

## Original Research Article

**A Study on Early Enteral Feeding In Cases of Intestinal Anastomosis**Dr. R. Vijayalakshmi<sup>1</sup>, Dr. Malarvizhi Chandrasekar<sup>2</sup><sup>1,2</sup> Assistant professor, Department of general surgery, Government Stanley medical college, Chennai**\*Corresponding author**

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**Abstract:** Post-operative starvation was the most common practice after gastro intestinal surgeries. Conventional method of feeding is to keep the patient nil by mouth during the post-operative period to improve patient compliances and to protect the anastomotic site. Aim of the study is to study the effects of early enteral feeding with those of conventional feeding management in patients undergoing intestinal anastomosis compare the early enteral feeding and conventional feeding management. Patients who underwent intestinal anastomosis following surgeries like right hemicolectomy, low anterior resection, limited resection were selected post operatively, the patients in the study group were kept nil per orally for first 24 hours the nasal gastric tube was removed on the first post-operative day invariably after 24 hours of surgery, subjects were started on sips of clear liquids orally, the amount was gradually increased as tolerated by the patient. Of the 50 patients who underwent intestinal anastomosis, 25 were started on early enteral feeding, and 25 on conventional feeding methods. Of the 50 patients 2 had anastomotic leak, 1 in the study group and 1 in the control group. It is seen that the incidence of anastomotic leak in the both the groups were the same and with the  $p > 0.9999$ , and there the two groups were not statistically different from one another. Of the total number of 50 patients, 12 were females, of which 9 were started on early enteral feeding and 3 were on conventional feeding, with 1 patient showing anastomotic leak (8.33%), 38 were males, of which study group had 16 patients and control group had 22 patients, with one patient showing anastomotic leak (2.63%). The following symptoms and signs are noted in both the study and control groups. Abdominal Pain, Nausea, Vomiting, Abdominal distension. It is seen though the incidence of post-operative complications seems to be higher in the study group, the two were significantly not different from one another. Anastomotic leak in both the groups was not significantly different. Rate of Surgical site infection was reduced in Early feeding group. Mean duration of Hospitalization is less in early group compared to conventional group. Patient compliance in both the groups were not significantly different. The study failed to prove clear advantage of conventional feeding over early enteral feeding.

**Keywords:** Anastomotic leak, Abdominal Pain, Nausea, Vomiting, Abdominal distension.

**INTRODUCTION:**

After intestinal anastomosis, conventional feeding protocol is to keep the patient nil per oral till the patient shows signs and symptoms of gut motility, thereby preventing signs and symptoms leak [1]. After major gastrointestinal surgeries, the small intestine (jejunum) will show normal motility 4 - 8 hrs after surgery. Postoperative ileus is usually transient and feeding within 24 hours after intestinal anastomosis is well tolerated by the patients. There are studies which have shown that early enteral feeds have a positive effect on gut motility thereby reducing post-operative ileus and increasing patient compliance [2]. Average gastric and pancreatic secretions are about one to two litres of fluid daily, which is absorbed in the small

intestine [3]. Any patient who had undergone intestinal anastomosis tolerates this high amount of endogenous secretions. And also starvation increases insulin resistance and reduces muscle function, thereby changing body metabolism. And studies have shown that early enteral feeding and proper maintenance of post-operative nutritional status of the patients have significantly reduced wound healing and reduced the risk of post-operative sepsis because of decreased bacterial translocation through gut mucosa. These findings are in favour of early enteral feeding following intestinal anastomosis [4].

