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A Call to "Own the Bone": Osteoporosis is a Predictor for Adverse Two-Year Outcomes following Primary Total Hip Arthroplasty

Introduction: Total hip arthroplasty (THA) is one of the most frequently performed surgeries in the US. Few studies have examined the long-term outcomes of osteoporosis (OP) following THA. This study evaluated the impact of OP on 2-year postoperative THA complication and re-operation rates.
Methods: Using the SPARCS database, patients who underwent primary THA for osteoarthritis of the hip from 2009 to 2011 with minimum 2-year follow-up were identified. Patients with OP, and without (no-OP), were 1:1 propensity-score matched for age, sex, race, and Deyo index. Cohorts were compared for hospital-related parameters and 2-year postoperative complications/re-operations. Multivariate binary logistic regression identified significant independent predictors of adverse outcomes.

Results: A total of 8,248 patients were identified (OP, n=4,123 [50%]; no-OP, n=4,124 [50%]). Cohorts were similar in terms of mean age (72.2 vs. 71.8 years), mean Deyo index score (0.62 vs. 0.59), and sex (Females: 89% vs. 89.8%) (all, $p \geq 0.07$). Differences were observed between OP and no-OP patients with respect to race (White: 84.7% vs. 82.9%), primary insurer (Medicare: 73.4% vs. 69.5%), and hospital length of stay (4.3 vs. 4.1 days) (all, $p \leq 0.035$). OP patients had higher rates of medical, surgical, and overall medical/surgical complications, as well as higher 2-year rates of overall complications and any revision than no-OP patients (all, $p \leq 0.009$). OP independently predicted 2-year occurrence of any surgical complication (OR=1.95), any overall complication (OR=1.70), any medical complication (OR=1.51), and any revision (OR=1.44) (all, p<0.001).
Discussion: OP was independently associated with adverse 2-year outcomes following THA. Our study is a call to orthopaedic surgeons to optimize preoperative screening for OP prior to procedures such as THA.

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