



COMPARISON OF EARLY VERSUS LATE ENTERAL FEED IN CASES OF GASTRO-INTESTINAL ANASTOMOSIS

General Surgery

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ABSTRACT

Background: Resection and anastomosis, either in emergency or planned manner, can lead to post-operative stress and hyper catabolic state, for which some form of early nutrition, enteral or parenteral nutrition is needed. **Methodology:** retrospective + prospective comparative study. **Aim:** Is to study advantages and disadvantages of resuming early oral feeding and conventional oral feeding in patients of resection anastomosis and primary repair of bowel. **Result:** early feeding onset generally decreases hospital stay in compared to late feeding onset as well as chances of different post operative complications. **Conclusion:** In my study it is concluded that, Early enteral feeding significantly reduces the incidence of wound infection, paralytic ileus, and pain in postoperative patients who have undergone resection and anastomosis or primary repair of perforation.

KEYWORDS

INTRODUCTION

The realization that the stress responses activated by injury and surgery (e.g., the metabolic response) play a key role for the development of complications and delaying recovery after surgery has highlighted the need for management of such responses in the surgical patient. Nutrition plays a key part in this process. While it was not long ago that patients were ordered nil per os (NPO) and strict bed rest for days after surgery, today the roles of nutrition and physical activity have come into focus.

Three decades ago, postoperative starvation was common practice after most types of digestive surgical procedures. In particular, gastric decompression was performed until resolution of postoperative ileus. This dogma was challenged with new evidence on the healing process of intestinal anastomoses, with increase collagen deposition and strength through early feeding^{3,4}. Further, a beneficial effect on wound healing was noticed.

The concept of early enteral resumption of nutrition has to be considered as part of a more global strategy, which aims to face increased metabolic demands and catabolism during surgery.

Study Design: Retrospective + Prospective Comparative study

Source Of Data

This study was undertaken in surgical units of Narendra Modi Medical College and LG Hospital Maninagar Ahmedabad During the period of January 1st 2024 to December 31st 2024. A total of 70 patients were studied.

Aims And Objectives

To study the outcomes of resuming early oral feeding in patients of small and large bowel resection anastomosis

To study the advantages and disadvantages of resuming early oral feeding and conventional oral feeding in patients of resection anastomosis and primary repair of bowel.

Methodology

Pre operatively all planned surgical patients were given minimum three days of chest physiotherapy and spirometry exercise

This study included 70 patients - 35 of them started resume early enteral feeding and 35 of them started late feeding on or after 4th post operative day.

All routine blood investigations were done including serum albumin. In elective patients, sugar and blood pressure levels were kept within normal limits with the help of insulin and antihypertensive drugs before operation and continued in post operative period.

Pre operative prophylactic antibiotic, injection ceftriaxone (dose according to weight) was given 45 mins before surgery.

Post operative all patients were monitored for vital signs,

postoperative time to appear bowel sounds, Nasogastric tube's output, pain and respiratory system examination, nausea, vomiting, wound infection, anastomotic leak and other complications.

All of them have been diagnosed, treated and followed up in same hospital. All of the patients were carefully monitored with the following parameters:

- Post operative ileus
- Anastomotic complication like leak
- Intra abdominal collection
- Hospital stays

RESULT

In present study total 70 patients were enrolled for procedure of resection and anastomosis in which patients were divided in Two groups of 35 patients each. In 1st group early oral feeding was started in patients and in 2nd group late oral feeding was started and following observations regarding Socio- demographic, Intra operative observations and post operative complications with outcome were made.

Table 1: Gender Wise Distribution Of Study Patients

Gender	EARLY FEEDING	LATE FEEDING	TOTAL
Male	27 (77.1)	21 (60.0)	48 (68.6)
Female	08 (22.9)	14 (40.0)	22 (31.4)
Total	35 (100.0)	35 (100.0)	70 (100.0)

Table no. 01 describes distribution of gender in Early and late enteral feeding patients. Overall, out of 70 patients 48 (68.6%) were Male and 22 (31.4%) were Female. In early feeding group, more than three fourth (77.1 %) were Male patients while one fifth (22.9 %) were Female patients. In late feeding group, more than half (60.0 %) were Male and 40.0 % were Female. These findings suggest more predominance of Male patients over Female patients in present study.

Table 2: Type Of Surgery Wise Distribution Of Study Patients

	Early Feeding N (%)	Late Feeding N (%)	Total N (%)
Emergency	16 (45.7)	22 (62.9)	38 (54.3)
Planned	19 (54.3)	13 (37.1)	32 (45.7)
Total	35 (100.0)	35 (100.0)	70 (100.0)

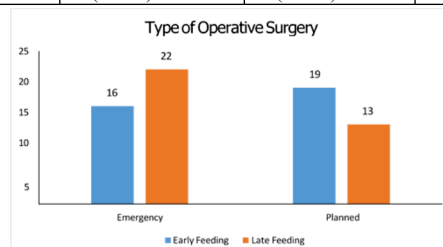


Table 2 shows type of surgery wise distribution. In Early feeding group more than half of surgeries (54.3 %) were planned surgeries while in late feeding group more than one third (37.1 %) surgeries were

planned while 62.9 % surgeries were taken in emergency. There is increased incidence of late feeding in cases gastrointestinal surgeries taken in emergency due to long standing associated sepsis and the associated immuno-compromised condition of the patient cohort, which would warrant giving time for anastomotic site to heal.