**MATERIALS AND METHODS:**

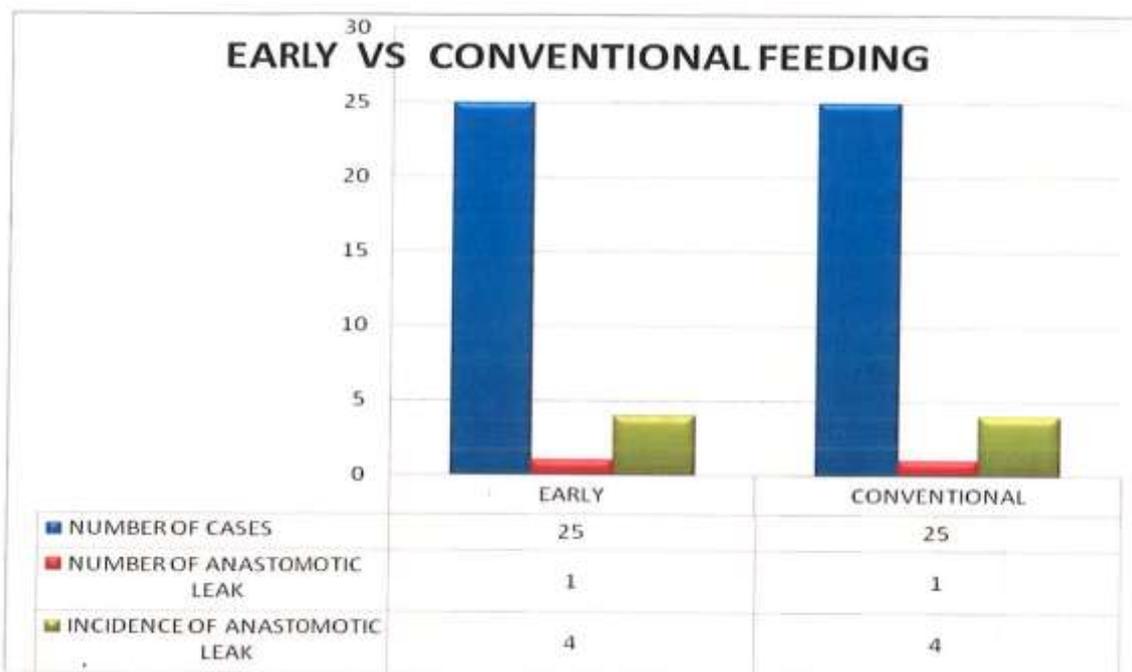
All patients who underwent intestinal anastomosis following surgeries like right hemicolectomy, low anterior resection, limited resection etc., in Govt Stanley hospital from May 2012 to November 2012 are included in the study. 50 Patients who underwent intestinal anastomosis were randomized into two groups, study group: early feeding 24 hours surgery Control group: conventional or delayed feeding after consent of bowel sounds/ passing flatus. Record were made on

- A. Type of anastomosis (sutured/stapled)
- B. Time of removed of ng tube
- C. Time of appear of bowel sounds
- D. Time of passage of flatus/stool

- E. Presence of surgical site infection
- F. Duration of hospitalization
- G. Patients compliances which included the following
- H. Symptoms/signs in the post-operative period  
Abdominal pain, Nausea, Vomiting, Abdominal distension.

**OBSERVATION AND RESULTS:**

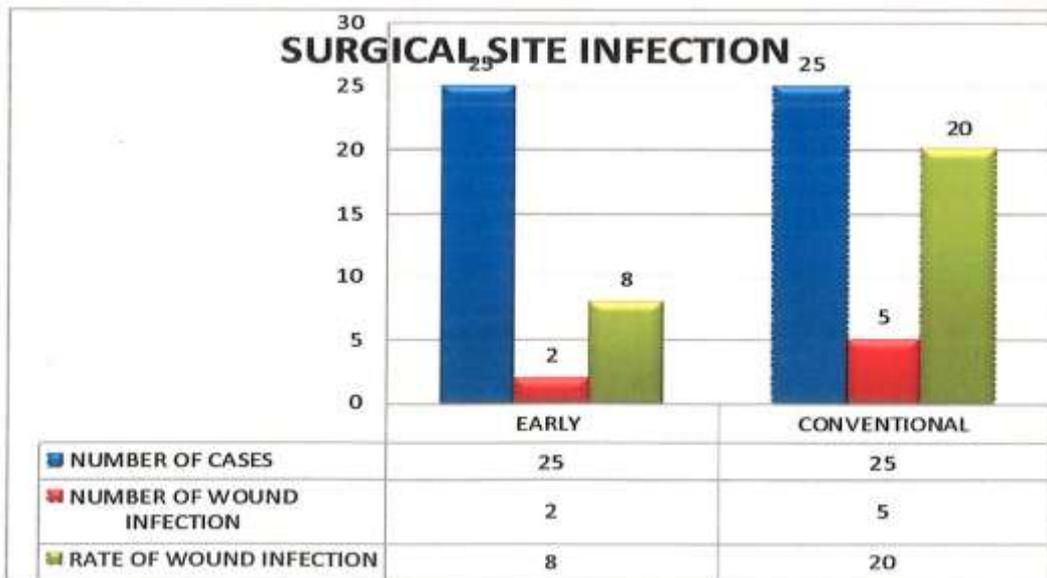
Of the 50 patients who underwent intestinal anastomosis, 25 were started on early enteral feeding, and 25 on conventional feeding methods. Of the 50 patients 2 had anastomotic leak, 1 in the study group and 1 in the control group.



