

## Comparative Study on Clinical Results of Arthroscopic Repair of Anteroinferior, Superior, and Combined Glenoid Labral Tear: A Two-Year Follow-Up Study

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### Summary:

This study is first of its kind that compared clinical results of arthroscopic repair of anteroinferior, superior, or combined anteroinferior and superior labral lesion. The most significant finding is that 2-year outcomes of the three lesions are comparable, in terms of pain, shoulder functional scores, ROM, and failure rate. However, patients with superior labral lesion were older at surgery.

### Abstract:

**Introduction:** Anteroinferior and superior glenoid labra are common anatomical locations susceptible to traumatic injuries which lead to shoulder instability. Both can be repaired arthroscopically, however, differences in surgical outcomes were largely unknown, especially on the association and difference between type II superior labral tear from anterior to posterior (SLAP) lesion and combined anteroinferior and superior labral lesion. The objective of this study is to compare and correlate the clinical results of arthroscopic repair of combined labral lesion with those of anteroinferior labral lesion and type II SLAP lesion.

**Methods:** A comparative study, involving patients who underwent primary arthroscopic labral repairs by two fellowship-trained Sports surgeons was conducted. Patients below 40 year-old, who were admitted between 2010 and 2014 and have been followed up for at least 2 years, were included in the study. Patients with associated rotator cuff injury, posterior labrum injury, significant bony defect or humeral avulsion of glenohumeral ligament injury were excluded. They were divided into 3 groups based on arthroscopic findings: Group A consisted of 61 patients with anteroinferior labral lesion, Group B consisted of 16 patients with type II SLAP lesion, and Group C consisted of 19 patients with combined labral lesion. The outcomes measured in the study were pain score, shoulder functional scores (Constant Shoulder Score, UCLA Shoulder Score, and Oxford Instability Score), range of motion (ROM, in both forward flexion and abduction directions), and failure rate (re-dislocation or subluxation) at 2-year follow-up. Kruskal Wallis Test and Fisher's Exact Test were applied for continuous and categorical variables, respectively.

**Results:** Except that patients from Group B were older (28.8 vs. 22.2 for Group A and 22.0 for Group C) at the time of surgery, no significant differences exist among the three groups in patients' demographics and relevant clinical data. Pain scores were comparable, with a slightly higher reported value for Group B at 2-year. There were no differences among the three groups in shoulder functional scores. Slightly higher improvements in functional scores were observed in Group B compared to the other two groups, without statistical significance. Both forward flexion and abduction ROMs have improved significantly from pre-operative values, for all three groups; however, they were not significantly different among each other at the 2-year follow-up. Improvements in ROM were highest in Group C, but these did not achieve statistical significance. Failure rate was also similar in all groups, regardless of the types of lesion.

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Conclusion: This study is first of its kind, which tries to establish the relationship of combined labral lesion with either anteroinferior or superior labral lesion, in terms of clinical results of arthroscopic repair. Patients with type II SLAP lesion underwent surgery at an older age. Combined labral lesion is a potential concomitant lesion in anteroinferior labral lesion or SLAP lesion, and comparable results can be expected in terms of pain, shoulder functional scores, ROM, and failure rate, despite the more extensive lesion size. Combined anteroinferior and superior labral lesion behaves more like isolated anteroinferior labral lesion than superior labral lesion.