



ROLE OF NASOGASTRIC DECOMPRESSION IN ELECTIVE COLORECTAL SURGERIES

General Surgery

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ABSTRACT

Nasogastric tubes are flexible tubes inserted through nose, pharynx, oesophagus into the stomach. Prophylactic nasogastric decompression after abdominal surgery until gastrointestinal function returns is a routine postoperative procedure in many medical centers. This study was conducted to find the usefulness of nasogastric decompression in patients undergoing elective colorectal surgery. Comparison of various parameters like, time for nasogastric tube removal, time to pass flatus, time to start oral feeding, postoperative hospital stay, postoperative complications between patients with nasogastric tube and without nasogastric tube were done. The study was conducted in General Surgery department of Government Medical College Trivandrum over a period of 1 year. It was concluded that routine use of nasogastric decompression following elective colorectal surgeries may be safely eliminated. Avoidance of routine nasogastric decompression increased comfort and mobility of patients. Postoperative hospital stay is significantly shorter with avoidance of routine nasogastric tube decompression.

KEYWORDS

nasogastric decompression, colorectal surgery

Introduction

Routines in surgery have evolved as a way of eliminating as many variables as possible in effecting safe outcomes. One such routine practiced for the last 50 years has been nasogastric decompression.

After laparotomy, coordinated small bowel contractile activity returns rapidly within hours, followed by the return of gastric propulsivity after 24 hours. Coordinated colonic motility returns after two to four days. The magnitude of small bowel secretory output immediately following surgery, however is unknown. After operation, salivary and gastric secretions are minimal, and without such secretory stimuli, pancreatic and biliary secretions are diminished. It has been taught that secretions and gas accumulating as a result of postoperative ileus distend the bowel and these could be removed or reduced by the use of an indwelling nasogastric tube.

During the 1990s and 2000s, the need for routine nasogastric aspiration was repeatedly challenged on the basis of various trials¹. The main parameters which were studied include duration of postoperative ileus, time to feed, postoperative complications and hospital stay. This study was designed to examine the routine use of nasogastric decompression in patients undergoing elective colorectal surgeries and to compare this practice with a group of patients in whom similar operative procedures had been performed but who did not receive routine nasogastric decompression.

Aims of the study

- To study the usefulness of nasogastric decompression in patients undergoing elective colorectal surgery.
- Comparison of various parameters like, Time for NG tube removal, Time to pass flatus, Time to start oral feeding, Postoperative hospital stay, Post-operative complications between patients with NG tube and without NG tube.

Methodology

It was a descriptive study conducted in the Department of General Surgery, Govt. Medical College Thiruvananthapuram for a period of 1 year from August 1 2015 to 31 July 2016. Patients who underwent elective segmental colonic or rectal resection during the study period were included and sample size was 150. The variables studied were time to first passage of flatus, time to begin peroral fluid intake, time elapsed postoperative stay, necessity for re-insertion of NG tube and postoperative complications

Results

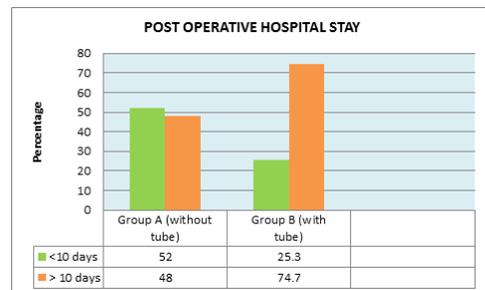


Figure 1. Comparison of postoperative hospital stay

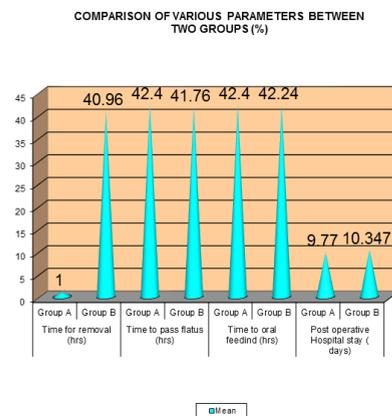


Figure 2. Comparison of various parameters between 2 groups

In our study majority of cases in both groups underwent surgery for rectal carcinoma (53.3%) followed by colonic carcinoma (30.00%). The primary surgery was Low anterior resection (34.7%) in both groups followed by Right hemicolectomy (27.3%).

