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Arthroscopic versus Mini-Open Repair of the Rotator Cuff: Outcome Analysis at Two- to Six-Year Follow-up

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Introduction: The purpose of this study was to evaluate whether the conversion to mini-open repair deteriorate the outcome of arthroscopic rotator cuff repair in medium to large rotator cuff tears.

Methods: We evaluated 76 patients (39 males and 37 females; mean age, 56 years, range, 42-75 years), who were treated for medium to large size full-thickness rotator cuff tears either by all-arthroscopic (42 patients) or arthroscopy-assisted conversion to mini-open repairs (34 patients). Preoperative condition was similar in both groups. At a mean follow-up of 39 months (range, 24-64 months), the results of both groups were compared with regard to the shoulder rating scores (UCLA, and ASES), visual analogue scales of the shoulder pain and functional level, and strength.

Results: Repair of the rotator cuff provided improved shoulder scores, pain, and function, and strength of the shoulder ($p<0.05$). Overall, sixty-six patients showed excellent or good and 10 patients fair or poor scores by the UCLA scale. Seventy-two patients satisfactorily returned to prior activity and 4 showed unsatisfactory returns. The range-of-motion, strength, and patient's satisfaction were improved postoperatively. There were no difference in shoulder scores, pain, and activity return between all arthroscopic and mini-open conversion groups ($p>0.05$). However, patients with larger size tear showed lower shoulder scores and less predictive recovery of the strength and function ($p<0.05$). Postoperative pain was not different with respect to the size of the tear ($p=0.251$).

Discussion and Conclusion: Repairs of the medium to large size rotator cuff tear provides improved function and pain, regardless of the methods of treatment. Mini-open conversion during arthroscopic rotator cuff repair does not deteriorate the final outcomes. The results of rotator cuff repair were affected by the size of the cuff tear rather than the methods of treatment.