Arthroscopic repair of combined anterior and superior cuff tear

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Purpose
The aim of this study is to evaluate the results of arthroscopic repair of combined anterior and superior cuff tear.
Patients and methods
One-stage arthroscopic repair of concomitant supraspinatus and subscapularis tendon tear was performed in 25 patients. All patients were evaluated at a minimum 1-year follow-up with a visual analog scale score for pain; subjective shoulder value, which was used for subjective evaluation of the affected shoulder as a percentage of the normal one; range of motion; the American Shoulder and Elbow Surgeons score; and University of California at Los Angeles scores for clinical assessment. Belly-Press test and lift-off test, in particular back-to-hand distance, were used to evaluate subscapularis function. Empty can test was used to evaluate the supraspinatus strength.
Results
The mean age at the time of surgery was 53.9±11.3 years. The rate of dominant arm involvement was 60% of the patients. At the final follow-up, the mean visual analog scale score improved significantly to 0.38±0.01 points postoperatively ($P<0.01$). The mean subjective shoulder value improved from 36.5±6.98 preoperatively to 89.9±7.52 at the end of follow-up, and this was significant ($P<0.001$).The mean American Shoulder and Elbow Surgeons score improved significantly to 90.8±8.45 at the mean 1-year follow-up ($P<0.001$). The mean University of California at Los Angeles score improved significantly to 30.4±3.85 at the end of follow-up ($P<0.001$). Patients gained a significant reduction of belly-press angle from 36.5 ±12.5 to 13.9±3.25 ($P<0.0026$). Back-to-hand distance significantly improved from 2.95±0.68 to 6.0±1.33 cm ($P<0.0033$). The mean active forward flexion and the mean active internal rotation significantly improved postoperatively, whereas the mean active external rotation was nonsignificantly reduced.
Of the 25 shoulders, 23 (92%) were considered by the patients to be much better or better as a result of the operation.
Conclusion
The arthroscopic tackling of concomitant shoulder anterior and superior rotator cuff tears showed satisfactory results and fastened the return to normal activity at 1-year follow-up, as well as postoperative stiffness was avoided.
Level of evidence: Level III, case–control study.

Keywords:
anterosuperior cuff tear, arthroscopic repair, subscapularis repair, supraspinatus repair

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Introduction

Rotator cuff tear is a common cause of shoulder disability. The vast majority of cuff tears involve the supraspinatus tendon and extend posteriorly into the infraspinatus as they propagate [1,2]. The subscapularis tendon plays a critical role in balancing the transverse forces created by the posterior cuff. Isolated subscapularis tears occur, but a tear of the subscapularis is more likely to occur in association with a supraspinatus tear [3].

The term anterosuperior rotator cuff tear is defined as a full-thickness tear of the supraspinatus that extends anterior to its border involving the rotator interval structures, and potentially involving the subscapularis tendon [4]. A lesion of the long head of the biceps tendon is considered an anterior lesion. Nove-Josserand *et al*. [4] have stated that anterosuperior cuff lesions are distinct in clinical presentation and prognosis to other types of rotator cuff tears. These lesions are less common and have less satisfactory outcome than the posterosuperior rotator cuff tear [4,5].

Recognition of anterosuperior cuff tear has gradually increased with an increasing number of arthroscopic procedures, and anticipation of their presence. They

account for 9.3–23.9% of all rotator cuff tear [6]. Diagnostic imaging studies have been proven to have a low sensitivity for detecting subscapularis tears, and it is likely that many of these tears are left untreated [7]. Much attention has been paid to the treatment of isolated subscapularis ruptures [3,8–11]. On the contrary, less attention has been given to the treatment of anterosuperior rotator cuff tears, particularly by arthroscopic methods [12–14].

Although several studies have documented high success rates following the arthroscopic treatment of anterosuperior cuff tear, less favorable and predictable results were found in their treatment compared with isolated subscapularis tendon repair, or posterosuperior cuff repair because of delayed diagnosis and usual involvement of biceps lesion [15]. Therefore, early surgical repair of anterosuperior cuff tear is of paramount importance. However, determining the most appropriate treatment for a patient with an early phase of anterosuperior lesions can be uncertain as the natural history of these lesions has not been described. Although nonsurgical treatment of these lesions may be suitable for elderly patients with limited functional goal, meticulous surgical repair is more reasonable in preventing the tear propagation over time and gaining maximal postoperative function.

The purpose of this study is to evaluate a cohort of patients who underwent arthroscopic cuff repairs of combined anterior and superior cuff tear with a minimum follow-up of 12 months.

Patients and methods

From April 2013 to October 2014, 25 patients with concomitant, symptomatic, nontraumatic, and MRI-confirmed chronic full-thickness supraspinatus and subscapularis tears underwent arthroscopic repair. Of them, 15 (60%) were males, and 10 (40%) were females. These patients were followed for 14.2±3.65 months. Written informed consent was obtained from all patients, and the study was approved by the local Ethical Committee of Faculty of Medicine University of Alexandria.

