



EARLY ENTERAL NUTRITION FOLLOWING SMALL BOWEL SURGERIES OUR EXPERIENCE IN TERTIARY CARE HOSPITAL IN NORTH COASTAL ANDHRA PRADESH

Dr. J. Sudhakar M. S

Assistant Professor, Department of General Surgery, Andhra Medical College,

Dr. Chikkala. Monica*

Postgraduate, Andhra Medical College, *Corresponding Author

ABSTRACT **Aim And Objective:** The aim of this study was to determine as to whether early enteral feeding within 48 hrs. of small bowel anastomosis is tolerable and beneficial to the patient. Specific objectives were, feasibility, safety and efficacy of early enteral feeding after small bowel anastomosis in terms of morbidities like- incidence of vomiting, rate of anastomotic leak, rate of infective complications and length of post-operative hospital stay in days. Also, this study will focus on any difference in mortality and cost-effectiveness. **Results:** Appearance of intestinal peristaltic sounds is earlier in early enterally fed group. Mean duration of post-operative hospital stay is lower in early enterally fed group. Mean post-operative day 4 albumin level is higher in early enterally fed group. The rate of infective complications (UTI, RTI, wound complications) is equal in both the groups. The rates of clinical leakage, nausea/vomiting are equal in both the groups. The rate of re-exploration for anastomotic leakage is equal in both the groups. **Conclusion:** Bowel secretes and reabsorbs about 7 liters of fluid per day irrespective of oral intake, so giving 'rest to gut and protecting anastomotic site' is based on a false notion. Gut recovers from dysmotility within 24 to 48 hours in case of stomach and colon while 4 to 6 hours in case of small bowel. It prevents translocation of bacteria or virus by maintaining integrity of gut mucosa which may become atrophied if gut remains in rest. Many patients remain malnourished before the surgery; they are predisposed to more postoperative complications. Starvation reduces the collagen content in the scar tissue and diminishes the quality of healing, whereas feeding reverses mucosal atrophy induced by starvation and increases anastomotic collagen deposition and strength. So, in order to avoid these, early enteral feeds within 48 hrs needs to be started, to reduce the complications.

KEYWORDS : Early enteral feeding, small bowel anastomosis, post operative feeds

INTRODUCTION:

Based on the conventional practice, after bowel anastomosis, patients are kept nil by mouth until he passes flatus or stools. However, recent studies have shown that early enteral feeding after bowel anastomosis is safe and more physiological in coping up with the morphologic and functional trauma related to alterations of the gut and helps to modulate immune and inflammatory responses and more affordable than total parenteral nutrition. Early enteral feeds have shown to reduce the post-operative complications like anastomotic leak, wound infections, pneumonia, intra-abdominal abscesses, thus reducing the hospital stay. In fact, the poor pre-operative nutritional status of the patient combined with delayed enteral feeds post-operatively leads to weight loss, further malnourishment and poor wound healing. Small bowel gains early motility within 4-6 hours when compare to stomach and colon, so early enteral feeds following small bowel surgeries especially bowel anastomosis improves the nutritional status, decreases morbidity and better patient outcome. The rationale behind this practice is that postoperative gut dysmotility mainly affects stomach and colon along with the small gut in lesser magnitude, to protect the anastomotic site, to avoiding passage of food through it.

Also, recent emphasis has been made on early enteral feeding within 6 to 24 hours after operation.

So, this study was conducted to know feasibility of early enteral feeding.

CASE STUDY:

This study is a prospective randomized controlled study which was conducted at Department of General Surgery, King George Hospital, Visakhapatnam from January 2021 to December 2021. 60 cases with bowel perforation were recorded.

Inclusion Criteria:

Patients undergoing small bowel anastomosis and uncomplicated simple biliary-enteric anastomosis in both emergency and elective setup.

Feeding proximal to anastomotic site within 48 hours following operation either per orally or through nasogastric tube.

Exclusion Criteria:

Patients who underwent large bowel and gastric anastomosis. Patients with ASA grade IV to VI Patients who underwent Re-laparotomies following anastomosis Surgery requiring operative time > 4 hours.

