The Impact of Ulcerative Colitis on Outcomes and Complications following Total Hip Arthroplasty

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INTRODUCTION:
The objective of this study is to compare outcomes and complication rates between patients with and without ulcerative colitis (UC) undergoing surgery for total hip arthroplasty (THA). There is limited literature evaluating the impact of UC on long-term outcomes after THA surgery.

METHODS:
Using the National Inpatient Sample (NIS), patients admitted from 2005 to 2012 with a diagnosis of UC who underwent THA were retrospectively reviewed. A 1:1 propensity score-match (PSM) by age, sex, and obesity status was performed before analyzing data. Univariate analyses evaluated demographics, complications, and subsequent revision. Multivariate binary logistic regression models were also conducted to identify correlations between UC and postoperative THA outcomes, controlling for sex, age, and obesity.

RESULTS: A total of 1,894 propensity score-matched patients were identified (UC: n=947; non-UC: n = 947). Both cohorts were nearly identical in age (UC: 64.35 years, non-UC: 64.46 years p=0.862), sex (UC: 52.4% female, non-UC: 53.7% female p=0.549), and obesity status (UC: 11.3%, non-UC: 11.2% p=0.942). The UC cohort, compared to the non-UC cohort, had more white patients (91.7% vs. 88.7%, p=0.004). Both cohorts were comparable in deyo score (p=0.448), length of stay (p = 0.230), and total charge (p=0.095). The average incidence rate between 2005 and 2012 for patients with UC undergoing THA is 3.87 [3.31 – 4.44] (Figure 1). This incidence rate increased by 31.61% during this time period (Figure 1). With a 1:1 PSM, patients with UC, compared to non-UC patients, had higher rates for medical complications (OR: 1.582 [1.004 – 2.492], p=0.048) (Table 1), but comparable surgical complication rates (OR: 1.256 [0.972 – 1.623], p=0.081).

DISCUSSION AND CONCLUSION: In the general population undergoing total hip arthroplasty, patients with UC, compared to non-UC patients, had comparable surgical charges, length of stay, and deyo score. UC patients had higher risk for medical complications compared to non-UC patients. These results can support management of postoperative expectations and concerns in this patient cohort.
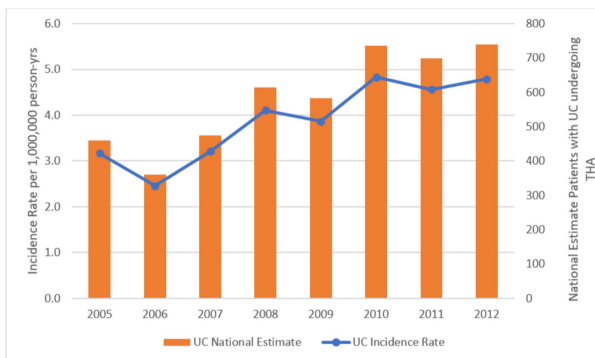

Figure 1: Incidence Rates of Patients with UC undergoing THA.

Postoperative Outcome	No UC N (%)	Yes UC N (%)	P -Value
Surgical Complications (any)	176 (18.6%)	202 (21.3%)	0.135
Wound	15 (1.6%)	13 (1.4%)	0.703
CNS	0 (0.0%)	1 (0.1%)	0.317
Malunion of Fracture	3 (0.3%)	2 (0.2%)	0.654
Nonunion of Fracture	7 (0.7%)	5 (0.5%)	0.562
Prosthetic implant joint	10 (1.1%)	12 (1.3%)	0.668
Transfusion of blood	161 (17.0%)	185 (19.5%)	0.154
Medical Complications (any)	41 (4.3%)	60 (6.3%)	0.046
Altered mental status	2 (0.2%)	5 (0.5%)	0.256
Acute myocardial infarction	4 (0.4%)	10 (1.1%)	0.108
Pulmonary	7 (0.7%)	6 (0.6%)	0.781
Pneumonia	6 (0.6%)	5 (0.5%)	0.762
Gastrointestinal	5 (0.5%)	14 (1.5%)	0.038
Urinary tract infection	6 (0.6%)	7 (0.7%)	0.781
Acute renal failure	11 (1.2%)	15 (1.6%)	0.430
Sepsis	1 (0.1%)	5 (0.5%)	0.102
Pulmonary embolism	0 (0.0%)	2 (0.2%)	0.157
Deep venous thrombosis	0 (0.0%)	2 (0.2%)	0.157
Cerebrovascular event	4 (0.4%)	8 (0.8%)	0.247
Revisions	3 (0.3%)	0 (0.0%)	0.083
Mortality (Hospitalization)	2 (0.2%)	2 (0.2%)	0.997

Table 1: Impact of Ulcerative Colitis on Rate of Postoperative Outcomes on Patients Undergoing Total Hip Arthroplasty.