

Session/Poster#

Presenter

C04

Tanveer Singh

College of Medicine Student

Advisor(s): Dr. Qais Naziri, Orthopaedic Surgery & Rehabilitation Medicine

**Iron Deficiency Anemia Is Associated with Adverse Postoperative Outcomes Following Primary Total Knee Arthroplasty: Minimum 2-Year Follow-Up**

Introduction: Iron deficiency anemia (IDA) is the most common anemia and affects a substantial number of Americans. However, not much literature explores the impact of IDA on primary total knee arthroplasty (TKA) outcomes. This study evaluates IDA as a risk factor for adverse outcomes after primary TKA.

Methods: The New York State Statewide Planning and Research Cooperative System (SPARCS) database was retrospectively queried using the ICD-9 code for primary TKA procedures with minimum 2-year follow-up performed between 2009 and 2013. One-to-one propensity score matching (PSM) was used to control for age, gender, and obesity and stratify patients into two cohorts based on IDA status. Demographic, preoperative, and postoperative variables including medical and surgical complications, readmissions, reoperations, revisions, and in-hospital mortality were then compared. Univariate and multivariate logistic regression analysis used age, gender, and obesity to assess the association between IDA and adverse outcomes.

Results: Between 2009 and 2013, 92,627 patients underwent primary TKA procedures. The cohorts stratified by IDA status each contained 1,440 patients. The cohorts showed no significant differences in age, gender, obesity, race, payment method, or total surgical charges. The IDA cohort had longer hospital stays than the non-IDA cohort (4.2 days vs. 3.8 days;  $p < 0.001$ ). Univariate and multivariate analyses showed that patients with IDA had higher rates of overall medical and surgical complications, blood transfusions, altered mental status, acute myocardial infarction, acute renal failure, sepsis, and readmission (all  $p < 0.05$ ).

Conclusion: Patients with IDA undergoing primary TKA had longer hospital stays and higher rates of adverse postoperative outcomes. Surgeons should be aware of IDA as a risk factor and counsel patients accordingly. Future research can explore the impact of preoperative iron status correction in patients with IDA on outcomes following TKA.