Indications for surgery were tears refractory to conservative treatment for at least 3 months and pain and functional disability interfering with daily activities. Surgeries were done at El-Hadara University Hospital and Alexandria Medical Insurance Hospitals. All surgeries were performed by the author.

The exclusion criteria were as follows: (a) grade III or IV fatty infiltration of the supraspinatus according to the Goutallier *et al*. [16] classification, (b) preoperative shoulder stiffness hindering full range of motion compared with the contralateral side of the shoulder, (c) history of surgery on the affected shoulder, (d) grade II or higher glenohumeral arthritis according to the Hamada *et al*. [17] classification, (e) unavailability for a minimum 1-year follow-up, (f) traumatic rotator cuff tear, and (g) involvement of infraspinatus or teres minor tendons.

Acromioclavicular joint osteoarthritis and biceps tendon pathology were not considered exclusion criteria.

The median age of patients at the time of surgery was 51.8±8.36 years (46–67 years). The right shoulder was involved in 14 (56%) patients, whereas the left side was involved in 11 (44%) patients. The dominant shoulder was the operated side in 60% of the patients.

Preoperative assessments

A complete shoulder assessment, including history and physical examination, was performed in all patients.

Patient history included identifying the onset and duration of symptoms, any trauma to the affected shoulder, and the degree of physical demand, such as manual labor or level of sports involvement. Level of pain was determined using the visual analog scale (VAS). A standard shoulder examination was performed, which included inspection of muscle atrophy, determining range of motion, both actively and passively. Forward flexion was checked in the scapular plane, external rotation was determined with the elbow at the side, and internal rotation was measured by determining the spinal segment that the patient could reach with his or her thumb. Neerand Welsh [18] and Hawkins and Kennedy [19] impingement signs were performed. Tenderness on the lesser tuberosity and bicipital groove was assessed. Rotator cuff power was tested and graded manually from 0 to 5 according to Oxford scale [20]. Empty can test [21] was used to assess the supraspinatus strength, in addition to the modified belly-press test [22], in which the patient was asked to hold resistance against the elbow as the examiner pushed the elbow backward. Subscapularis function was tested by the lift-off test [23], in particular back-to-hand distance (BHD) [24], in which the distance (cm) between the back and the back of the hand was measured, and the belly-press test, in particular the belly-press angle (BPA) [25] was

measured using a hand-held goniometer. The BPA was defined as the angle between the forearm and the hand in the belly-press test. The strength and range of motion of the contralateral shoulder was measured as a control.

All patients underwent objective shoulder evaluation using the University of California at Los Angeles score [26] and the American Shoulder and Elbow Surgeons (ASES) score [27]. A 10-point VAS was used for subjective pain assessment, with 0 means no pain and 10 means maximal pain, and the subjective shoulder value (SSV) was used to have a subjective evaluation of the affected shoulder as a percentage of the normal one [28].

Radiographic evaluation included true anteroposterior and axillary views of the shoulder, and MRI of the shoulder was done.

Operative technique

All patients received preoperative antibiotic prophylaxis within 30 min before the beginning of the procedure. General anesthesia was used in all the patients. Patients were placed in the beach-chair position. Bony landmarks of the shoulder joint (acromion, scapular spine, clavicle, coracoid, and acromioclavicular joint) were identified. A 30° 5.5-mm scope was used in all cases.

A posterior standard portal was created first (2 cm inferior and 2 cm medial to the posterolateral acromial angle). Diagnostic glenohumeral arthroscopy is done through the standard portal to evaluate the intraarticular lesions, and then the anterior portal is developed under visualization, which was established after a trial with a spinal needle, making sure it has a decent access to manipulate the subscapularis. The biceps tendon and its glenoid attachment is inspected and palpated to see if there is any SLAP lesions or subluxation of the tendon outside its groove. The articular surface of the supraspinatus is then evaluated and the site of the tear was labeled. After that, the external rotators were evaluated for the presence of tears.

Visualization of the subscapularis and particularly its footprint on the lesser tuberosity was performed with the arm in abduction and internal rotation. This maneuver allows excellent visualization of the footprint.

Attention was then paid to the subscapularis repair, where the footprint was prepared through the anterior portal, which is preserved using an arthroscopic threaded clear cannula of suitable size (Mitek Surgical Products, Westwood, Massachusetts). The tear was then repaired to its bony insertion using one or two 5-mm double-loaded Mitek Fasten metal suture anchors (Mitek Surgical Products) depending on the size of the tear. The sutures were then passed through the cuff with Clever Hooks (Mitek Surgical Products) through the anterior portal. Finally, arthroscopic knots were tied starting inferiorly (Fig. 1a–d).

Arthroscopic biceps tenodesis to the bicipital groove was carried out using one or two double-loaded anchors if needed.

Portals were then directed to the subacromial space, where subacromial decompression and resection of the lateral end of the clavicle was performed if needed.

