



A Clinical Study on Benefits of Early Enteral Feeding After Intestinal Resection and Anastomosis

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Abstract

Background: As per conventional practice, post operatively after resection anastomosis of small and large intestine patients are kept nil oral till bowel sounds appear. But early enteral feeding is beneficial to patients as per recent studies. In This study we are comparing early enteral feeding vs nil by mouth for cases of intestinal resection and anastomosis

Methods: The comparative study includes sixty cases of intestinal resection and anastomosis, in the post operative wards of Rajah Muthiah Medical College and Hospital, Chidambaram during Oct 2018 to March 2020, the cases are selected for study by randomized selection from which 30 patients were kept nil by mouth and 30 patients started on early enteral feeding

Results: in this study the most common surgeries performed ileostomy. The patient started with early enteral feeding found to have statistically lower incidence of surgical site infection, post operative ileus and shorter hospital stay.

Conclusion: In this study The patient started with early enteral feeding found to have statistically lower incidence of surgical site infection, post operative ileus and shorter hospital stay. That concludes early enteral feeding is beneficial in post operative patients of resection and anastomosis

Keywords: Enteral feeding, Ileostomy, Intestines, Paralytic Ileus, Postoperative Pain, Surgical Anastomosis, Wound Infection.

Introduction

Resection and anastomosis is often done in malnourished patients¹⁻³ and in severe cases, is known to increase the post operative morbidity.⁴ Additionally these surgical patients are subjected to post operative stress and hypercatabolic state; hence these patients require some form of early nutrition, enteral or TPN.⁵ As per conventional

practice, post operatively after resection anastomosis of small and large intestine patients are kept nil oral till bowel sounds appear. But early enteral feeding is beneficial to patients as per recent studies. Feeding post operatively within 24 hours is very safe and beneficial according to recent studies.^{6,7}

Contrary to conventional opinion, evidence from clinical studies and animal experiments suggests that initiating feeding early is advantageous. In experimental studies found that starvation reduces the collagen content in anastomotic site and delays healing,^{9,10} whereas feeding reverses mucosal atrophy induced by starvation¹¹ and increases anastomotic collagen deposition and strength.¹² Finally, early enteral feeding may reduce post operative surgical site infections and gives less hospital stay.

Methodology

This is a prospective randomized comparative study was carried out at Rajah Muthiah Medical College, Chidambaram for a duration of 2 years (2018 till 2020). Totally sixty patients of

intestinal resection and anastomosis included in the study. From sixty, 30 patients were randomly selected for nil by mouth and other 30 patients early enteral feeding postoperatively within 24 hrs after taking written informed consent.

Inclusion and Exclusion Criteria

Inclusion criteria

- Patients undergoing major abdominal surgeries either elective or emergency.
- Age group more than 12 years

Exclusion criteria

- Patients age group <12 years.
- Post operative patients requiring ventilator support.
- Pregnant women.

Results

Table 1: Procedures

procedure	Case	Control	Case (%)	Control (%)
Right hemicolectomy	04	02	13.4	6.7
Left hemi colectomy	01	01	3.3	3.3
IAanastomosis	03	02	10	6.6
DJ anastomosis	01	02	3.3	6.6
JJ anastomosis	02	00	6.6	00
II anastomosis	02	0.1	6.6	3.3
Ileostomy closure	15	12	50	40
Colostomy closure	06	08	20	26.6

From this table the most commonly performed procedure is cases of ileostomy closure, in which case group contains 15 members and control contains 12 members.

Table 2: Complications

Complications	Case	Control	Case (%)	Control (%)
Anastamotic dehiscence	01	01	3.3	3.3
Wound infection	02	06	6.6	20
Pneumonia	00	03	00	10
Intra abdominal abscess	02	01	6.7	3.3
Vomiting	01	02	3.3	6.7
Paralytic ileus	01	09	3.3	30

From this table wound infection is the common complication in this study both cases and control.

Table 3: Length of hospital stay

Length of hospital stay (days)	Case	Control	Case (%)	Control (%)
06	00	00	00	00
07	27	18	90	60
08	00	00	00	00
09	02	05	6.6	16.6
10	01	01	3.3	3.3
11	00	01	00	3.3
12	00	02	00	6.6
13	01	06	3.3	20

From this table most of the patients (93%) were discharged on seventh pod in case group.

Discussion

In this study the most common procedure done was ileostomy closure. Resection and anastomosis is often done in malnourished patients and in severe cases, is known to increase the post operative morbidity.⁴ Additionally these surgical patients are subjected to post operative stress and hypercatabolic state; hence these patients require some form of early nutrition, enteral or TPN. As per conventional practice, post operatively after resection anastomosis of small and large intestine patients are kept nil oral till bowel sounds appear. But early enteral feeding is beneficial to patients as per recent studies.

Feeding post operatively within 24 hours is very safe and beneficial according to recent studies.^{6,7}

Contrary to conventional opinion, evidence from clinical studies and animal experiments suggests that initiating feeding early is advantageous. In experimental studies found that starvation reduces the collagen content in anastomotic site and delays healing,^{9,10}

whereas feeding reverses mucosal atrophy induced by starvation¹¹ and increases anastomotic collagen deposition and strength.¹² Finally, early enteral feeding may reduce post operative surgical site infections and gives less hospital stay.

Anastomotic dehiscence is the most dreadful complication after intestinal resection and anastomosis. Wound infection is common complication after resection & anastomosis of bowel, but antibiotics reduced the incidence.

In this study wound infection is less in cases (enteral feeding) 2 cases than control group (nil by mouth) 6 patients. Which is statistically p value less than 0.05 which shows enteral feeding is better.

In this study results was shown early enteral feeding have decreased wound infection rate with statistical significance. Functional inhibition of propulsive bowel activity, irrespective of pathologic mechanism is called ileus Many factors are believed to contribute to paralytic ileus, including intra operative bowel manipulation, anesthetic agents, peri operative use of narcotics

and post operative sympathetic hyperactivity and electrolyte imbalance. Early enteral feeding induces bowel motility.

In this study, 1 patient (3.3%) had paralytic ileus in case group and 9 patients (30%) had paralytic ileus in control group, and the ileus was managed as conservative. P value was 0.038. Data suggested that early enteral feeding was found to decrease incidence of paralytic ileus.

In this study, most of the patients (93.3%) were discharged on the 7th postoperative day in case group, as patients had increased well being and less post operative complications. While in control group, 18 patients (60%) were discharged on 7th postoperative day, case 27 patients (90%) P value was <0.05 (significant) according to Levene's T test, which indicates early enteral feeding significantly decreased length of hospital stay after operation.

Conclusion

From this study it can be concluded that, early enteral feeding significantly reduces the incidence of wound infection, paralytic ileus in post operative patients of resection and anastomosis of intestine. Duration of hospital stay in the post operative patients of resection and anastomosis of intestine is very less in patients undergone early enteral feeding due to less complications. So comparing with nil by mouth early enteral feeding is safe, effective with less complication in post operative patients of resection and anastomosis of small and large intestine however more study have to be done with larger cases

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