

Serial Evaluation of Rotator cuff Integrity by Ultrasonography after Arthroscopic Repair using Suture-Bridge Technique

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Purpose

We hypothesized that arthroscopic suture-bridge technique could provide improved repair integrity in clinical settings, and that re-tear would progress with time and influence shoulder function. In addition, we intended to test the hypothesis that preoperative factors could predict postoperative cuff integrity.

Methods

Seventy-eight consecutive patients with arthroscopic repairs using the suture-bridge technique were investigated prospectively. The integrity of the rotator cuff repair was determined with use of ultrasonographic evaluation at 4.5 and 12 months after surgery.

Results

Ultrasonography revealed intact cuffs in 91% at 4.5 months postoperatively, which was maintained at 12-month follow-up examination. Failure rates were 17.6%(3/17) for massive tears, 11.1%(2/18) for large tears, 6.3%(2/32) for medium sized tears, and no failures for small sized tears. Preoperative fatty degeneration of the supraspinatus muscle was a powerful predictor for cuff integrity. We failed to show correlation of the integrity with clinical outcomes except for the temporary decrease of abduction strength at 6 months.

Conclusion

Arthroscopic repair using suture-bridge technique can achieve a low re-tear rate in shoulders treated for rotator cuff tears.