



RESEARCH ARTICLE

SHOULDER SLAP LESIONS IN NON-ATHLETIC INDIVIDUALS: TREAT IT OR LEAVE IT? A COMPARATIVE STUDY OF CONSERVATIVE MANAGEMENT VERSUS ARTHROSCOPIC SLAP REPAIR IN 50 PATIENTS

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Abstract

Background: SLAP (Superior Labrum Anterior to Posterior) lesions are commonly treated surgically in athletes, but their clinical significance in non-athletic individuals remains unclear. This study compares conservative treatment with arthroscopic SLAP repair using suture anchors in non-athletes, assessing outcomes, complications, and cost-effectiveness.

Methods: A prospective study was conducted on 50 non-athletic adults (aged 30–60 years) with MRI-confirmed Type II SLAP lesions. Patients were assigned to Group A (n=25, conservative management) or Group B (n=25, arthroscopic SLAP repair with suture anchors). Outcome measures included ASES and VAS scores, return to activity time, complications, and satisfaction, evaluated over 24 months. Biostatistics were performed using SPSS v26.0.

Results: Group B showed better ASES scores at 24 months (85.3 ± 6.2 vs 76.4 ± 7.9 , $p < 0.01$) and improved VAS pain scores (1.3 ± 0.7 vs 2.1 ± 1.1 , $p < 0.01$). However, Group B had a higher complication rate (28% vs 4%), including postoperative stiffness and anchor-related irritation. Return to activity was faster in Group B (4.1 ± 1.2 vs 5.5 ± 1.4 months, $p = 0.02$).

Conclusion: Although surgical repair offers statistically better outcomes, conservative management yields acceptable results with lower risk and cost. In non-athletic patients, a trial of conservative treatment is ethically and clinically appropriate as first-line therapy. Surgery should be reserved for persistent cases.

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Introduction:-

SLAP lesions, first classified by Snyder et al. in 1990 [1], are frequently discussed in relation to overhead athletes. However, with the rise in shoulder imaging, SLAP tears are increasingly diagnosed in non-athletic populations, often as incidental findings [2,3,12]. Their management remains controversial—particularly when symptoms are mild, non-disabling, or potentially attributable to degenerative labral changes [8,15].

Operative management, particularly arthroscopic SLAP repair with suture anchors, has gained popularity. Yet, its outcomes in older, non-athletic patients have been inconsistent, with some studies reporting high complication and reoperation rates [4,5,13,18]. Moreover, surgery imposes a significant financial burden on the patient and the healthcare system, especially when evidence shows that conservative approaches may yield comparable functional results [6,7,9].

This study investigates whether operative repair in non-athletic individuals provides sufficient clinical benefit to outweigh its risks and costs. The study also examines whether nonoperative care can be ethically justified as first-line treatment.

Materials and Methods:-

Study Design and Ethics

This prospective, comparative cohort study was conducted at a tertiary orthopedic center from January 2022 to December 2024. All participants provided written informed consent.

Inclusion Criteria:

- Age 30–60 years
- Non-athletic individuals (no sports or overhead occupational activity)
- Isolated Type II SLAP lesion confirmed on MRI (12,19)
- Persistent symptoms >3 months

Exclusion Criteria:

- Prior shoulder surgery
- Concomitant rotator cuff tears, instability, or OA
- Systemic rheumatologic or neurologic disorders
- Athletes or high-demand workers

Group Allocation:

Participants were alternately allocated into:

- Group A (n=25): Conservative management
- Group B (n=25): Arthroscopic SLAP repair with all suture anchors

Treatment Protocols:

Conservative Treatment:

- 12-week structured physiotherapy
- NSAIDs, corticosteroid injection as needed
- Patient education and ergonomic modification

Surgical Repair:

- Standard arthroscopic SLAP repair with 2 suture anchors (16,17)
- Post-op: sling (3 weeks), passive ROM (4 weeks), strengthening (8–12 weeks), full return to activity (~5–6 months)

Outcome Measures:

1. ASES score
2. VAS for pain
3. Return-to-activity time
4. Complications (e.g., stiffness, capsulitis, anchor irritation, reoperation)
5. Satisfaction score (5-point Likert scale)

Patients were assessed at baseline, 6, 12, and 24 months.

