

The Impact of Hyperparathyroidism on Outcomes and Complications Following Total Knee Arthroplasty with Minimum 2-Year Surveillance

Introduction: The aim of this study is to compare outcomes between patients with and without hyperparathyroidism undergoing total knee arthroplasty (TKA) surgery. There is limited literature evaluating the impact of hyperparathyroidism on long-term outcomes after TKA.

Methods: Using a state-wide database, patients admitted from 2009 to 2011 with diagnoses of hyperparathyroidism who underwent TKA with a minimum 2-year follow-up surveillance were retrospectively reviewed. A 1:1 propensity-score-match by age, sex, and obesity status was performed. Univariate analyses evaluated demographics, complications, and subsequent revision. Multivariate binary logistic regression models were conducted to identify correlations between hyperparathyroidism and postoperative outcomes.

Results: A total of 394 propensity-score-matched patients were identified (hyperparathyroidism: n=197; no-hyperparathyroidism: n=197), with a mean age of 70.44 years, 78.2% female, and obesity status of 22.3% for both cohorts (all, $p > 0.05$). The hyperparathyroidism cohort, compared to the non-hyperparathyroidism cohort, had fewer white patients (70.6% vs. 89.3%, $p = 0.001$), higher Deyo score (1.39 vs. 0.92, $p < 0.001$), longer length of stay (4.66 vs. 3.49 days, $p < 0.001$), and higher surgical charges (\$48,871.58 vs. \$33,870.85, $p < 0.001$). Hyperparathyroidism patients, compared to the non-hyperparathyroidism patients, had lower risk for surgical complications (OR: 0.604 [0.392 – 0.931], $p = 0.022$), medical complications (OR: 0.554 [0.338 – 0.908], $p = 0.019$), cerebrovascular events (OR: 0.208 [0.067 – 0.653], $p = 0.007$), and blood transfusions (OR: 0.569 [0.367 – 0.884], $p = 0.012$).

Conclusion: Hyperparathyroidism patients had lower risk for surgical and medical complications compared to non-hyperparathyroidism patients. These results suggest hyperparathyroidism might be a protective factor against post-TKA complications.