

Extent of colectomy impact on medically refractory *Clostridioides difficile* enterocolitis

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Disclosures: none

Background Medically refractory *C. diff* colitis remains a surgically relevant problem. Despite improvement in preventative and therapeutic strategies, surgical intervention continues to be required in medically refractory cases. Traditionally, total abdominal colectomy (TAC) with end ileostomy has been advocated. A recent retrospective study of NSQIP data revealed a significant proportion of colectomies performed for severe, complicated *C. diff* infection were partial rather than total. Additionally, this was without a significant difference in mortality or complications. Given these findings, we sought to identify the frequency of partial colectomy (PC) for these patients outside of NSQIP participating facilities. We also compared the NSQIP outcomes to those within another prospectively accrued, medical record-based database.

Methods The study was IRB approved. We conducted a retrospective review of patients in the enterprise-wide HCA database. Patients aged 18-90 years with a diagnosis of enterocolitis due to *C. diff* undergoing TAC or PC from October 1, 2015 to October 1, 2019 were identified. A logistic regression model was used to compare in-hospital mortality, 30-day readmission, and any complication between the two groups; a linear regression model was used to compare hospital length of stay (LOS). For those who suffered in-hospital mortality, t-test was used to determine differences in days between procedure and death.

Results A total of 747 patients were included in the study. Of these, 656 (87.8%) underwent PC and the remaining 91 (12.2%) underwent TAC. Overall mortality was 14.3%. In-hospital mortality was significantly more common in the TAC group (OR 2.52, 95% CI 1.48-3.41, $p = 0.007$). There was a mean of 8.32 and 3.54 days between procedure and death for PC and TAC, respectively ($p = 0.0005$). There was no statistically significant difference in hospital LOS between the two groups. 30-day readmission rates were similar, as were rates of any complication. Obesity and being overweight were associated with a higher likelihood of mortality (OR 3.14, 95% CI 1.74-5.65, $p = 0.0001$; OR 2.09, 95% CI 1.13-3.86, $p = 0.02$). Younger age was associated with greater LOS ($p = 0.01$), as was non-Caucasian race ($p = 0.01$).

Conclusion Despite most guidelines suggesting TAC with end ileostomy for *C. diff* enterocolitis necessitating surgery, an even larger percentage of our patients underwent PC than seen in the NSQIP database. Mortality was more likely in the TAC group. Furthermore, of those who died, TAC patients died almost 5 days sooner on average. We acknowledge the retrospective review does not allow for inference into the extent of colectomy decision-making process of the operating surgeons. Our database is also domestic rather than international like the NSQIP database. Regardless, both studies demonstrate current guidelines are not heeded in actual practice. There appears to be a cohort of patients that will do well with PC. Prospective studies examining patient characteristics that would allow for the safe employment of lesser resection and avoidance of an ileostomy are needed.