**Graph-1: shows the anastomotic leak and both the type feeding**

It is seen that the incidence of anastomotic leak in the both the groups were the same and with the  $p > 0.9999$ , and there the two groups were not statistically different from one another.

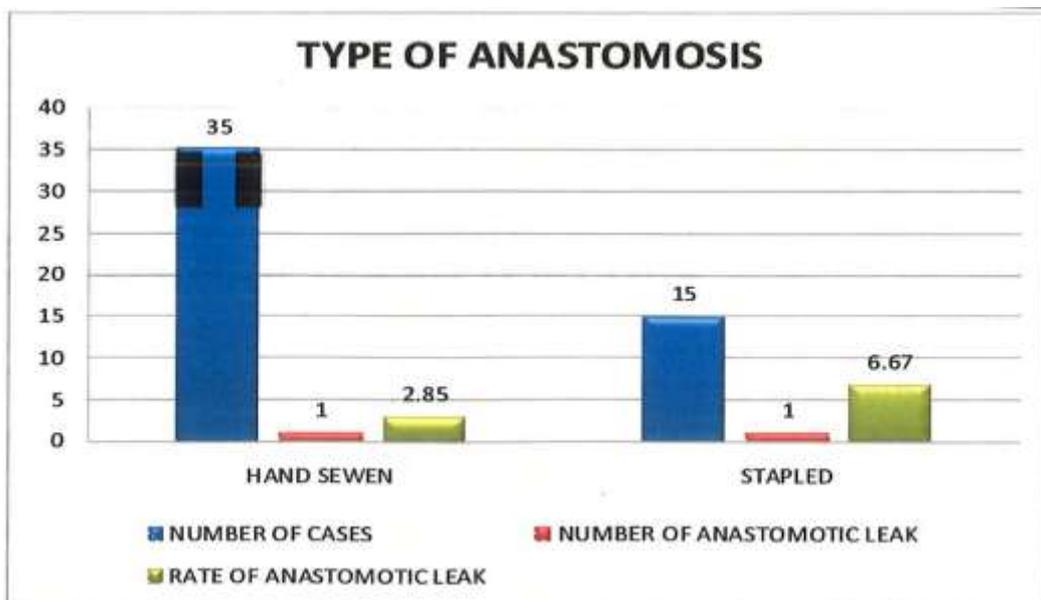
Of the 50 patients, 7 patients had SSI with overall incidence 14 % , of which 2 were in the study group (4 %) and 5 were in the control group (20%) it is seen that the incidence of SSI was lower in patients started on early enteral feeding, though the groups were statistically not different with the  $p 0.28$ .



Graph-2: Shows the Surgical Site Infection:

Of the 50 patients, hand sewn anastomosis in two layers was done for 35 patients and stapler anastomosis was done for 15 patients. 2 patients had anastomotic leak, of which one was observed in the

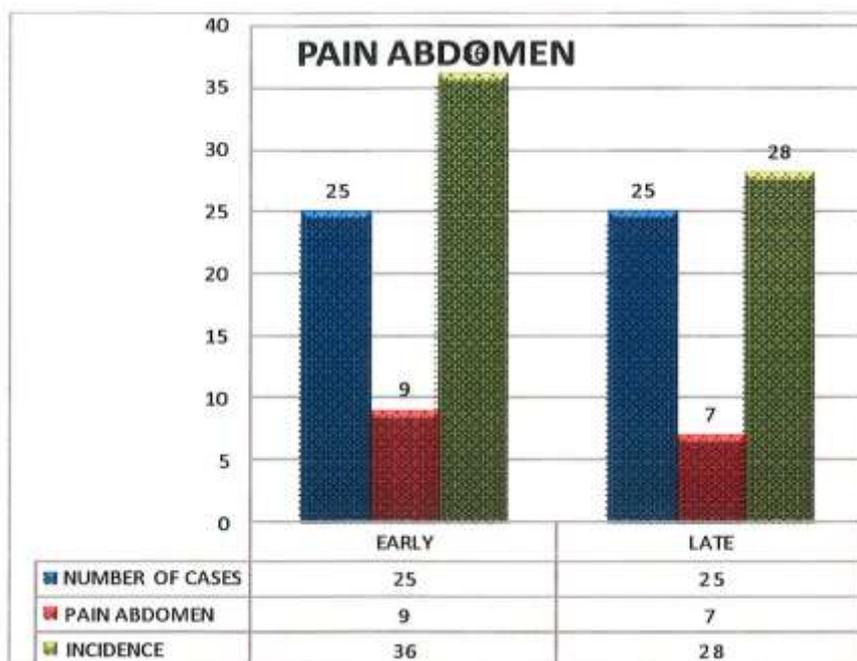
hand sewn group (2.85%) and one in the stapler group (6.67%). The two groups had a p value of 0.5479 and are not significantly different from each other.



