Differences in short-term outcomes after right and left sided colorectal resections for colorectal cancer may indicate a need to modify ERAS protocol.

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Current evidence has established role of ERAS protocols in reducing postoperative length of stay, morbidity, and mortality in comparison to conventional perioperative care for elective colorectal surgery. However, most published studies on ERAS protocols in colorectal surgery include heterogeneous groups of patients undergoing right and left colonic resections, with or without stomas and open or laparoscopic surgery. The impact of this heterogeneity on short term post-operative outcomes is little understood. Our study aims to compare short term post-operative outcomes in terms of postoperative bowel function recovery between right colonic and left colonic resections within ERAS protocol and explore need to modify ERAS protocol elements for right sided colonic resections.

Methods

- Data from a prospective database of elective right colonic resections (RCR) and left colorectal resections (LCR) between January 2016 to December 2019 was analyzed.

- Primary outcome was to compare return of bowel function and development of post-operative complications, 30-day re-admission, and re-operation rates.

Discussion

- We reported a slower postoperative bowel function recovery, indicated by time to first flatus, time to low residue diet, in RCR compared with LCR.

- Despite acceptable and comparable compliance to ERAS protocol elements, there is a statistically significant difference in postoperative bowel function recovery between both groups.

- Higher rates of postoperative ileus seen in ileocolic anastomoses may be due to the following: A) ileocolic anastomosis is usually done in a side-to-side antiperistaltic manner, between two anatomically dissimilar structures of small bowel and colon. B) Loss of ileocolical valve & chemical nature of bowel contents at ileocolical anastomosis impacting bowel function recovery C) Dissemination around the duodenum and increased small bowel manipulation during ileo-colic anastomosis.

- An important strength of our study is that our results are based on a homogenous group of patients who had elective resections for colorectal cancer, resulting in less bias and more reliable results.

- Clinical implication of our findings suggest that ERAS protocol may not be a “one size fits all” solution.

Table 2: Comparison of post-operative outcomes between right vs left colo-rectal resections (open and laparoscopic surgery combined)

Table 3: Univariate analysis of factors a/w postoperative ileus.

Table 4: Multivariate analysis of factors a/w postoperative ileus.

Of 193 eligible patients, 72 (37.3%) were in RCR group while 171 (62.7%) were in LCR group.

Laparoscopic approach was used in (41/72) 56.9% of RCR and (90/121) 74.4% in the LCR group.

Time to escalation to low residue diet was 4.29 (1-18) days in RCR vs 2.89 (1-16) days in LCR group, p=0.001.

Time to flatus was 3.07 (1-12) days in RCR group and 2.44 (1-6) days in LCR group, p=0.008.

21(29.2%) patients in RCR and 16 (13.2%) in LCR groups had postoperative ileus, p=0.007.

Male sex and right colonic resections were found to be significant and independent risk factors for post-operative ileus after uni- and multivariate analysis.

Conclusion

Right colonic resections are associated with delayed postoperative bowel function even after high compliance with ERAS protocol. It may be prudent to consider adaptation of ERAS components and tailor its application in patients undergoing RCR, to avoid delayed bowel function recovery.