

No Difference in Two-Year Outcomes of Arthroscopic Rotator Cuff Repair in Patients with Osteoporosis.

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Background: Many prognostic factors associated with healing after arthroscopic rotator cuff repair have been evaluated. It has been shown from previous literature that osteoporosis is an independent risk factor for poor healing and increased need for revision surgery. To our knowledge, there has not been a study reporting patient reported outcomes (PROs) for arthroscopic rotator cuff repair in patients with osteoporosis. The purpose of this study was to compare PROs of arthroscopic rotator cuff repair (RCR) in patients with decreased bone mineral density to those with normal bone mineral density. We hypothesized that patients with decreased bone mineral density would have worse outcomes.

Methods: A retrospective chart review identified patients who had arthroscopic RCR with preoperative and minimum two-year postoperative PROs. Demographic data and rotator cuff tear size was recorded, and the PROs included ASES, VAS pain score, SANE, VR-12 PCS, and VR-12 MCS. Each patient record was queried for an osteoporosis, osteopenia, or osteoporotic fracture diagnosis within a year before or after RCR. Patients with one of these diagnoses comprised the decreased bone mineral density group; whereas, patients without these diagnoses comprised the control group. An Analysis of Covariance (ANCOVA) was used to compare two-year PROs while controlling for age, sex, tear size, pre-op ASES, pre-op VR-12 MCS, pre-op VR-12 PCS, and Charlson Comorbidity Index (CCI). Significance was set at $\alpha = 0.05$.

Results: Three-hundred fifty-seven patients were included. The mean age was 59.8 \pm 10.0 years, and 191 (53.5%) were male. There were 30 patients (8.4%) in the decreased bone mineral density group and 327 patients (91.6%) in the control group. 182 (51.0%) patients had large or massive tears, and 175 patients (49.0%) had small or medium tears. Other than osteoporosis status, age, and gender the cohorts were no baseline differences between groups based on CCI ($p=0.092$), VR-12 PCS mean scores ($p=0.032$), VR-12 MCS mean scores ($p=0.924$) and initial ASES mean scores ($p=0.183$). More females were in the decreased bone mineral density group, 28 of 30 ($p<0.001$) and were slightly older, 67.6 \pm 7.6 years vs the controls at 59.1 \pm 10.0 years ($p<0.001$). ANCOVA identified no significant difference in two-year ASES scores between groups ($p=0.216$).

Conclusion: Despite previous literature showing the negative effect of osteoporosis on rotator cuff healing, our data showed no relationship between decreased bone mineral density and two-year clinical outcomes following RCR. Patients with decreased bone mineral density can still achieve excellent two-year outcomes.

Pre-Op & 2-Year ASES by Osteoporotic Status