Graph-3: Shows the Type of Anastomosis

Of the patient in the study group, 9 abdominal pains in the post-operative period (36%), while 7 had similar

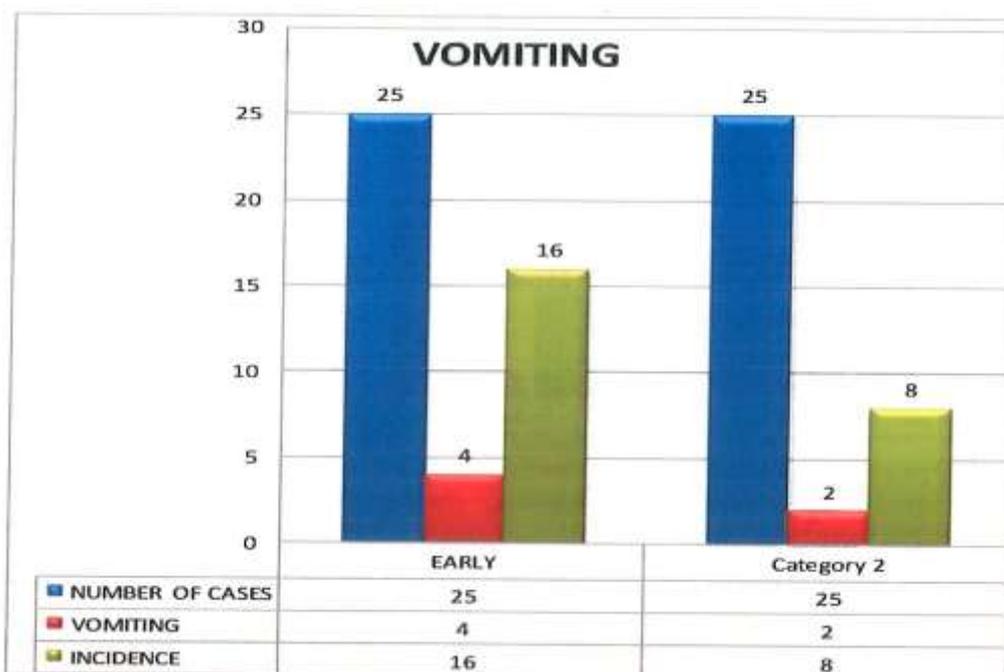
complaint in the control group (28 %), the groups were not significantly different to 0.6633.



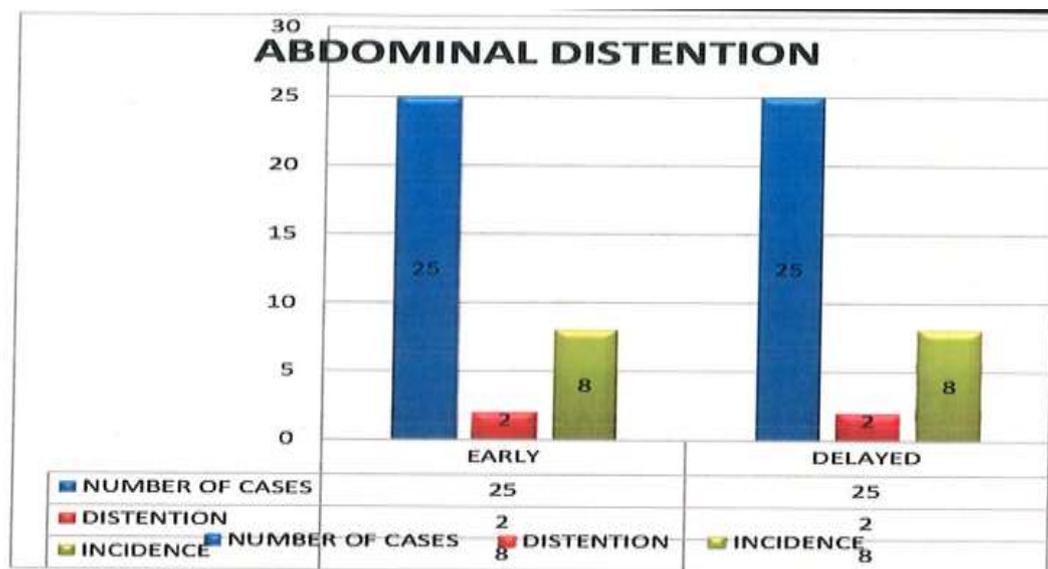
Graph 4: Shows the Abdominal Pain

Total of 5 patients in the study group had nausea (20 %), compared with 4 patients in the control group (16 %) with a p value 0.7589 and groups were not significantly different. 4 patient in the study group

reported vomiting (16 %) 2 patient in the control group reported vomiting (8 %) The groups were significantly not different.



