

Deformities associated with the suture-bridge technique for full-thickness rotator cuff tears

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Introduction

This study was performed to evaluate the causes and treatments of deformities associated with the suture-bridge technique in rotator cuff tears.

Methods

We performed a prospective review of a consecutive series of 100 shoulders with full-thickness tears (50 cases with medium-sized, 43 cases with large, and 7 cases with massive tears) treated using the suture-bridge technique in 2007. The surgical technique was classified according to the number of suture-anchors inserted in the medial and lateral rows (2×2 suture-bridge in 82 cases, 3×2 in 12 cases, and 3×3 in 6 cases). On arthroscopy, the development of a marginal dog-ear deformity and central bird-beak deformity during the repair were investigated. These deformities were corrected using the modified suture-bridge technique or by inserting an additional suture anchor.

Results

Dog-ear deformities occurred in 47 cases and were most frequent in large tears treated with a 2×2 suture-bridge (21 cases). Dog-ear deformities in 2×2 suture-bridges were more frequent with large than with medium-sized tears ($P<0.05$), and with large tears they were more frequent with 2×2 than with 3×2 suture-bridges ($P<0.05$). Bird-beak deformities occurred in 13 cases and were most frequent in large tears treated with 2×2 suture-bridges (9 cases). Bird-beak deformities with 2×2 suture-bridges were more frequent with large than with medium-sized tears ($P<0.05$), and with large tears they were more frequent with 2×2 than with 3×2 suture-bridges ($P<0.05$).

Conclusion

Rotator cuff repair using the suture-bridge technique may be individualized for a particular repair depending on the tear size and pattern.

Key Words: Rotator cuff, Dog-ear deformity, Bird-beak deformity, Suture-bridge technique