

Risk Factors and Thirty-Day Postoperative Outcomes in Osteonecrosis Patients Undergoing Total Knee Arthroplasty

Introduction: There is a paucity of literature reporting risk factors and thirty-day postoperative outcomes for patients with osteonecrosis of the knee (ON) undergoing total knee arthroplasty (TKA). The purpose of this study is to evaluate the incidence of preoperative risk factors and their impact on postoperative outcomes for ON patients receiving TKA.

Methods: A retrospective analysis was performed on the American College of Surgeons National Surgical Improvement Program database between 2008 and 2016. A total of 225,475 patients that underwent TKA were matched into ON and non-ON cohorts (n=151 each) using 1:1 propensity score matching based on gender, age, and BMI. Patient demographics, preoperative risk factors, perioperative complications, and postoperative outcomes which included reoperation, readmission, and in-hospital mortality were compared between cohorts. Regression models were used to evaluate the probability of risk factors as predictors of adverse events.

Results: Patients with preoperative ON showed increased rates of chronic obstructive pulmonary disease (COPD, $p=0.005$) and bleeding disorders ($p=0.015$) (Table 1). Operative time, length of hospital stays, and overall postoperative outcomes were comparable between the two cohorts (all, $p>0.05$). Regression models showed none of the preoperative risk factors to be predictive of overall postoperative outcomes (all, $p>0.05$).

Conclusion: Operative time, length of hospital stays, and overall postoperative outcomes were comparable between the ON and non-ON cohorts. In the preoperative setting, ON patients displayed a significant increase in the frequency of COPD and bleeding disorders. Further research is needed to better understand the relationship between risk factors and postoperative outcomes for ON patients undergoing TKA.