



Western Surgical Association 2020 Annual Meeting

Monday, November 9, 2020
4:00pm – 6:15pm Pacific Time
– Virtual Meeting --

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8. DOES THE APPROACH AND EXTENT OF COLORECTAL RESECTION AFFECT THE SHORT TERM OUTCOMES IN PATIENTS WITH ULCERATIVE COLITIS?

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Background: Minimally invasive techniques have improved short term surgical outcomes in patients with ulcerative colitis (UC). Despite this, there is limited literature on the true impact of extent of resection. Anecdotally we observed prolonged length of stays for patients undergoing minimally invasive total proctocolectomy (TPC) when compared to minimally invasive subtotal colectomy (STC). The aim of this study is to better understand the impact of surgical approach and extent of resection on short term outcomes for patients undergoing TPC and STC for ulcerative colitis.

Methods: Patients diagnosed with UC who underwent elective TPC or STC were captured from the ACS-NSQIP® 2011–2018 patient-user files. They were divided into four cohorts according to the operative approach and the extent of resection: Open TPC (O-TPC), Laparoscopic TPC (L-STC), Open STC (O-STC), and Laparoscopic STC (L-STC). Baseline demographic, anthropometric, and perioperative variables were compared between the four groups alongside 30-day mortality and 30-day complication rates.

Results: Of 3387 patients, 368 (10.9%) underwent O-STC, 406 (12%) underwent O-TPC, 1958 (58%) underwent L-STC, and 655 (19%) underwent L-TPC. Overall rate of LOS > 6 days was 27%: O-STC 39.9%, O-TPC = 48.4%, L-STC = 18.8%, and L-TPC = 31.4% ($p < 0.0001$). Overall rate of blood transfusions was 8.8%. Laparoscopic approaches had longer operative times compared to open, as did TPC compared to STC. Those who had more comorbid conditions, including DM, COPD, hypertension, and ASA class ≥ 3 were more likely to undergo an open approach or TPC.

Extent of Surgery: There was no significant difference in the risk of complications between open TPC or open STC. Patients who had L-TPC has a higher risk of urinary tract infection (UTI) (3.5% vs. 1.3%, $p < 0.0001$; adjusted OR: 2.46; $p < 0.05$) and LOS > 6 days (31.4% vs. 18.8%, $p < 0.0001$; adjusted OR: 1.3; $p < 0.05$) comparing to patients who had L-STC.

Operative approach: Patients who had open surgery had a higher risk of postoperative complications including superficial SSI (O-TPC 7.1% vs L-TPC 4.7%, $p < 0.0001$; adjusted OR: 1.581; $p < 0.05$ and O-STC 5.4% vs L-STC 2.8%, $p < 0.0001$; adjusted OR: 2.317; $p < 0.05$), need for blood transfusion (O-TPC 13.3% vs L-TPC 9.8%, $p < 0.0001$; adjusted OR: 1.574; $p < 0.05$ and O-STC 10.6% vs L-STC 7.2%, $p < 0.0001$; adjusted OR: 1.638; $p < 0.05$), and LOS >



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6 days (O-TPC 48.4% vs L-TPC 31.4%, $p < 0.0001$; adjusted OR: 2.201; $p < 0.05$ and O-STC 39.9% vs L-STC 18.8%, $p < 0.0001$; adjusted OR: 2.877; $p < 0.05$).

Interactions: Patients who had O-STC had a higher risk of LOS > 6 days compared to L-TPC (39.9% vs. 31.4%, $p < 0.0001$; adjusted OR: 1.9; $p < 0.05$) but there was no significant difference between the two groups regarding SSI, need for blood transfusion, and UTI.

Conclusion: Overall, surgery for ulcerative colitis is associated with high rates of prolonged length of stay and blood transfusion. Short term outcomes and length of stay are more impacted by the operative approach than the extent of resection. Patients have better outcomes with a laparoscopic approach when compared to their open counterparts, and in fact, laparoscopic TPC may have a shorter length of stay than open STC.