

Research Article

A myth that early feeding causes bowel anastomotic leakage: is it true?

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Received: 01 December 2015

Revised: 02 December 2015

Accepted: 08 December 2015

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ABSTRACT

Background: Traditionally it's believed that long fasting after intestinal surgery protect anastomosis site. However delayed feeding causes mental stress on patients, any beneficial effect of delayed feeding is yet to be proved. Early feeding should be promoted as longer fasting cause mucosal atrophy of the intestine and fasting patients requires TPN that has its own problems and complications along with additional costs.

Methods: The aim of study is to evaluate the outcomes of early feeding in bowel anastomosis in terms of intestinal anastomotic leakage, post operative ileus and hospital stay. We included 100 patients of age group 20-50 yrs who underwent ileostomy closure and they were randomized blindly into two groups - early vs. late feeding group.

Results: The mean time of first oral normal feed in early feeding group was 2.29 ± 0.37 as compared to delayed feeding group which was 6.44 ± 0.43 days (p value significant <0.0001). The first defecation was significantly earlier in the study group as compared to late feeding group (study group mean 4.04 ± 0.21 vs. control group mean 7.9 ± 0.22 , p value <0.0001) and hospital stay is significantly shorter in study group (early group mean 4 ± 0.21 vs. delayed feeding group 8.08 ± 0.23 , p value <0.0001) as compared to late feeding group. There was no mortality and anastomotic leakage in both groups.

Conclusions: Early feeding does not cause any major complication i.e. anastomotic leakage and promotes overall patients feeling of wellbeing and decrease hospital stay and costs.

Keywords: Early feeding, Delayed feeding, Anastomotic leakage

INTRODUCTION

In the past around 18th or 19th century there was a concept of delayed oral feeding only after passage of flatus or stool. This management has been adopted over the years with the notion that restriction of oral feeding gives the GI tract more time to heal & recover & reduces stress on anastomosis site and prevent leakage thus reducing post operative complications,¹ but even if we do not give oral feeding, about 2-2.5 L of gastrointestinal and pancreatic secretions enters the small bowel and transit from the anastomosis site, thus feeding has no additional adverse effects on anastomosis site. Early feeding delays post operative ileus, helps in wound healing and reduction of

sepsis.² Post operative ileus had been an important reason for patients kept NPO in post operative period. However after surgery the return of bowel function and motility occurs within 6-12 hr in small bowel, 12-24 hr in stomach and within 48-72 hr in large bowel.³ Post operative starvation changes the metabolism of the body within 24 hours by increasing insulin resistance and reducing muscle function.²

The purpose of this study is to evaluate that early feeding is having any additional advantage over the traditional feeding in terms of post operative ileus, bowel anastomosis leakage and hospital stay.

METHODS

A total of One hundred (100) patients who underwent ileostomy closure in surgical department of Government medical college Haldwani were included in the study who were randomized blindly into two groups- early feeding (study group) vs. late feeding (control group). The patients of age group 20 yrs to 50 yrs were included in the study and the patients who were not fit for the surgery were excluded from the study. All the operations were performed by single unit of general surgery with same technique- extra mucosal interrupted single layer bowel anastomosis using either vicryl 3-0 or 2-0 RB. Pre operative bowel preparation was same for both groups and in the post operative period patient was given same antibiotics and same analgesia. In all the cases nasogastric tube was removed after 6 hrs of post operative period. In early feeding groups we started the feeding after 12-24 hrs of surgery with clear water at the rate of 50ml/hr well tolerated patients were taken on semi solid diet after 24- 36 hrs and on normal regular diet after 36 - 48 hr of surgery. Those patients who were not tolerating had abdominal distention and vomiting feeding was stop for 12 hrs and refeeding was started afterwards.

In late feeding groups we started the feeding in a traditional method (after bowel sounds and passage of flatus) after 5 days and same feeding plan was given in early feeding group. Patient general vital charting (pulse rate, blood pressure, fever), assessment of time of passage of first stool, appearance of bowel sounds and assessment of complaints like vomiting, abdominal distension and signs of bowel anastomosis dehiscence (fever, tachycardia, abdominal distension, guarding, rigidity, drain content and output) were done at every 12 hourly. All complications were recorded. To compare specific variables, t-test and Chi-square tests were used. In all statistical analysis, a p value of <0.05 was considered statistically significant.

