



Paper #4

Perioperative Complications in Patients with Inflammatory Arthropathy Undergoing Total Knee Replacement

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Introduction: Despite recent improvements in the medical treatment of various inflammatory arthropathies (IA), patients suffering from these conditions often go on to require a total knee replacement (TKR). Little information exists comparing the short-term surgical complications of the different inflammatory arthropathies and osteoarthritis (OA) after TKR. Our objectives were (1) to compare perioperative complications and (2) determine the most common complications between the different IA subtypes compared with patients with osteoarthritis (OA) undergoing primary TKA.

Methods: The Nationwide Inpatient Sample was used to identify 6,894,641 patients undergoing elective unilateral TKR between 2002-2011. Of this number 278,844 (4%) had an IA, including rheumatoid arthritis (RA), psoriatic arthritis (PA), juvenile idiopathic arthritis (JIA), ankylosing spondylitis (AS), systemic lupus erythematosus (SLE). The prevalence of inpatient medical and orthopaedic complications were compared between patients with IA and OA. Multivariate logistic regression was used to control for age, gender and comorbidities.

Results: When compared to patients with OA, patients with RA, JIA, AS, SLE, PA had significantly more inpatient medical and orthopaedic complications immediately following TKR ($p < 0.01$). The highest medical complication rate was seen in patient with AS (26%) whereas RA, JIA, AS, SLE had more orthopaedic complications. Specific orthopaedic complications by subtype included hematomas for RA (OR: 1.3; 95% CI: 1.2-1.3), periprosthetic fractures for JIA, SLE and PA (OR: 6.8; 95% CI: 3.9-12, OR: 2.3; 95% CI: 1.6-3.3 and OR: 2.3; 95% CI: 1.6-3.3, respectively) and increased mortality for AS patients (OR: 1.9; 95% CI: 1.0-3.7).

Conclusion: Differences exist in postoperative inpatient medical and orthopaedic complications in patients with certain types of inflammatory arthropathies following TKR. There is an increased risk for important complications such as periprosthetic fractures and mortality. Our results point out the importance of preoperative optimization in patients with IA as well as monitoring for selective postoperative complications.