

## **Comparative Outcomes of Arthroscopic Rotator Cuff Repair in Elderly Patients Aged Over 80 with Young Patients**

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**INTRODUCTION:** This study aimed to analyze the functional outcomes and tendon integrity following arthroscopic rotator cuff repair (ARCR) in elderly patients aged  $\geq 80$  years with rotator cuff tears (eRCT), compared to younger patients aged  $\leq 45$  years (yRCT).

### **METHODS:**

We retrospectively reviewed patients who underwent ARCR between 2014 and 2023. We compared 26 elderly and 53 young atraumatic RCT patients. Subjective and functional outcomes, including visual analog scales for pain (pVAS), range of motion (ROM), American Shoulder and Elbow Surgeons (ASES) scores, Simple Shoulder Test (SST), Constant scores, and satisfaction VAS, were assessed preoperatively and at 6 and 12 months postoperatively. Tendon integrity was evaluated using ultrasonography at 6 months or MRI at 12 months postoperatively.

**RESULTS:** The mean age was 81.5 years (range, 80~85) in eRCT and 41.3 years (range, 31~45) in yRCT. Subacromial spur was more common in eRCT (96.2%) than yRCT (69.8%) ( $p = 0.008$ ). In eRCT, heel spurs (50%) and medial spurs (38.5%) were common, while heel spurs were most common (62.3%) in yRCT ( $p < 0.001$ ). Whereas, the acromion thickness was greater in yRCT ( $8.8 \text{ mm} \pm 1.5 \text{ mm}$ ) compared to eRCT ( $8.0 \text{ mm} \pm 1.4 \text{ mm}$ ) ( $p = 0.023$ ). In eRCT, 6 small (23.1%), 7 medium (26.9%), 2 large (7.7%), and 11 massive tears (42.3%) were observed, while in yRCT, 36 small (67.9%), 16 medium (30.2%), 1 large tear (1.9%) and no massive tear were found. The distribution of tear sizes differed significantly between two groups, and small tears were more common in yRCT (both  $p < 0.001$ ). Tear retraction and anteroposterior dimension averaged 20.7mm / 17.9mm in eRCT and 10.8mm / 10.4mm in yRCT, respectively ( $p < 0.001$ ). No significant differences were found in the improvements of pVAS, ASES score, SST, Constant, internal rotation, and external rotation between the groups at 1 year postoperatively. Re-tear rate was 19.2% (5/26) in eRCT and 1.9% (1/53) in yRCT, however, there was no significant difference in re-tear rates between two groups when accounting for tear size.

### **DISCUSSION AND CONCLUSION:**

Arthroscopic rotator cuff repair in elderly patients achieved favorable clinical success rates with significant improvements in functional outcomes, comparable to young patients. These findings indicate that age alone should not be a contraindication for ARCR, as elderly patients can achieve meaningful functional recovery and satisfaction.