RESULTS

The early feeding group included 28 males & 22 females with a mean age of 35.6 ± 7.8 whereas late feeding group consist of 33 males & 17 females with a mean age of 35.4 ± 8.77 there was no significant difference in terms of genders or age of the patients as shown in Table 1. The mean time of first oral normal feed was 2.29 ± 0.37 days in early feeding group and 6.44 ± 0.43 days in late feeding group that was significantly shorter (p value <0.0001) in early feeding group. In early feeding group passage of stool occur significantly earlier 4.04 ± 0.21 days versus 7.9 ± 0.22 days; p value <0.0001, in late feeding group.

Hospital stay in early feeding group is significantly shorter (4.9 ± 0.33 days; p value <0.0001) as compared to late feeding group (8.08 ± 0.233). All the result is summarized in Table 2. No anastomosis leakage and mortality is noted in both the groups. None of the patients had symptoms of vomiting and abdominal distention and

in any patient we had not reinserted the nasogastric feeding tube.

Table 1: The demographic data in study groups.

Patients group	Early feeding N=50	Late feeding N=50	P value
Age in years	35.6 ± 7.8	32 ± 4.8	<0.253
Sex	28 (male) 22 (female)	33 (male) 17 (female)	<0.305

Table 2: Comparative result of two groups early vs. late feeding groups.

Patient group	Early feeding N=50	Late feeding N=50	P value
Initial normal oral feed days	2.29 ± 0.37	6.44 ± 0.43	<0.0001
First defecation after surgery	4.04 ± 0.21	7.9 ± 0.22	<0.0001
Hospital stay	4.9 ± 0.33	8.08 ± 0.23	<0.0001
Anastomotic leakage	0	0	

DISCUSSION

The concept that early feeding cause's anastomotic leakage is not true, it has been clearly demonstrated that mucosal epithelium of the bowel is perfectly sealed after the first 24 hrs of the post operative period⁴ and in our study we started the feeding at 12-24 hrs and no leakage is demonstrated. It has been also shown that early feeding accelerates the wound and anastomosis healing in the animal model.⁵ Early feeding reverses the mucosal atrophy induced by starvation and increases anastomotic collagen deposition and strength.⁶⁻⁸

Most of the practicing surgeon even today practicing, keep the patient NPO for 4-5 days after ileostomy closure and uses nasogastric tubes until resolution of the post operative ileus. Recently, this approach has been questioned and few studies have shown that nasogastric tube insertion has a limited role in postoperative care of abdominal surgery.² In present study, nasogastric tube was inserted before surgery and removed after 6 hr of surgery and this approach was tolerated by all the patients and in no patients we needed reinsertion of nasogastric tube.

Early feeding decreases the incidence of postoperative ileus by stimulating the reflex that produces co ordinate propulsive activity and elicits the secretion of GI hormones thus shortening the duration of post operative ileus instead of causing it.⁹ In present study, patient of study group has first defecation much earlier as compared to late feeding group.

Oral fluid and food intake following surgery improved the sense of wellbeing.¹⁰ In addition early feeding leads to earlier discharge from the hospital¹¹ and also decreases the incidence of nosocomial infections, liver dysfunction, bacterial translocation and secondary malnutrition.^{4,12}

In our study hospital stay of the patient is significantly low in early feeding group has compared to study group.

CONCLUSION

This study showed that the early feeding after ileostomy closure is a safe method that improves the condition of the patients without increasing the post-operative complications and this increases parents and patients satisfaction. This approach reduces hospital cost and stay also.

ACKNOWLEDGMENTS

We are grateful to our patients and their parents for participation in our study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

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Cite this article as: Shakya P, Bhuvan C. A myth that early feeding causes bowel anastomotic leakage: is it true? Int Surg J 2016;3:81-3.