a posterior portal that was placed 3-cm inferior and 1-cm medial to the posterolateral corner of the acromion. The superior