

The Impact of Ulcerative Colitis on Outcomes and Complications Following Adult Spinal Fusion: A Propensity Score Match Analysis

Introduction: The global burden of ulcerative colitis (UC) continues to rise with the prevalence of UC exceeding 0.3% of the total population in North America. There is limited literature evaluating the impact of ulcerative colitis (UC) on short-term and long-term consequences of spinal fusion surgery.

Methods: Using the National Inpatient Sample, patients admitted from 2005 to 2012 with a diagnosis of UC who underwent spinal fusion surgery were retrospectively reviewed, and propensity score matched by age, sex, and obesity. Chi-square analyses evaluated demographics, medical complications including sepsis, surgical complications such as blood transfusions, Deyo scores, postoperative length of stay, costs, and in-hospital mortality between the groups. Multivariate binary logistic regression models were used to identify correlations between UC and postoperative spinal fusion outcomes.

Results: A total of 938 UC patients undergoing spinal fusion were identified and matched. Patients with UC had higher rates of surgical complications largely owing to increased rates of blood transfusions (both, $p < 0.05$). Although comparison of the rates of medical complications between the groups failed to show significant difference, the rate of sepsis was markedly higher in UC patients ($p = 0.021$). Furthermore, the UC cohort had longer postoperative length of stay ($p = 0.019$), increased hospital charges ($p = 0.001$), and increased rates of in-hospital mortality ($p = 0.034$), but comparable Deyo scores ($p = 0.253$).

Conclusion: UC patients undergoing spinal fusion surgery had higher rates of surgical complications, blood transfusions, sepsis, and in-hospital mortality compared to non-UC patients while having similar comorbidity scores. These findings reflect the need for close postoperative management in this patient population.