Post-operative patients requiring ventilator support
Gross contamination of peritoneal cavity prior to surgery

Immunocompromised patients
Paediatric patients (<12 years)
Pregnant patients

RESULTS:

OUT OF THE 60 CASES WHO UNDERWENT SMALL BOWEL SURGERIES, They were divided into GROUP A and GROUP B based on enteral nutrition Started before 48hrs and after 48 hrs respectively.

CRITERIA	Group A(30)	Group B(30)	P
Mean Age	38.1	36.13	0.5491
Sex distribution	21(M)&9(F)	23(M)&7(F)	0.599
Emergency (Em)&Elective (EI)	18(EI)&12(Em)	20(EI)&10(Em)	0.7888
Benign & Malignant	18(B)&12(M)	19(B)&11(M)	1
Mean pre op S.Alb	3.513	3.463	0.6760
Healthy (H) or Gangrenous (G)	24(H)&6(G)	26(H)&4(G)	0.7290
Stapled vs Hand sewn	4(s)&26(Hs)	6(S)&24(HS)	0.7290

Parameters taken into consideration were history of patient, operative findings, site of surgery, performed anastomosis, benign or malignant, type of feed used, method of administration of feed, nutritional parameters like body weight, serum albumin (pre and post operatively), observations of adverse clinical outcomes like anastomotic leakage and post-operative fever and wound infections, vomiting and intra-abdominal collections and mortality, time of return of bowel sounds, passage of flatus, passage of stools, length of hospital stay, mortality and expense of treatment.

CRITERIA	Group A(30)	Group B(30)	P
Patients on steroid therapy	0	1	1
Comorbidities	3(HTN)+2 (DM)	2(HTN)+1(DM)+1(COPD)	1
Mean time of Appearance of IPS	42.8 hrs	53.6 hrs	0.0012
Clinical leakage	4	2	0.6670
Wound infection rate	8(26.67%)	6(20%)	0.7600

Mean POD4 serum Albumin	3.147	2.7470.	0.0014
Post op Hospital stay (Mean duration)	7.4	10.13	0.0396
Hospital	2	0	0.472

DISCUSSION:

Traditionally after abdominal surgery, it is customary to keep the patients "nil by mouth" after gastrointestinal anastomosis till patient passes flatus. It is now recognized that withholding oral feeds for few days after surgery in such cases leads to nutritional depletion and its further consequences. Lewis et al in his meta-analysis of 11 studies along with some other studies have examined the role of early feeding after gastrointestinal anastomosis and found that it improved immunocompetence, decreased septic complications, improved wound healing and possibility of improved anastomotic strength. In this study majority of the cases of both the groups underwent enteric anastomosis for closure of stoma (ileostomy/colostomy), malignancy of gut requiring resection and anastomosis of small gut. All the operations in both the groups are done under general anaesthesia. In the present study, abdominal drain was put in all cases in group A and group B which was comparable. The present study out of 4 cases (13.33%) in group A and 2 cases (6.67%) in group B who had post-operative leak, re-exploration was done in 2 patients in group A and 1 patient in group B. Post-operative day 4 serum albumin values were significantly more in group A compared to group B.

This occurred possibly due to early oral feeding which helped in improvement in nutritional status of patients of group A. In the present study 8 cases (26.67%) in group A and 6 cases (20%) in group B had wound infection which was not statistically significant. post-operative hospital stay is significantly shorter in group A cases as compared to group B cases. It is possibly due to the fact that early feeding helps in early bowel movements, faster recovery, less post-operative complications, leading to early discharge from hospital.

CONCLUSION:

Appearance of intestinal peristaltic sounds is earlier in early enterally fed group.

Mean duration of post-operative hospital stay is lower in early enterally fed group.

Mean post-operative day 4 albumin level is higher in early enterally fed group.

The rate of infective complications (UTI, RTI, wound complications) is equal in both the groups.

The rate of clinical leakage, nausea/vomiting is equal in both the groups.

The rate of re-exploration for anastomotic leakage is equal in both the groups.

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