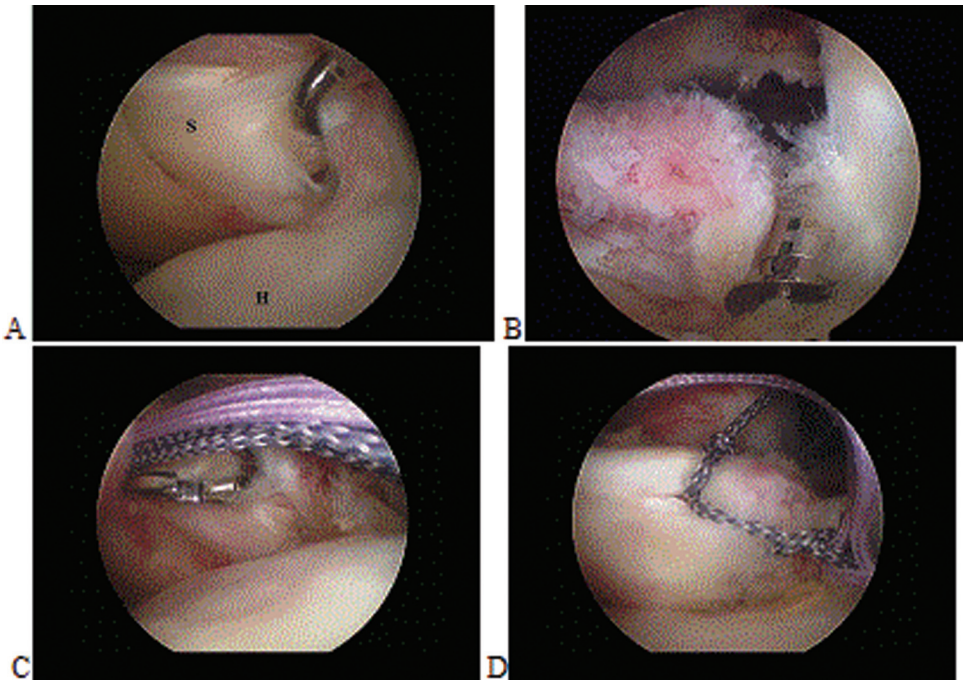
Finally, the supraspinatus was repaired through lateral portals developed under direct visualization from the posterior portal. The tendon was released and approximated to its footprint. The extent of the supraspinatus tear was determined intraoperatively under direct arthroscopic visualization after debridement of the degenerated tendon edges, and tear was classified according to DeOrio and Cofield [29] (Fig. 2a).

For preparation of the footprint, insertion of 5-mm fasten metal double loaded with No. 2 Orthocord suture threads (Mitek Surgical Products) into the foot print was done (Fig. 2b), retrieval of the suture threads of the anchor through the cuff tendon and back again into the lateral portal using a suture passer instrument Expressew II (Mitek Surgical Products) (Fig. 2c) was done, and finally arthroscopic knot tying and closure of the defect were done (Fig. 2d and e). One or two suture anchors were used to fix the cuff into the footprint in a single raw manner according to the configuration and size of the tear.

Postoperative rehabilitation

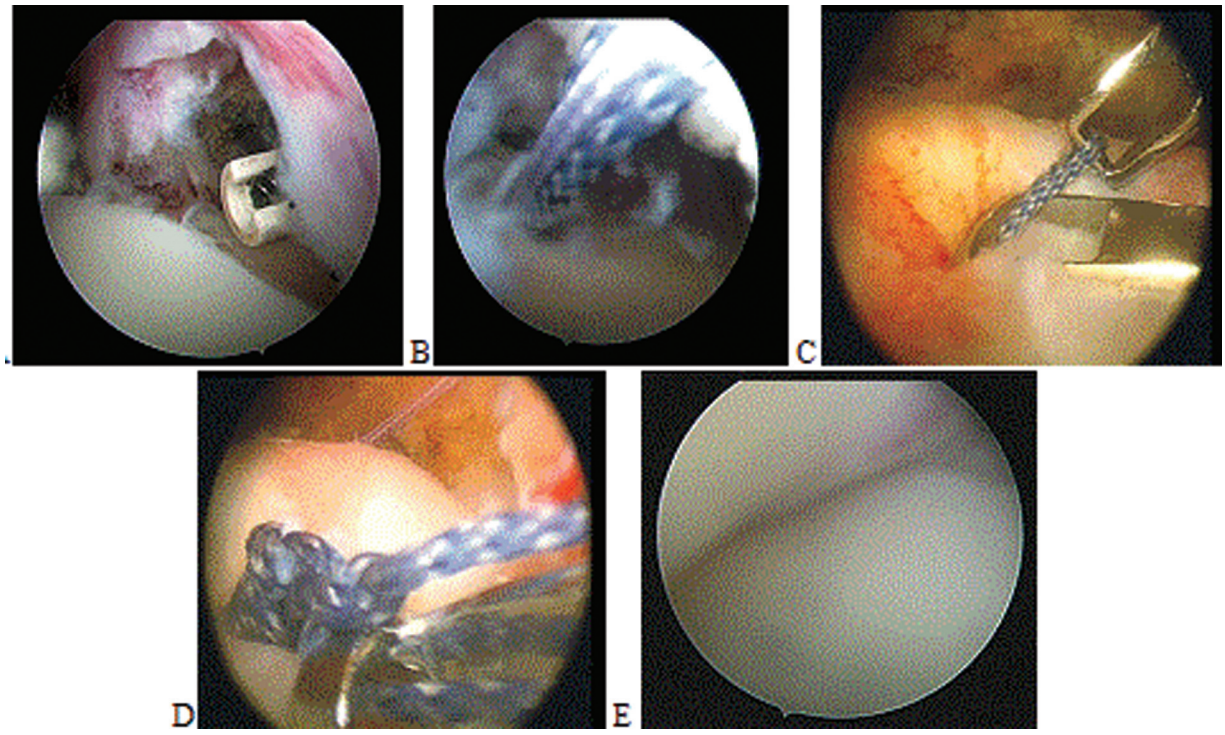
The affected arm was immobilized in an abduction brace for 6 weeks. Patients were asked to refrain from any active shoulder range of motion and avoid active elbow flexion if biceps tenodesis was performed. On the first postoperative day, pendulum exercises and self-assisted circumduction exercises were encouraged. Before discharge, patients were educated about their rehabilitation protocol. Patients were followed up at 2 weeks, 6 weeks, 3 months, 6 months, and 1 year postoperatively. At 6 weeks