Nasogastric decompression was removed within one hour in all the 75 cases in group A. The mean time for removal of NGD in group B was 40.96 hours. The mean time to pass flatus in group A was higher (42.4 hrs) as compared to group B (41.76 hrs), which was however

statistically not significant ($p>0.05$). Similarly mean time taken in resumption of oral feed in both groups was not statistically significant ($p>0.05$).

In the present study 18 patients (24%) in group A and 20 patients (26.7%) complained of nausea and vomiting which was comparable. The incidence of nausea and vomiting was not statistically significant in both groups ($p>0.05$).

Avoidance of Nasogastric tube resulted in a lower rate of pulmonary complications, however, which was not statistically significant ($p>0.05$).

In the present study 8% in group A and 9.3% in group B had wound infection which was not statistically significant ($p>0.05$). The results of metaanalysis of 11 studies by Lewis et al [15] have also shown that incidence of wound infection not statistically significant.

Postoperative fever occurred in 12 patients (16%) in group A and 17 patients (22.7%) in group B which was not statistically significant.

In the present study 6 patients (8%) in group A and 2 patients (2.7%) in group B had anastomotic leak which was not statistically significant ($p>0.05$).

In the present study the mean duration of postoperative hospital stay was 9.77 days in group A and 10.34 days in group B and the difference was statistically significant ($p<0.01$). Duration of hospital stay in the present study is comparable with previous study.

Abdominal distension was present in 18 patients (24%) in group A and 18 patients (24%) in group B and the result was not significant ($p>0.05$). Although patients may develop abdominal distension or vomiting without a nasogastric tube, this is not associated with an increase in complications or length of stay.

11 patients in group A (14.7%) and 2 patients in group B (2.7%) required nasogastric tube reinsertion because of gastric discomfort. The result was significant ($p<0.05$) and similar observations were made by most of the previous studies. This leads to the acceptance of the concept of selective nasogastric decompression in patients experiencing intractable vomiting or gastric discomfort.

Discussion

Rao W et al [2] conducted metaanalysis on role of NG tube after colorectal surgery (2011) shows patients in NGT group had less vomiting, less NG tube replacement but more pharyngolaryngitis. No significant difference noted in anastomotic leak, wound infection. In present study also patients with NG tube had high respiratory infections but not statistically significant.

Shamil N et al [3] conducted prospective observational study Is nasogastric decompression necessary in elective enteric anastomosis (2009) found that omission of NG tube did not lead to any serious complications like anastomotic leak, pulmonary complications, wound infection.

In present study also found that no statistical significance in both groups in terms of age, gender, diagnosis, type of surgery, time to pass flatus, time to start oral feeds, and postoperative complications.

In summary, prophylactic nasogastric decompression following elective colorectal surgeries has been undertaken with the intent of hastening return of bowel function by emptying the stomach, easing respiration and diminishing the risk of aspiration of gastric contents, and therefore decreasing the risk of pulmonary complication, increasing patient comfort by lessening abdominal distension, protecting intestinal anastomosis and preventing anastomotic leakage and shortening hospital stay. This study has shown that the intervention is ineffective in achieving any of these goals. Significant benefit may accrue from avoidance of prolonged intubation and selective tube insertion only when needed to relieve gastric symptoms. The postoperative hospital stay may be shorter when routine intubation is avoided.

Conclusion

Routine use of nasogastric decompression following elective colorectal surgeries may be safely eliminated. Avoidance of routine nasogastric decompression increased comfort and mobility of patients. Postoperative hospital stay is significantly shorter with avoidance of routine nasogastric tube decompression. It is recommended to consider nasogastric tube insertion in selected patients when needed, to relieve gastric symptoms.

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