Graph 5: shows the frequency of vomiting



Graph 6: shows the abdominal distension

**DISCUSSION:**

Conventional methods of feeding are the commonly practiced method of enteral feeding in post-operative patients undergoing gastrointestinal surgeries even today. Traditionally it is believed nil per oral will provide with complete gut rest and aid in anastomotic healing and would heal. In this study a total of 50 patients, the mean age in the study group is 43.84 and the mean age in the control group is 46.88, and there is no significant difference between the two groups [5] Of the 50 patients, 12 were females, 9 were started on early feeds and 3 in control group 1 patient had anastomotic leak with an incidence of 11.11.38 were male patients, 16 were started on early feeding and 22 in control group, 1 anastomotic leak noticed in control group with the overall incidence in males of 2.63. Of the 50 patients, hand sewn anastomosis was done in 35 patients, of which 1 reported anastomotic leak with an incidence 2.85. 15 patient underwent stapler anastomosis of 1 case of anastomotic leak was reported with an incidence of 6.67. And the two groups were not significantly different.

Of the 50 patients, the duration of hospitalization varied from 7 to 13 days with a mean of 9.1 days [6]. The mean duration of stay in the study group of 8 days and the mean duration of stay in the control group is 10.2 days. Although the two groups were not significantly different from one another the mean hospitalization is reduced in study group. Number of reported cases of surgical site infection in study group is 2 with an incidence of 8. Of the 25 cases in the

control group, 5 cases of SSI were reported with an incidence of 20. Though the incidence of SSI was reduced in the study group, the two groups were not significantly different. In the study group of 25 patients, 9 cases of abdominal pain was noticed (36%) 5 patients reported nausea (20 %) vomiting was reported in 4 patients (16 %) and 2 cases of abdominal was reported (8 %). In the control group, abdominal pain was noticed in 7 patients (28 %) nausea in 4 patients (16 %). Vomiting was noticed in 2 patients (8 %) and abdominal distension was reported in 2 (8 %). The complications seen in both the groups were not significantly different from one another [7]. This study shows that the conventional method of feeding in post-operative patients following gastro intestinal anastomosis offers no clear advantage when compared to early feeds. Parameters like anastomotic leak/dehiscence, surgical site infection, and mean duration of hospital stay were not significantly different from one another [8].

**CONCLUSION:**

Anastomotic leak in both the groups was not significantly different Rate of Surgical site infection was reduced in Early feeding group Mean duration of Hospitalization is less in early group compared to conventional group Patient compliance in both the groups were not significantly different. The study failed to prove clear advantage of conventional feeding over early enteral feeding [9].

**SUMMARY:**

Conventional methods of feeding, through still widely practised, there are many studies which have shown that it offers no clear benefits compared early enteral feeding following gastrointestinal surgeries and still many studies have shown a clear benefit of early feeding compared to conventional methods. In this study patients who have undergone intestinal anastomosis in Govt Stanley Hospital from May 2012 to Nov 2012 were randomly selected into two group study groups were started on early enteral feeding 24 hours after surgery and control groups were started on conventional feeding methods after appearance of bowel sounds/passage of flatus as decided by the operating surgeon. In this study of 50 patients, incidence of anastomotic leak in study group and the control group were the same (4%) with two groups showing no significant difference ( $p > 0.9999$ ). The mean age of both the groups, study (43.84) control group (46.88) were not significantly different. The incidence of surgical site infection in the study group (8 %) compared to control group (20 %) was less in early feeding group although the two groups were significantly not different the mean duration of hospitalization was 9.1 days with incidence study group (8 days) and that of control group (10.2 days) the length of stay is reduced in group started on early enteral feed but the two groups were not significantly different.

Patient compliance between both groups showed that there is marginal increase in incidence of post-operative nausea vomiting in the study group although the two groups were not significantly different We summarise that anastomotic leak the occurrence of surgical site infection length of stay in hospital patient compliance were not significantly different from both the groups and conventional method of feeding offers no clear advantage compared with early enteral feeding following intestinal anastomosis[10].

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