Figure 1



The procedure for subscapularis tendon repair. (a) subscapularis tear. S, subscapularis; H, head of humerus. (b) Insertion of the anchor in the lesser tuberosity. (c) The clever hook is passing through the subscapularis tendon to grasp the sutures. (d) Passage of the suture through the subscapularis tendon.

Figure 2



The procedure for supraspinatus tendon repair. (a) Intraarticular visualization of the cuff tear. (b) Bone anchor insertion into the foot print. (c) Retrieval of the suture threads of the anchor through the cuff tendon. (d) Arthroscopic knot. (e) Arthroscopic closure of the defect.

postoperatively, patients were allowed to start active assisted exercises. Three months postoperatively, patients started active range of motion and isotonic strengthening exercises using an elastic band. Six months after surgery, patients were allowed to make a gradual return to their sporting activities.

Postoperative assessment

All patients were evaluated at 3, 6, and 12 months postoperatively applying the same preoperative assessment protocol. MRI was done for all patients at 6 months and the final follow-up to evaluate the integrity of the repaired cuff.

Satisfactory outcome score

At final follow-up, patients were asked via questionnaire to rate how satisfied they were with the rotator cuff repair on a 10-point scale, with one being unhappy and 10 being happy.

Statistical analysis

Results were analyzed using SPSS (16.0 for Windows; SPSS Inc., Chicago, Illinois, USA) software. Student's *t* test was used to analyze the results of VAS scores, SSV, rotator cuff strength scores, and shoulder scores. The paired *t* test was used to compare preoperative and postoperative VAS score, SSV, rotator cuff strength scores, and shoulder scores within each group. The Fisher exact test was used to compare categorical data such as retear on follow-up. A *P* value of less than 0.05 was considered significant.

Results

Patient demographic data

The studied group was composed of 15 men and 10 women. The mean age at the time of surgery was 53.9 ±11.3 years. The rate of dominant arm involvement was 60% of patients (Table 1).

Table 1 Demographic and clinical data of the studied patients

	n (%)
Sex	
Male	15 (60.0)
Female	10 (40.0)
Age	
<50	6 (24.0)
>50	19 (76.0)
Range	46–67
Mean±SD	51.8±8.36
Median	52
Affected side	
Right	14 (56.0)
Left	11 (44.0)
Dominant affected	15 (60.0)
Risk factors	
Smoker	12 (48.0)
DM	9 (36.0)
Duration of follow-up	
Range	12–16
Mean	14.2
SD	3.65

Arthroscopic findings and concomitant procedures

Small supraspinatus tear was found in six (24%) patients, medium-sized tear in 11 (44%) patients, and large tear was found in eight (32%) patients. The subscapularis tears were complete tear of the upper one-third seen in 17 (68%) patients, a complete tear of upper two-thirds were found in 6 patients (24%), and a complete rupture and retraction of the subscapularis were encountered in two (8%) patients.

Concomitant biceps lesions including biceps instability, degeneration, or tear were identified in 14 (56%) patients. Excision of the distal end of the clavicle was done in five (20%) patients (Table 2).

Functional outcome assessment

A statistically significant improvement was observed in all the clinical parameters measured.

The mean±SD preoperative VAS score was 6.5±1.06, whereas the mean postoperative VAS score significantly improved to 0.38±0.01 ($P<0.001$) at the 1-year follow-up. The mean SSV improved from 36.5 ±6.98 preoperatively to 89.9±7.52 at the end of follow-up, and this was significant ($P<0.001$) (Table 3, Fig. 3a and b).

