LONG-TERM OUTCOME OF ROTATIONAL INFRASPINATUS MUSCLE TRANSFER

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We performed a rotational infraspinatus muscle transfer in 5 patients, and subsequently investigated the supraspinatus muscle volume share (SMV) by MRI, once six months after the surgery and another more recently The supraspinatus and infraspinatus tendon stamp was detached from the rim of the glenoid with an arthroscope. The infraspinatus muscle was detached from the scapula with another incision on the spine of the scapula. The posteroinferior stamp of the infraspinatus tendon was moved to the superior facet of the greater tubercle of the humerus on the supraspinatus tendon rotationally. A surgical procedure involved a rotational infraspinatus muscle transfer with a supraspinatus muscle tendon stamp to avoid suprascapular nerve injury.

Case 1: The patient was a 73-year-old female, with a JOA score of 42.5 before her surgery which improved to 84, eleven years later; her SMV share also improved from 36.7% to 50.1%.

Case 2: The patient was a 75-year-old male, with a JOA score of 18 before surgery which improved to 86, eleven years later; his SMV share also improved from 17.1% to 32.4%.

Case 3: The patient was a 72-year-old man, with a JOA score of 49.5 before surgery which improved to 89, ten years later. His SMV share, however, decreased from 63.8% to 45%.

Case 4: The patient was a 73-year-old man, with a JOA score of 71 before surgery which improved to 84, ten years later. His SMV share decreased from 63.2% to 50.1%.

Case 5: The last patient was a 75-year-old female, with a JOA score of 53 before surgery, which improved to 74, nine years later. Her SMV share decreased from 43.3% to 41.8%.

Conclusion: The elongation of the surapinatus muscle by rotational infraspinatus muscle transfer resulted in supraspinatus muscle function recovery for a significant amount of time.

SUPERIOR CAPSULE RECONSTRUCTION FOR REINFORCEMENT BEFORE ARTHROSCOPIC ROTATOR CUFF REPAIR IMPROVES CUFF INTEGRITY

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Objective: The objective of this study was to evaluate whether superior capsule reconstruction (SCR) for reinforcement before arthroscopic rotator cuff repair (ARCR) improves cuff integrity.

Methods: Thirty-four consecutive patients with severely degenerated but reparable rotator cuff tears underwent SCR using fascia lata autografts for reinforcement before ARCR. All tears were medium (1-3 cm) or large (3-5 cm), and the number of torn tendons was two (supraspinatus and infraspinatus) in 29 shoulders and three (supraspinatus, infraspinatus, subscapularis) in five shoulders. To assess the benefits of SCR for reinforcement, the Japanese Orthopaedic Association (JOA) score, active shoulder range of motion (ROM), and cuff integrity (Sugaya MRI classification) were compared with those after ARCR alone in 91 consecutive patients with medium or large rotator cuff tears.

Results: All 34 patients who underwent SCR before ARCR had no postoperative re-tear (cuff integrity: type I, 97%; type II, 3%), whereas those treated only with ARCR had a 4% incidence of re-tear (4 of 91). JOA scores, active elevation, active external rotation, and active internal rotation increased in both treatment groups. Postoperative ASES scores and active ROM did not differ between groups, although the Goutallier grade of the supraspinatus was higher for ARCR with SCR (mean, 2.8) than ARCR alone (mean, 2.1).

Conclusions: Performing SCR for reinforcement prevented re-tear after ARCR and improved the quality of the repaired tendon on MRI. Functional outcomes were similar between groups, even though degeneration of the torn tendons was higher in patients who underwent ARCR with SCR.

SYMPTOMATIC ROTATOR CUFF TEARS FREQUENTLY ASSOCIATED WITH ABDUCTION CONTRACTURE

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Background and Purpose: Why some rotator cuff tears are asymptomatic is not well-understood. We measured the glenohumeral adduction angle (GAA) with scapular fixation and proved that patients with shoulder stiffness and/or rotator cuff tear usually had abduction contracture. Our study aimed to (1) check the frequency of abduction contracture, (2) measure GAA, and (3) evaluate the result of adduction manipulation among patients with symptomatic rotator cuff tear.

Materials and Methods: 54 patients (55 shoulders) with symptomatic rotator cuff tear were examined in this study. The scapula was fixed manually, the lateral epicondyle was pushed with a force of 5 kg, and GAA was measured fluoroscopically. We performed adduction manipulation for the patients with abduction contracture. GAA, passive range of motion, visual analog scale (VAS), and JOA scores were evaluated before and after adduction manipulation.

Results: 75% of the subjects had abduction contracture. Average GAA on the affected side was significantly smaller than that on the unaffected side. 31 shoulders were in excellent condition and 4 shoulders were in good condition. GAA, VAS scores, and JOA scores significantly improved after the adduction manipulation.

Conclusion: Symptomatic rotator cuff tears usually have abduction contracture. The symptom is improved with adduction manipulation.

CHARACTERISTICS OF SCAPULAR MUSCLE ACTIVITY IN MASSIVE ROTATOR CUFF TEAR CASES WITHOUT ELEVATING THE UPPER LIMBS

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Introduction: The scapular and deltoid muscles training has been introduced as an effective exercise to recover from shoulder disfunction of the massive rotator cuff tear (MRCT). However, the difference in muscle activity in cases where the elevation of upper limbs is possible or impossible remains unclear. In this study, muscle activity was compared using surface electromyogram (EMG).

Materials and methods: The subjects were 36 patients suffering from MRCT, among which we studied 25 shoulders in which upper limb elevation was possible (P-group) and 16 shoulders in which upper limb elevation was impossible (I-group). The healthy group was composed of 12 healthy volunteers, from which we studied 12 shoulders. The activity in the muscle each of the fibers of trapezius, deltoid, and the serratus anterior were examined by EMG.