Table 3: Comparison Length Of Hospital Stay In Study Patients

Length of hospital stay	Early Feeding (N=35)	Late Feeding (N=32)	p Value
< 1 week	24 (68.6)	04 (12.5)	0.00
1-2 weeks	09 (25.7)	24 (75.0)	
>2 weeks	02 (5.7)	04 (12.5)	

Table no. 3 describes length of hospital stay in early vs late feeding patients. In early feeding patients, out of 35 patients more than two third (68.6 %) patients were discharged within 1st week of admission while in late feeding patients group 75.0 % patients were discharged between 1 to 2 weeks of admission. Mean duration of stay in early feeding onset patients was 7.5 days while late feeding onset patients was 10.6 days.

On application of Chi square test statistically significant difference was found between both the groups regarding duration of stay. (p value = 0.00)

Table 4: Comparison of post operative Complications

	Early Feeding (N=35) N (%)	Late Feeding (N=35) N (%)	Total (N=70) N (%)
Abdominal Distension	01 (2.9)	04 (11.4)	05 (7.1)
Vomiting	02 (5.7)	03 (8.6)	05 (7.1)
Paralytic Ileus	00 (0.0)	03 (8.6)	03 (4.3)
Wound Infection	03 (8.6)	09 (25.7)	12 (17.1)
Intra-abdominal Collection	01 (2.9)	06 (17.1)	07 (10.0)
Anastomotic Dehiscence	00 (0.0)	03 (8.6)	03 (4.3)
Pneumonia	01 (2.9)	04 (11.4)	05 (7.1)
DVT	00 (0.0)	01 (2.9)	01 (1.4)

Various post operative complications are described in table no. 04. In both the groups out of 35 patients wound infection was the highest found post operative complication (03, 8.3 % in early feeding group and 09, 25.7 % in late feeding group) In Late feeding onset group second commonest complication was Intraabdominal collection in 06 patients (17.1 %) while in early feeding group second commonest complication was vomiting (02 patients, 5.7 %). DVT and Anastomotic dehiscence was observed only in late feeding onset group and no cases of them was reported in Early feeding group.

DISCUSSION

One of the most common operations done in both urgent and elective situations is a gut anastomosis. After bowel anastomosis, patients must fast until they pass flatus or faeces. However, multiple literature studies suggest that early feeding after the gastrointestinal anastomosis is safe, physiological, reduces gut morphologic and functional stress, modulates immunological and inflammatory responses, and is cheaper than whole parenteral nutrition.

This study compared early versus late enteral nutrition after gastrointestinal anastomosis surgery for the hospital stay, recovery and complications. Seventy emergency or elective abdominal surgery patients had small or large intestine anastomosis. Present study was intended to compare early and late enteral feeding following GIT anastomosis.

A strategic approach to postoperative care, where the timing of feeding is adjusted based on the specific anastomosis site and the presence of complications like sepsis. This tailored approach likely contributes to better overall outcomes and highlights the importance of individualized patient management in gastrointestinal surgeries.

Complications are the main assessment tools to determine success of surgery and other interventions. In present study various complications were observed in both the groups. In early feeding group Commonest complication was wound infection which was noted in 8.6 % of patients while in late feeding group also commonest complication was Wound infection which was noted in 25.7 % of cases. In study done by Asif Imran et al.,^[4] surgical site infection was

noted in 20 % in early feeding group while in late feeding group it was observed in 50 % of patients. In another study done by Khaled Mohammed Sharaf et al.,^[2] in early feeding group wound infection was observed in 4 % of patients while in late feeding group wound infection was observed in 17.5 % of patients. These findings shows that late feeding patients are more prone for wound infection than early feeding patients which is statistically significant result.

CONCLUSION

Early enteral feeding significantly reduces the incidence of wound infection and paralytic ileus in postoperative patients who have undergone resection and anastomosis or primary repair of perforation.

It also shortens the length of hospital stay and is cost effective and helps in psychological well being by resumption of normal activities. It is well-tolerated even in the presence of comorbid conditions, potentially offering additional benefits.

In my study it is concluded that, Early enteral feeding significantly reduces the incidence of wound infection, paralytic ileus, and pain in postoperative patients who have undergone resection and anastomosis or primary repair of perforation, especially at the level of stomach, proximal small intestine, large intestine compared to distal ileum or in case of extensive sepsis locally or systemically.

Early feeding is recommended in patients with Certain surgical sites for anastomosis such as stomach, proximal small intestine, patients undergoing stoma due to better vascularity and resumption of bowel peristalsis earlier compared to distal ileum and large intestine .

Therefore, early enteral feeding is safe, effective, feasible, and cost-effective for postoperative patients following gastro-intestinal resection and anastomosis.

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