

Maansi Solanky
Medical Student
LSUHSC School of Medicine, New Orleans, LA

Mentor: Valentine Nfonam, MD, MS, FACS, FASCRS
Morehouse School of Medicine, Department of Surgery

“Determinants Of Early Readmission After Elective Colectomy For Colon Cancer”

Background: Hospital readmission is an established quality metric for colectomy, offering insight into patient outcomes as well as accounting for nearly \$300 million in annual U.S. healthcare costs. The objective of this study is to evaluate the modifiable and unmodifiable risk factors associated with 30-day readmission following elective colectomy for colon cancer. An enhanced understanding of patient and treatment-specific determinants can inform decision-making to minimize morbidity and optimize resource stewardship.

Methods: We performed a six-year (2013-2018) retrospective cohort analysis of the American College of Surgeons' National Surgical Quality Improvement Program database of adult patients who underwent elective colectomy for Stage I-III colon cancer. Variables assessed included patient demographics, comorbidities, frailty index, operative approach, cancer stage, and recent chemotherapy. Multivariable logistic regression identified independent predictors of 30-day readmission.

Results: Of 21,025 eligible patients, 6,987 patients met inclusion criteria. Among this cohort, sex distribution was approximately equal (49.6% female, 50.4% male), and patients were largely 60 years of age or older (70.8%), White (79.4%), of higher ASA classification (58.5%), and underwent colectomy via laparoscopic approach (71.8%). Overall, the readmission rate was 10.0%. Upon multivariable analysis, 30-day readmission was independently associated with race ($p=0.025$), disseminated cancer ($p=0.042$), surgical approach ($p=0.050$), higher patient ASA classification ($p=0.003$), and use of chemotherapy within 90 days ($p=0.001$). The following variables failed to demonstrate significant association: age, sex, body mass index, frailty index, smoking status, mechanical bowel preparation, oral antibiotic bowel preparation, and cancer stage.

Conclusions: Race, ASA classification, recent chemotherapy treatment, surgical approach, and disseminated cancer status were found to be associated with increased short-term readmission rates following elective colectomy for colon cancer. Awareness of these increased risk factors - which are predominantly nonmodifiable - can guide the cost-benefit analysis of elective operations to mitigate risk of readmission and subsequent morbidity and systemic cost.