Pre-Operative Opioid Use Independently Predicts Increased Risk of Early Revision of THA

Nicholas A. Bedard, MD, David E. DeMik, MD, S. Blake Dowdle, MD, Jessel M. Owens, MD, Steve S. Liu, MD, John J. Callaghan, MD

Introduction: There has been little research evaluating the impact of pre-operative opioid use on risk of subsequent revision after primary total hip arthroplasty (THA). The purpose of this study was to evaluate the impact of pre-operative opioid use on the risk of early THA revision.

Methods: The Humana database was queried for unilateral THA during the years 2007-2015. Patients were tracked for the occurrence of an ipsilateral revision THA for 2 years following the index procedure. Factors were analyzed for risk of early revision of THA including preoperative opioid use, age (<50 vs > = 50 years), sex, diabetes, anxiety/depression, chronic kidney disease (CKD) and obesity (BMI > 30kg/m2). Pre-operative opioid use was defined as a history of opioid prescription filled within 3 months prior to primary THA. Multivariate logistic regression analysis was utilized to determine odds ratios (OR) for risk of early revision after primary THA.

Results: 17,695 primary THA patients were analyzed and 0.88% (n = 155) had a revision THA procedure within 2 years of the index surgery. 36.7% of patients had filled an opioid prescription within 3 months prior to THA. Females comprised 58.7% of the cohort and 80% were > 50 years. Pre-operative opioid users were significantly more likely to undergo early THA revision than non-opioid users (1.2% vs 0.7%, p<0.001). Other patient factors that significantly increased the risk of early THA revision included obesity (1.3% vs 0.8%, p=0.03) and a pre-operative diagnosis of anxiety or depression (1.9% vs 0.8%, p=0.006).

Conclusions: Opioid use within 3 months prior to THA independently predicted an increased risk of early revision surgery. Independent predictors of early revision included obesity and a diagnosis of anxiety or depression. Further research is needed to evaluate if discontinuing opioids prior to surgery mitigates this risk.