Table 2 Arthroscopic finding and concomitant procedures in the studied group

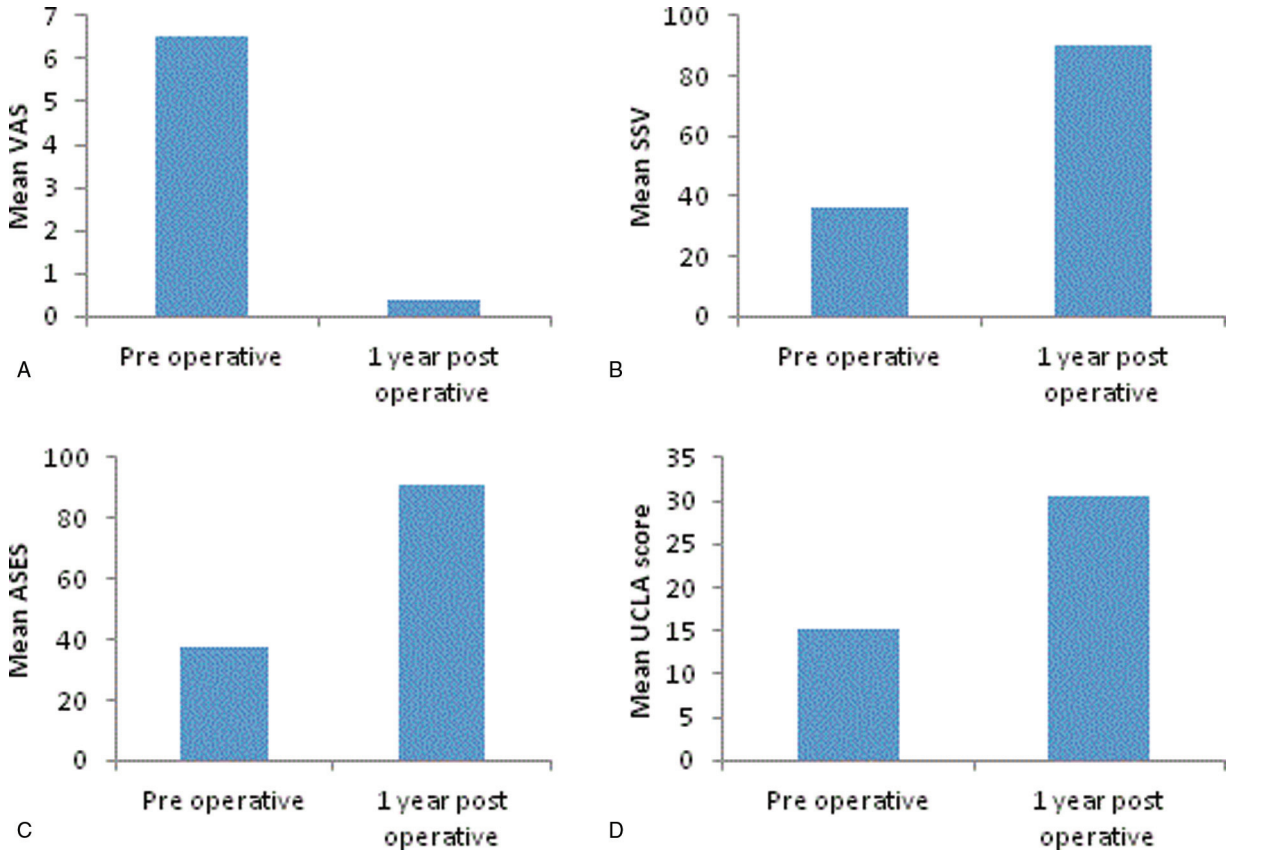
	n (%)
Supraspinatus tear	
Small-sized tears	6 (24.0)
Medium-sized tears	11 (44.0)
Large tears	8 (32.0)
Subscapularis tear	
Complete tear of upper one-third	17 (68.0)
Complete tear of upper two-thirds	6 (24.0)
Complete rupture with tendon retraction	2 (8.0)
Concomitant biceps lesions	
Biceps instability and lesions	9 (36)
Associated subacromial decompression	25 (100.0)
Associated distal clavicle excision	5 (20.0)

Table 3 Comparison between preoperative and postoperatively (at the end of follow-up) regarding functional outcomes assessment

	Preoperative	At 1 year of follow-up	*P*
VAS (mean±SD)	6.5±1.06	0.38±0.01	0.001*
SSV (mean±SD)	36.5±6.98	89.9±7.52	0.001*
ASES (mean±SD)	37.5±7.11	90.8±8.45	0.001*
UCLA score (mean ±SD)	15.12±2.33	30.4±3.85	0.001*

ASES, American Shoulder and Elbow Surgeons; SSV, subjective shoulder value; UCLA, University of California at Los Angeles; VAS, visual analog scale.

