Comparing COVID and Pre-COVID Colorectal ERAS Outcomes and Compliance:
A Detailed Look at the Impact of COVID on Perioperative Surgical Services

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OBJECTIVE

This study assesses the impact of COVID on the Enhanced Recovery After Surgery (ERAS) pathway. We analyzed and compared pre-COVID outcomes to COVID outcomes in patients that had elective colorectal surgery to determine the impact the pandemic has had on perioperative care in this population of patients at Saint Francis Hospital.

INTRODUCTION

The COVID pandemic has had a deleterious impact on both access to care as well as the delivery of care clinically, operationally, and financially across the country.

The surgical impact has yet to be fully quantified.

Enhanced Recovery After Surgery (ERAS) is a multimodal, multidisciplinary approach to the care of the surgical patient that encompasses perioperative elements aimed at reducing the physiologic stress of surgery.

The colorectal surgeons at Saint Francis Hospital implemented an ERAS program in 2016 and have maintained an ERAS database to audit compliance and outcomes for quality improvement purposes since this time.

METHODS

This is a single-center retrospective cohort study comparing ERAS outcomes before and after the introduction of COVID-19. The Saint Francis Hospital ERAS® Interactive Audit System (EIAS) database was queried and searched for the time period of January 1, 2016, to June 1, 2022.

Data collection includes variables related to hospital admission, compliance with ERAS components (time to tolerating a solid diet, resumption of GI function, mobility after surgery), and complications (surgical site infection, anastomotic leak, hematoma, GI bleed, SBO, ileus, obstruction, constipation, DVT, PE, MI, CHF, CVA, PNA, pneumothorax, UTI, urinary retention, pain, organ failure, ICU admission).

Other variables analyzed include type of colon resection, surgical approach, diagnosis, comorbidities, age, gender, BMI, and ethnicity when provided.

Data was accumulated by year and comparisons were made both between and across periods looking at raw and adjusted data.

RESULTS

This study assessed the difference in 30-day readmission (12% vs 7.2%, p = 0.05) and complication rates (15% vs 8.2%, p = 0.017) were significantly different.

Compliance of all pre-operative, intra-operative, and post-operative ERAS elements did not differ significantly between the two groups. Nursing turnover and patient to nurse ratio were significantly higher and volume of nursing staff was significantly lower during the COVID.

CONCLUSIONS

The baseline characteristics of "COVID" and "Non-COVID" patient groups were comparable except for BMI (28 vs 29, p = 0.019). There was no statistical difference in length of stay (4.1d and 4.2d, p = 0.75).

There was no statistical difference in length of stay (4.1d and 4.2d, p = 0.75). This indicates a system-based issue as the possible cause, most notably a significantly higher nursing turnover rate and patient to nurse ratio during the COVID.