Minimally Invasive Colectomy for Colon Cancer Decreased Length of Hospital Stay and Post-discharge Resource Use in the US
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INTRODUCTION: There is increasing adoption of laparoscopic (LS) and robotic assisted (RS) approaches for the surgical treatment of colon cancer. We aim to compare hospital resource utilization between open, laparoscopic and robotic assisted approaches.

METHODS: We identified patients who underwent primary, elective right or left colectomy for colon cancer between January 2014 and December 2019 in the Premier Healthcare Database. Outcomes include operative room (OR) time, length of stay (LOS), intensive care unit (ICU) utilization, post-discharge readmission, and hospital-based encounters within 30 days. Propensity score matching (PSM) was used to balance patient, surgeon, and hospital characteristics when comparing resource utilization between open (OS) vs. minimally invasive surgery (MIS), and LS vs. RS cohorts.

RESULTS: Among 49,888 eligible colectomies, mean and median LOS were respectively 5.3 (SD 4.5) and 4.0 days (IQR 3.0-6.0) and decreased from average 5.99 days in 2014 to 4.66 days in 2019 (p = 0.009). While OR time was longer with MIS, LOS was shorter, and rates of ICU, readmission, and hospital-based encounters after discharge were lower vs OS (all p < 0.001). Within MIS after PSM, RS also showed shorter LOS (4.4 vs. 4.7 days, p < 0.001) and similar readmission rates than LS (6.2% vs. 6.7%) despite a longer mean OR time (252 vs. 203 minutes, p < 0.001).

CONCLUSION: This study revealed a decreasing trend in LOS for elective colon cancer resections in the US. A reduction in LOS for robotic surgery was not associated with an increase in the readmission rate.

Predictors of In-hospital Mortality of Patients Admitted Emergently for C. difficile Colitis: A 10-year Analysis of 174,074 Patients From NIS
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INTRODUCTION: This study aimed to evaluate the association of mortality rate and hospitalization length in patients with C. difficile colitis.

METHODS: Using the National Inpatient Sample (NIS) database, a total of 59,414 non-elderly and 114,660 elderly patients that had an emergency admission for Clostridium difficile-associated colitis were identified. Multivariable generalized additive model (GAM) was used to draw the association between hospital length of stay (HLOS) and in-hospital mortality. The model was adjusted for age, sex, race, zip code of residence, income quartile, NIS severity index, and the comorbidities.

RESULTS: The mean age (SD) of non-elderly and elderly populations were 49 (12) and 79 (8) years, respectively. The female population consisted of 60% nonelderly and 65% elderly patients. Of these, 545 nonelderly (0.9%) and 4,612 elderly (4.0%) patients died during the study period. HLOS had a J-shaped association with mortality in non-elderly and a V-shaped association in elderly populations. Both populations demonstrated an increased mortality after day six. A multivariable logistic model built on patients who stayed in hospital for ≥ six days, showed an OR of 1.065 in both populations. Coagulopathy, fluid/electrolyte disorders, metastatic cancer, pulmonary circulation disorders, renal failure, and weight loss were most strongly associated with mortality in nonelderly patients. In the elderly population, congestive heart failure, coagulopathy, metastasis, and weight loss had the strongest association with mortality.

CONCLUSION: In-hospital mortality among non-elderly and elderly patients with the primary diagnosis of C. difficile colitis increased directly proportional to HLOS after the sixth day of admission.