Figure 3



Comparison between preoperative and postoperative at end of follow up regarding functional outcomes assessment. (a) VAS score preoperatively and 1 year postoperatively. (b) SSV score preoperatively and mean 1 year postoperatively. (c) ASES score preoperatively and mean 1 year postoperatively. (d) UCLA score preoperative and mean 1 year postoperatively. ASES, American Shoulder and Elbow Surgeons; SSV, subjective shoulder value; UCLA, University of California at Los Angeles; VAS, visual analog scale.

The mean ASES score improved significantly from 37.5±7.11 preoperatively to 90.8 ±8.45 at the mean 1-year follow-up (P<0.001). The mean University of California at Los Angeles score improved significantly from 15.12±2.33 preoperatively to 30.4 ±3.85 at the 1-year follow-up (P<0.001) (Table 3, Fig. 3c and d).

Concerning quantitative evaluation of the subscapularis function postoperatively, patients gained a significant reduction of BPA from 36.5 ±12.5 to 13.9±3.25 (P<0.0026). BHD has significantly improved from 2.95±0.68 to 6.0 ±1.33 cm (P<0.0033) (Table 4, Fig. 4a and b).

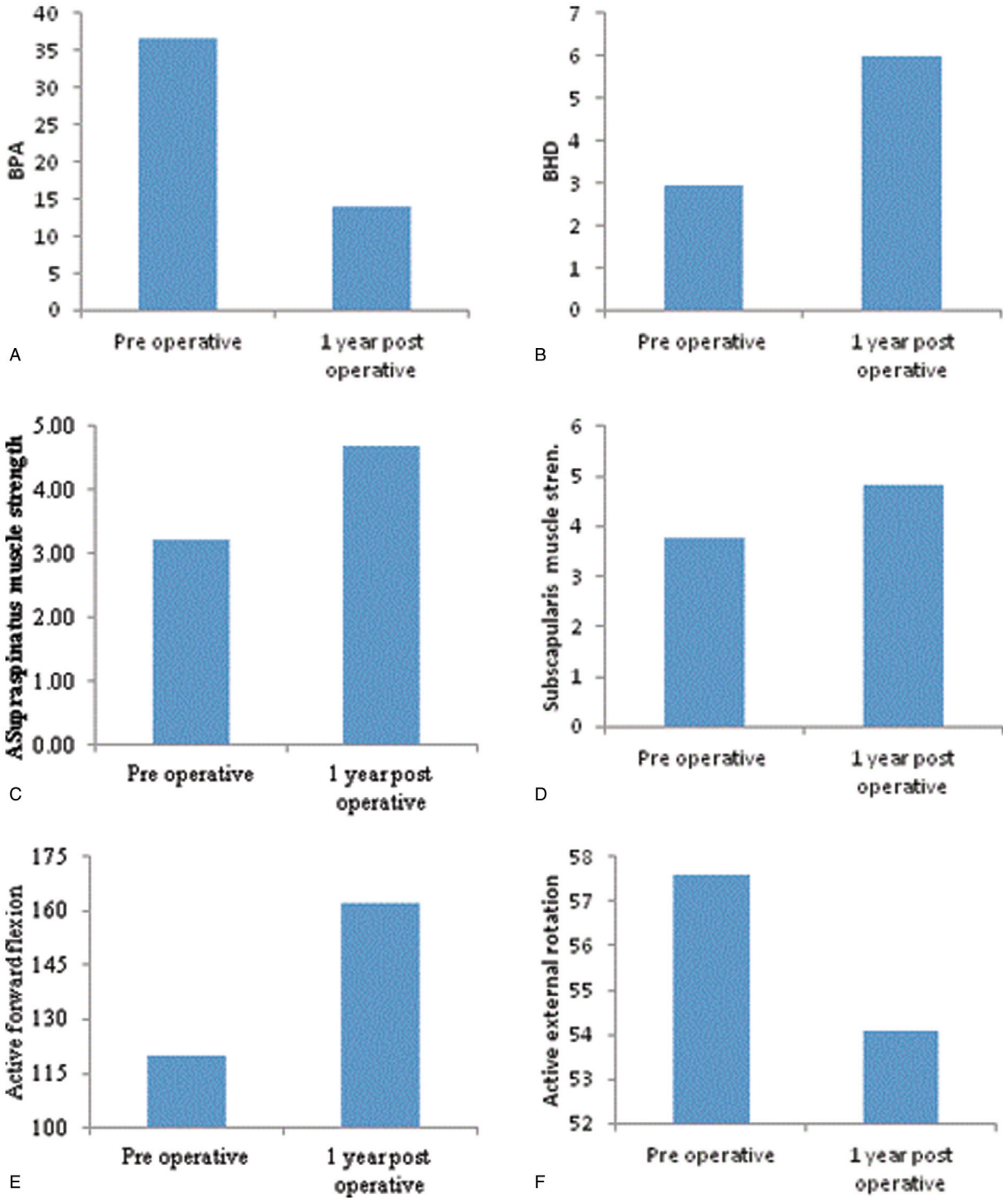
Furthermore, the modified belly-press test showed significant improvement of the subscapularis muscle strength at the final follow-up from 3.78±0.46 to 4.82±0.51 (P<0.036). The empty can test showed significant improvement of the supraspinatus muscle strength at the final follow-up from 3.22 ±0.26 to 4.68±0.322 (P<0.013) (Table 4, Fig. 4c and d).

