

paring the tension at the articular margin between small and large tears (0.28 vs 0.63 lbs), a difference was noted ($p < 0.01$). Significance was also achieved when comparing the tensions at the lateral tuberosity ($p < 0.04$) between small and large tears (1.73 vs. 2.84 lbs).

Conclusion: This study demonstrates a significant 5-fold difference in the amount of tension the rotator cuff tendon experiences under medially-based single and laterally-based double-row constructs at the time of repair. Larger, retracted tears > 2 cm require significantly more tension to reapproximate to both the articular margin and lateral tuberosity.

Clinical and Radiographic Results of Partial Repairs in Irreparable Rotator Cuff Tears: Preliminary Report (SS-05) *Jae Chul Yoo, M.D., Kyoung Hwan Koh, M.D., Kyung Jea Woo, M.D., Min Soo Shon, M.D., Kyung Ho Koo, M.D.*

Introduction: Large to massive rotator cuff tears are challenging conditions in shoulder surgery and frequently it is impossible to repair completely even with the advancement of the knowledge and repair technique. For those irreparable rotator cuff tears, several alternative treatment options can be considered. Among them partial repair (so-called force couple repair) has gained some popularity in that it can lead to pain relief and functional improvement. The purpose of this study was to report the preliminary clinical and radiographic results of arthroscopic force couple repair for the irreparable rotator cuff tears.

Methods: From June 2005 to February 2008, 101 large to massive rotator cuff patients were arthroscopically operated. Among them sixteen cases of force couple repair (posterior cuff repair with or without repair of upper portion of subscapularis) for the irreparable rotator cuff tears were available in evaluation. Clinical assessments were done at final follow-up with pain visual analogue scale (PVAS) and American Shoulder and Elbow Surgeons' (ASES) score. Postoperative acromiohumeral distance and arthritic change were compared with the preoperative plain radiographs.

Results: The mean follow up was 27.3 months (15~46) and the mean age was 66.6 years (57~76). There were 7 male and 9 female patients. PVAS and ASES score was improved from 4.4 (± 2.5) and 39.0 (± 10.8) to 2.1 (± 2.3) and 80.3 (± 16.8) ($p = 0.003$ and 0.002 , respectively). Three patients rated excellent, 9 patients rated good, 3 patients rated fair, and one patient rated poor. Acromiohumeral distance was measured as 6.6 (± 1.7) mm preoperatively and 6.2 (± 1.7) mm postoperatively. There was no statistical difference

($p = 0.387$). Degenerative change by Hamada classification was not progressed postoperatively ($p = 0.201$).

Conclusion: Partial repair for the irreparable rotator cuff tear showed good clinical results and no progression of acromiohumeral distance and degenerative change at mean 2.3 years after surgery.

Arthroscopic Treatment of Rotator Cuff Pathology in Patients with Concurrent Glenohumeral Arthritis (SS-06) *Raymond R. Drabicki, M.D., Larry D. Field, M.D., Felix H. Savoie III, M.D., J. Randall Ramsey, M.D., E. Rhett Hobgood, M.D.*

Introduction: Managing patients who have rotator cuff pathology and glenohumeral arthritis poses a difficult clinical dilemma. The aim of this study was to examine the clinical outcomes of patients undergoing arthroscopic management of rotator cuff pathology with subacromial decompression and rotator cuff repair as well as debridement for glenohumeral arthritis.

Methods: A retrospective review of 55 consecutive patients with clinical and radiographic findings strongly suggestive of rotator cuff pathology as well as with clear radiographic and clinical evidence of glenohumeral joint osteoarthritis was conducted. Surgical treatment included arthroscopic debridement, chondroplasty, and microfracture of grade III and IV humeral and glenoid lesions, subacromial decompression, and rotator cuff repair if warranted. Pain, range of motion, and progression of osteoarthritis on radiographic imaging were evaluated in all patients. A shoulder questionnaire at final follow up was used to assess subjective measures and patient satisfaction. Outcomes were evaluated using ANOVA statistical analyses and post hoc tests.

Results: All 55 consecutive patients with an average age of 64.7 years were evaluated. Chondroplasty and microfracture techniques were employed to address all articular lesions. Arthroscopic rotator cuff repairs were performed in 29 (53%) patients. Average follow up was 38.1 months at which time average forward flexion and external rotation improved from 119 to 144 degrees ($p < 0.038$) and 24 to 40 degrees ($p < 0.043$) respectively. 67% of patients reported mild or no limitations with the use of their shoulder and 44 (80%) reported improvements in pain level. Only 3 (6%) patients reported severe limitations. Two of these patients underwent subsequent shoulder replacement within 1 year after the index procedure.

Conclusion: Often, patients with rotator cuff pathology have concurrent glenohumeral arthritis. Failure of conservative management has often been met with limited options, namely shoulder replacement in this specific