

Outcomes following Total Knee Arthroplasty in Patients with a History of Patella Fracture: A Propensity Score-Matched Analysis

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INTRODUCTION: Posttraumatic osteoarthritis (PTOA) is a common indication for total knee arthroplasty (TKA). Prior studies have demonstrated poorer outcomes and increased complication rates among patients undergoing TKA for treatment of PTOA, although these studies evaluated patients with a history of tibial plateau fracture or distal femur fracture. There is a paucity of literature evaluating the risks associated with undergoing TKA among patients with a history of patella fracture. The purpose of this study was to evaluate the association between a history of patella fracture and postoperative complication rates following TKA.

METHODS: Patients diagnosed with a patella fracture prior to undergoing TKA were identified from a large national database and matched to a control cohort using propensity scoring. Rates of medical complications occurring within 90 days of TKA and surgery-related complications occurring within 1 year of TKA were compared using odds ratios.

RESULTS: Propensity score matching resulted in 8,519 patients with a history of patella fracture matched to 8,115 control patients. TKA patients with a history of patella fracture had a lower incidence of pulmonary embolism (OR 0.74, $p=0.0442$) and higher incidences of PJI (OR 1.68, $p<0.0001$), all-cause revision surgery (OR 1.84, $p<0.0001$), dislocation (OR 1.61, $p=0.026$), lysis of adhesions (OR 2.21, $p=0.0082$), and wound disruption (OR 1.52, $p<0.0001$).

DISCUSSION AND CONCLUSION: A history of patella fracture is associated with early surgery-related complications following TKA including periprosthetic joint infection, all-cause revision surgery, dislocation, lysis of adhesions, and wound disruption. Future research is warranted to identify interventions that may ameliorate risk of postoperative complications among this patient population.