Table 4 Quantitative evaluation of the anterosuperior cuff function postoperatively

	Preoperative	At 1 year of follow-up	*P*
Belly-press angle (mean ±SD)	36.5±12.5	13.9±3.25	0.0026*
Back-to-hand distance (mean±SD)	2.95±0.68	6.00±1.33	0.0033*
Supraspinatus muscle strength (mean±SD)	3.22±0.26	4.68±0.322	0.013*
Subscapularis muscle strength (mean±SD)	3.78±0.46	4.82±0.51	0.036*
Active forward flexion (mean±SD)	120.0±11.1	162.0±9.3	0.003*
Active external rotation (mean±SD)	57.6±9.2	54.1±6.99	0.11
Active internal rotation (median vertebrae level)	L1 (S1–T9)	T10 (L3–T3)	0.021

The mean active forward flexion improved significantly from 120.0±11.1 preoperatively to 162.0±9.3 at the final follow-up (P<0.03). The mean active external rotation was reduced from 57.6±9.2 preoperatively to 54.1±6.99 at the final follow-up, and this was not significant (P<0.11). The mean active internal

Figure 4



Quantitative evaluation of the anterosuperior cuff function preoperatively and mean 1 year postoperatively. (a) BPA preoperatively and 1 year postoperatively. (b) BHD preoperatively and 1 year postoperatively. (c) Supraspinatus strength preoperatively and 1 year postoperatively. (d) Subscapularis strength preoperatively and 1 year postoperatively. (e) Range of motion (forward flexion) preoperatively and 1 year postoperatively. (f) Range of motion (external rotation) preoperatively and 1 year postoperatively. BHD, back-to-hand distance; BPA, belly-press angle.

rotation significantly improved from L1 (S1–T9) preoperatively to T10 (L3–T6) ($P<0.05$) (Table 4, Fig. 4e and f).

Overall, patients were satisfied with their repairs, with a mean subjective patient satisfaction score at follow up of 8.11±1.03 (range, 5–10) (Table 5, Fig. 5).

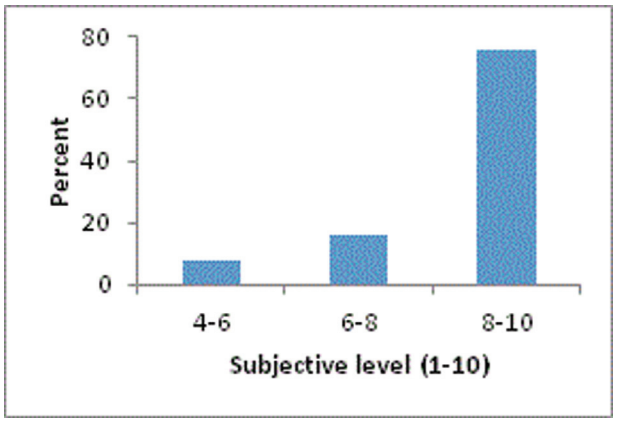
The structural results of rotator cuff repair showed 25 (100%) patients with intact repairs of both supraspinatus and subscapularis tendons at the final follow-up MRI examination.

Two (8%) patients showed postoperative complications in the form of stiff shoulder. These patients showed

Table 5 Distribution of the studied patients regarding their satisfaction.

Patients satisfaction	*n* (%)
4–6	2 (8.0)
6–8	4 (16.0)
8–10	19 (76.0)
Total	25 (100.0)
Range	5–10
Mean	8.11
SD	1.03

Figure 5



Patient satisfaction score at 1 year postoperatively.

lower functional scores, the worst pain, and lower improvement in range of motion.

Discussion

Anterior and anterosuperior cuff tears have gained more attention in the past years [2,8,15]. As the subscapularis tendon is the anterior part of the transversal 'force couple,' it is crucial for a satisfactory shoulder function [4]. The term anterosuperior rotator cuff tear has been used to differentiate massive posterosuperior rotator cuff tears from those that included the subscapularis tendon.

The incidence of subscapularis involvement in the arthroscopically treated shoulders for various types of pathology was 27%, and specifically for rotator cuff pathology was 35% [30]. This may be higher than previously thought [4]. Routine arthroscopic visualization of the rotator interval and a better understanding of MRI, particularly with gadolinium, have enhanced our ability to reach diagnosis [31]. Previously, series of the open repair of supraspinatus tears may have missed subscapularis tears, particularly the partial tears. As such, studies that have reported on supraspinatus repair results may not have included the anterosuperior rotator cuff lesion [13].