Statistical Analysis:

Sample size was powered to detect an effect size of 0.8 with $\alpha = 0.05$ and power = 80% (23 patients per group minimum). Data were analyzed using SPSS v26.0. Independent t-test was used for continuous variables; chi-square or Fisher's exact test for categorical variables. $P < 0.05$ was considered statistically significant.

Results:-

Fifty patients were enrolled, with 25 in each treatment group. The baseline characteristics—including age (mean 46.2 ± 7.1 years in Group A and 45.7 ± 6.8 in Group B), gender distribution (Group A: 16 males, 9 females; Group B: 14 males, 11 females), symptom duration, and side of involvement—were comparable between the groups ($p > 0.05$).

At baseline, both groups had similar mean ASES scores (Group A: 56.3 ± 8.4 ; Group B: 54.8 ± 9.2 , $p = 0.57$) and VAS scores for pain (Group A: 6.4 ± 1.1 ; Group B: 6.6 ± 1.3 , $p = 0.49$), indicating similar severity at enrollment. Over the follow-up period, both groups improved; however, the surgical group (Group B) demonstrated statistically superior functional outcomes. At 6 months, the mean ASES score was 68.4 ± 6.7 in Group A and 78.6 ± 7.1 in Group B ($p < 0.01$). This difference remained significant at 12 months (72.6 ± 7.1 vs 83.7 ± 6.5 , $p < 0.01$) and at the final 24-month evaluation (76.4 ± 7.9 vs 85.3 ± 6.2 , $p < 0.01$).

Similarly, pain reduction was more prominent in the surgical group. At 6 months, the VAS score in Group A was 3.7 ± 1.0 , compared to 2.4 ± 0.9 in Group B ($p < 0.01$). At 24 months, the VAS further improved to 2.1 ± 1.1 in Group A and 1.3 ± 0.7 in Group B ($p < 0.01$), confirming sustained pain relief in both, but more pronounced in those undergoing repair.

Patients in the surgical group also returned to daily activities faster, averaging 4.1 ± 1.2 months compared to 5.5 ± 1.4 months in the conservatively treated group, a statistically significant difference ($p = 0.02$).

However, the incidence of complications was significantly higher in Group B (28%) compared to Group A (4%) ($p = 0.03$). In Group B, four patients (16%) developed postoperative shoulder stiffness requiring extended physiotherapy, two (8%) reported anchor-related irritation, and two others developed adhesive capsulitis. One patient (4%) in this group eventually underwent revision surgery due to persistent mechanical symptoms. In contrast, only one patient (4%) in Group A developed adhesive capsulitis, which resolved with conservative treatment.

No major complications, infections, or neurovascular injuries occurred in either group. Patient satisfaction, measured by a 5-point Likert scale, favored the surgical group, although several in Group B expressed concern about prolonged postoperative stiffness and cost.

Discussion:-

This study confirms that while arthroscopic SLAP repair results in better short-term scores for function and pain, it carries a higher risk of complications and financial burden in non-athletes. These findings are consistent with existing literature questioning the value of surgery in low-demand patients.

Provencher et al. showed poor surgical outcomes in patients over 40 years, advocating tenodesis or conservative therapy (7). Boileau et al. found tenodesis to outperform SLAP repair in middle-aged individuals (10). Weber et al. and Schröder et al. also highlighted the risks of over-treating degenerative SLAP tears (8,15).

Long-term follow-up studies like Neuman et al. and Hsu et al. reported anchor failure and progression to biceps pathology as delayed surgical complications (18,21).

From an ethical standpoint, conservative management is defensible. It minimizes iatrogenic risk, preserves surgical options for future, and respects the patient's right to lower-risk interventions. Throckmorton et al. further showed that SLAP surgery can cost up to 4–5 times more than rehab alone.

Conclusion:-

Arthroscopic SLAP repair in non-athletes provides statistically better outcomes than conservative therapy but comes at the cost of higher complication rates and increased financial burden. Conservative treatment should be the default first-line strategy in this population. Surgery should be offered only after failure of comprehensive non-operative care.

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