

Paper #99

Failed Dermal Allograft Procedures for Irreparable Rotator Cuff Tears Can Still Improve Pain and Function: The "Biologic Tuberopecty Effect"

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Summary:

Failed SCR or Bridging procedures can still improve pain and function. The Biologic Tuberopecty Effect

Abstract:

Objectives: 1. Correlate acellular dermal matrix (ADM) graft integrity used in "bridging" (BRI) and superior capsule reconstruction (SCR) procedures with functional outcomes. 2. Propose a classification for ADM tear pattern.

Methods

Between 2006 and 2016, 15 shoulders underwent BRI, and 10 shoulders underwent SCR with an ADM. Pre- and postoperative visual analogue scale (VAS), American Shoulder and Elbow Scores (ASES), Hamada grade, and Goutallier classification were reviewed. A post-operative MRI was available in 22 (88%) shoulders. The status of the graft was divided into: Type I – graft intact medially and laterally (fully healed); Type II- torn mid-substance; Type III – graft torn medially; Type IV – graft torn laterally; Type V – graft absent (dissolved).

Results

The average age was 61 years (range: 49-73 years). Average follow up was 21.6 months (range 8-80 months). Average length from surgery to post-operative MRI was 13.9 months (range 6-80 months). Overall tear rate was 59% (13 of 22). Tear rate in BRI was 42% (5 of 12), and in SCR 80% (8 of 10). There were significant improvements in VAS and ASES (8.1 to 1.3 and 26.3 to 84.6, respectively; $p < 0.01$) in Type I grafts, and in VAS and ASES (7.0 to 0.7 and 32.6 to 91.2, respectively; $p < 0.01$) in Type II and III graft tears. There was no difference in postoperative VAS and ASES (1.3 versus 0.7 and 84.6 versus 91.2, respectively; $p = 0.8$) between Type I versus Type II and III graft tears. There was no improvement in VAS (7.3 versus 5.7, $P = 0.2$) and ASES (30.6 versus 37.2, $P = 0.5$) in Type IV and V graft tears. There was a significant difference in postoperative VAS (5.7 versus 1) and ASES (37.2 versus 88.1) between Type IV and V versus Types II, III, and I respectively ($p < 0.01$).

Conclusion

Functional improvement is achieved if the ADM has healed to the tuberosity, regardless if it is still intact medially.

Level of Evidence: IV