Habermeyer *et al.* [32], first, stressed the possibility of tear propagation of partial-thickness tears in the upper edge of the subscapularis tendon to the biceps and adjacent supraspinatus tendon. Partial-thickness tears of the supraspinatus tendon and concomitant biceps lesions such as degeneration, fissure, and subluxation combined with subscapularis tendon tears have been considered to be early pathologic signs of an upcoming wide full-thickness rotator cuff tear [15].

Ticker and Burkhart [10] discussed the importance of recognizing and treating subscapularis tears. They believed that in the setting of a planned rotator cuff repair, when a subscapularis tendon tear is found in continuity with a supraspinatus tendon tear (anterosuperior tear), it is essential to recognize it and repair it because the function of the subscapularis muscle will be lost. In addition, the superior rotator cuff tear can be more difficult and less securely repaired if the subscapularis tendon is not repaired. Similarly, the current study had no postoperative radiographic failure of the superior portion of anterosuperior rotator cuff tears; thus, repairing a torn subscapularis may improve the healing rate of a concomitant superior tear. Longer follow-up is needed to confirm this conclusion.

Several studies have documented high success rates following arthroscopic or open treatment of isolated partial-thickness subscapularis tendon tears [3,8–10,22–25]. In contrast, only a few studies have reported outcomes after combined surgical treatment of anterosuperior cuff tears [2,5,13,14]. In general, meticulous intraoperative estimations of the depth and location of the tear, as well as tendon quality, are important factors when choosing the best operative technique for a successful outcome [8,31].

The most important finding of the present study is that the arthroscopic repair of anterosuperior cuff tear in combination with biceps long head lesion management resulted in significant favorable functional results at the time of the final follow-up. Furthermore, ASES and VAS scores significantly improved after surgery. All patients reported statistically significant favorable functional recovery and high subjective satisfaction, indicating a quick return to original activities.

Moreover, patients gained a significant reduction of BPA and significant increase in BHD and the modified belly-press test showed that subscapularis muscle strength had improved significantly at the final follow up. Rotator cuff power in terms of forward elevation, abduction, and internal and

external rotation strengths at the time of the last follow-up was significantly better than the preoperative power.

Similar results have been reported by Bennett [13], who evaluated the outcome of 35 patients who underwent arthroscopic repair of anterosuperior rotator cuff tears and concluded that arthroscopic repair of anterosuperior cuff tears provides reliable expectation for improvement in function, decrease in pain, improvement in shoulder scores, and improvement of clinical findings of subscapularis insufficiency.

Kim *et al.* [15] reported the results of an arthroscopic percutaneous repair for partial-thickness tears of the anterosuperior cuff combined with a biceps lesion and concluded that 20 patients managed by such technique achieved full recovery of normal rotator function, maximum therapeutic efficacy, and patient satisfaction. Nho *et al.* [6] looked at the functional outcomes of arthroscopic repair of anterosuperior rotator cuff tears with open biceps tenodesis and concluded that this technique provides a significant improvement in pain relief and shoulder function. However, Ide *et al.* [14] reported a failure rate of 35% detected on postoperative MRI arthrography in a study of arthroscopically repaired anterosuperior rotator cuff tears at a mean of 3 years.

Although passive range of external rotation motion did not improve to the level of the contralateral shoulder in 16 shoulders at the final follow-up, this might be owing to overtightening of the subscapularis tendon during the procedure or a teno-capsulodesis effect caused by adhesion to the adjacent anterosuperior capsule. Although these patients had a restricted external rotation motion, the average of a loss of 20° of external rotation did not seem to restrict the daily activities.

The patients with the poorest clinical outcomes were those diagnosed with shoulder stiffness postoperatively. These patients also were less satisfied with their postoperative results; the two patients who had this complication showed the lowest satisfaction score. The occurrence of postoperative stiffness is a well-known complication of rotator cuff surgery that reduces patient satisfaction and clinical outcomes [33,34]. Much work has been performed examining the cause of postoperative stiffness, including time of immobilization postoperatively and various preoperative factors that may contribute to a loss of motion postoperatively [34–36]. Further investigation is needed regarding postoperative stiffness after anterosuperior tear repair because the low numbers seen in the current study make it difficult to draw concrete conclusions. Modified rehabilitation protocols have been developed for patients with certain risk factors for the development of postoperative stiffness, for example, diabetic patients, but this must be balanced by the need to avoid retears of the rotator cuff from early mobilization [34,36].

The detection and treatment of anterosuperior rotator cuff tears continue to evolve and improve. Future work will focus on improving diagnosis and treatment of these difficult injuries. Further studies examining the results of open versus arthroscopic repair of anterosuperior rotator cuff tears may be warranted.

Conclusion

The arthroscopic tackling of concomitant shoulder anterior and superior rotator cuff tears showed satisfactory results and fastened the return to normal activity at 1-year follow-up, as well as postoperative stiffness was avoided.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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