INTRODUCTION

Colorectal cancer is the third most common diagnosed cancer in both men and women in the United States,1,2
1. 1 in 23 men (4.4%) 
2. 1 in 25 women (4.1%) 
Incidence: 37.1 in 100,000 (in NC) 
Mortality: 13.4 in 100,000 (in NC) 
Studies have found advantages of laparoscopic over open.3,4 
Outcomes for robotic assisted surgeries have varied (generally positive) but have no indication for being significantly inferior or superior to open or laparoscopic modalities.5,6,7 
Current treatment therapies include surgery with three modalities: open, laparoscopic, and robotic assisted surgery. 
Eastern NC is a rural region with significantly worse health than the rest of the state. Increased chronic diseases such as cancer, cardiovascular disease, and diabetes as well as difficulty accessing healthcare, exposure to environmental hazards, and lifestyle challenges are part of the cause.8 
Over 3,000 patients were reviewed from cases performed out of Vidant Medical Center in Greenville, NC. Of those cases 261 patients have been selected and have had their data entered into our database thus far. 
The goal is to compare oncologic and surgical outcomes in patients who have undergone colon resection using one of the three surgical techniques.

RESULTS

| Table 1. Collected data on study population and breakdown by modality into sex, race, and insurance type (percentages of total, n=261, in parenthesis). There were a total of 69 open, 68 laparoscopic, 24 hand assisted, and 100 robotic surgeries included in this data set. Additional data and statistics will be added once data collection is complete. |
|---|---|---|---|---|
| Sex | Open | Laparoscopic | Hand Assisted | Robotic | Total |
| Male | 28 (10.7) | 36 (13.8) | 12 (4.6) | 48 (18.4) | 125 |
| Female | 41 (15.7) | 32 (12.3) | 12 (4.6) | 52 (19.9) | 138 |
| Race | | | | | |
| White | 46 (17.6) | 43 (16.5) | 11 (4.2) | 60 (23.0) | 162 |
| Black/African American | 22 (8.4) | 24 (9.2) | 10 (3.8) | 36 (13.8) | 92 |
| Hispanic/Latino | 1 (0.4) | 0 | 1 (0.4) | 3 (1.1) | 5 |
| Other | 0 | 0 | 1 (0.4) | 1 (0.4) | 2 |
| Insurance | | | | | |
| Private | 22 (8.4) | 31 (11.9) | 8 (3.1) | 31 (11.9) | 92 |
| Medicare | 41 (15.7) | 35 (13.4) | 13 (13.3) | 56 (21.5) | 147 |
| Medicaid | 5 (1.9) | 0 | 1 (0.4) | 7 (2.7) | 13 |
| No Insurance | 1 (0.4) | 2 (0.8) | 2 (0.8) | 6 (2.3) | 11 |

MATERIALS & METHODS

Retrospective review of patients was performed for this study. After obtaining IRB approval, patients were first selected based upon the following inclusion and exclusion criteria: 
All surgical procedures performed by academic/private colorectal surgeons and surgical oncologists at Vidant Medical Center from 2016-2020 (n=3,000)
Exclusions
Colon and Rectal operations (n=662)
Colon cancer surgeries (n=325)
Emergent, en bloc resections, combined with another major procedure (i.e. hysterectomy, cystectomy) (n=68)

Patients included also exhibited the following criteria: 
• Patients age 18 and older 
• Pathology consistent with cancer 
• Lesion is located within terminal ileum to the rectosigmoid junction 
• Surgery performed electively or non-emergently within same hospital admission 
Operative reports, discharge summaries, and follow up visits (up to three months post-operatively) were reviewed from the study population for data collection and review.

DISCUSSION

Statistical analysis is planned once data collection on all patients has been completed. Comparisons will be made between the three modalities based on their oncologic and surgical outcomes similarly to that of other studies.5,6,7
Oncological outcomes:
• Number of lymph nodes harvested 
• Resection margins 
Surgical outcomes: 
• Length of stay 
• Readmissions 
• Postoperative complication 
• Reoperation 
• Anastomotic leak incidence 
• Need for unplanned diversion 
Patients discharge location 
Surgeons included in the study all have different years of experience and used their preferable platform surgical modality. 
Included all academic surgeons in the division of surgical oncology for that period and one private colorectal surgeon who practices at the same institute. 
Findings from this study are of importance for rural areas like Eastern North Carolina as there is a higher incidence rate of colon cancer compared to other parts of the state. Better findings, even if small, can result in huge changes in the overall outcome of health for patients in rural areas.

REFERENCES