

Orthopaedics-2021: Partial thickness rotator cuff tears :Trans-rotator interval repair technique for PASTA lesions

Alex Martusiewicz,

Northwestern Memorial Hospital, USA

Several techniques have been described in treating partial thickness rotator cuff tears, specifically partial articular supraspinatus tendon avulsions (PASTA). Traditionally high-grade avulsions are completed to a full thickness tear and repaired by one of several standard techniques. This study presents a trans-rotator interval technique that allows preservation of intact tendon fibers, avoids violation of the tendon, and repairs the partial tear with a titanium suture anchor.

Patients diagnosed with PASTA tears on MRI underwent arthroscopic repair of the lesion. The patients were placed in a modified beach-chair position, and standard posterior and anterior portals were created. After confirming the separation of the supraspinatus tendon from the articular-sided footprint, a 5 mm double-loaded titanium suture anchor is passed through the rotator interval. A subacromial portal is then created to pass a penetrating device and pass two suture limbs to span the rotator cuff. These are subsequently tied and cut arthroscopically through the subacromial space. This secures the rotator cuff well back down to its footprint and reduction is confirmed on the intra-articular view. Post-operatively patients follow a standard RTC repair rehabilitation protocol and clinical follow up. ASES Patient Self Evaluations and Physician Assessments were obtained at an average of 28 months as well as subjective pain descriptions. Descriptive statistics were used to compare patient outcomes.

A total of 14 patients were evaluated (10 males and 4 females), with a mean of age 56 years old (44-74 years old). 11 of 14 patients had the procedure performed on their dominant arm. Mean clinical follow up and ASES assessment was 28 months (9-52 months). The mean ASES Shoulder Score was 95.8 out of 100 (95% CI: 91.8- 99.8). 11 of 14 patients had complete resolution of pain in their operative shoulder and 92% of patients stated that they would repeat the procedure. ASES Physician Assessment for Strength revealed an average

of 4.50 in forward elevation (95% CI: 4.13-4.87) and 4.88 in abduction (95% CI: 4.63-5.12). External and internal rotations were 5 and 5 respectively among all patients post-operatively. ASES Physician Assessment for Active Range of Motion: 158 degrees of forward elevation (95% CI: 151-165), 44 degrees of external rotation with arm at side (95% CI: 40-48), 83 degrees of external rotation with arm abducted to 90 degrees (95% CI: 80-87), internal rotation to the spinous level of T10 (range L2-T8).

There is no clear consensus in the literature regarding the optimal surgical treatment of PASTA lesions. The primary techniques for managing these articular-sided tears are debridement, trans-tendon repair, or completion of the tear and repair. This trans-interval technique provides the surgeon with a novel arthroscopic option that respects the intact tendon and the supraspinatus footprint. It also avoids creating a breach close to the rotator cuff insertion. ASES Shoulder Scores are equal if not superior to previously reported studies and 92% of patients said they would repeat the procedure again. This series of cases also provides promising results with reliable pain relief and improvements in shoulder function. Future prospective studies comparing this trans-interval technique with other previously described methods would potentially delineate the optimal method for treating PASTA lesion.

Biography

Alex Martusiewicz is a resident physician in the Department of Orthopaedic Surgery at Northwestern University, Chicago IL. He received his M.D. degree from The

University of Michigan in 2012 as well as a B.S. in Neuroscience in 2008. His research interests include sports medicine and total joint arthroplasty