



PROSPECTIVE STUDY OF EARLY VS LATE ENTERAL FEEDING IN EMERGENCY GASTRO INTESTINAL SURGERIES

General Surgery

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ABSTRACT

AIMS AND OBJECTIVES : To assess the feasibility of early enteral feeding in patients who have undergone emergency gastrointestinal surgeries and compare the complications and duration of hospital stay with that of late enteral feeding group.

METHOD OF COLLECTING DATA: All patients in general surgical ward undergoing emergency gastrointestinal surgeries in acute abdomen within 24 hours under criteria will be subjected to 2 groups. Group 1 getting early enteral feeding (E group) by oral or nasogastric 24 to 48 hrs after surgery (POD -2) and group 2 getting late enteral feeding (L group) (more than 48 hrs). After that patients are followed up closely for various complication namely wound infections, pulmonary complications and post op ileus along with duration of hospital stay.

FEEDING MATERIALS GIVEN: Tender coconut water/fruit juices (carbohydrate drinks)+protein powder solution in 2:1 ratio

CONCLUSION: The rates of complications (pulmonary complications (p=0.028), wound infections (p=0.023) and ileus (p=0.049) and length of hospital stay (P=0.014) was found to be significantly lower in the Early enteral feeding group.

KEYWORDS

early enteral feeding, gastro intestinal surgeries

Introduction:

Nutritional support plays important roles in wound healing and postoperative recovery. A poor nutritional status is strongly associated with delayed wound healing and longer hospital stays after surgery. After emergency gastrointestinal (GI) surgery, nutritional status is impaired and basal energy expenditure is elevated and thus, nutritional support is of considerable importance.

Several reports have emphasized that early enteral feeding should be started as soon as possible after resuscitation because the immunomodulatory effect of enteral feeding could assist recovery. Patients who undergo emergency GI surgery have an edematous or ischemic bowel, and are at high risk of postoperative complications, such as ileus, obstruction. For these reasons, the majority of surgeons are wary of early feeding after emergency GI surgery. Relatively few reports have been issued on the safety of early feeding after emergency GI surgery. Thus, this study is undertaken to assess the feasibility of early feeding in patients after emergency GI surgery

GENDER DISTRIBUTION

A total of 30 cases and 30 controls were studied. The gender distribution among cases and controls were demonstrated to be according to the table below.

TABLE -1

SEX	CASE	CONTROL
Male	18	23
Female	12	7
Total	30	30

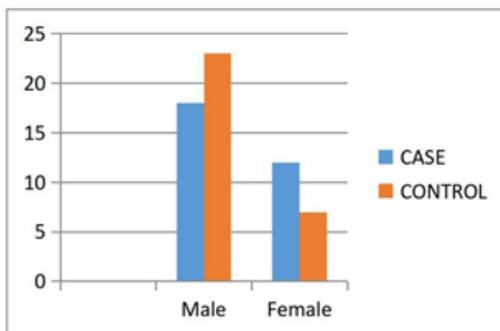


CHART-1

CASE DISTRIBUTION

Among the cases admitted and underwent emergency laparotomy, most common case operated was early duodenal perforation.

TABLE -2

	CASES	CONTROL
SIGMOID VOLVULUS	2	2
EARLY DUODENAL PERFORATION	12	12
SUB ACUTE INTESTINAL OBSTRUCTION	12	10
LARGE BOWEL GROWTH	4	6
Total	30	30



CHART-2

COMPLICATIONS

The case were followed up and the complications were recorded in both groups.

A. PULMONARY COMPLICATIONS

TABLE -3

PULMONARY COMPLICATION	CASE	CONTROL
PNEUMONIA	0	4
ATELECTASIS	2	2
PULMONARY EDEMA	1	2
PLEURAL EFFUSION	0	2
Total	3	10

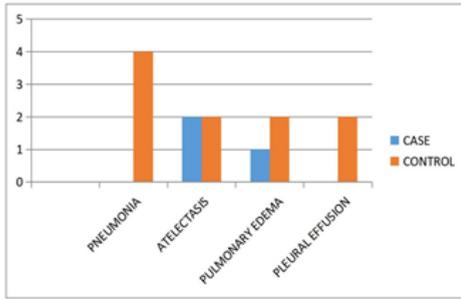


CHART-3

The pulmonary complications were significantly lower in the case group when compared to the control group (P= 0.028).

WOUND INFECTIONS

In case group 3 patients developed wound infection with discharge

(2 case on POD 3 and one case on POD 5) Of which 2 case developed wound gaping and needed secondary suturing

In control group 9 patients developed wound infection with discharge

(3 case on POD 2 and 3 case on POD 3) Another 3 cases developed wound gaping and needed secondary suturing.

The rates of wound infections were significantly lower in the case group when compared to the control group (p=0.0213).

TABLE -4

WOUND INFECTION	CASE	CONTROL
YES	3	9
NO	27	21
Total	30	30

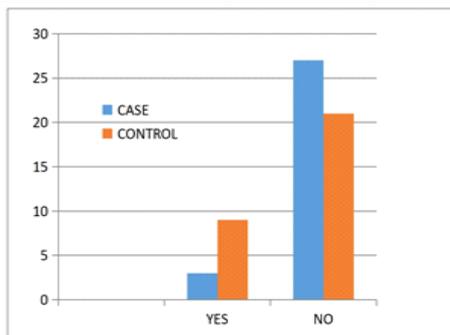


CHART-4

POST OPERATIVE ILEUS

The incidence of post operative ileus was significantly lower in the case group when compared to the control group (p=0.049).

TABLE -5

POST OP ILEUS	CASE	CONTROL
YES	3	9
NO	27	21
Total	30	30

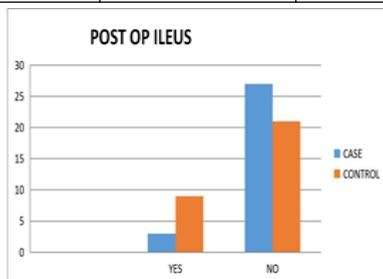


CHART-5

LENGTH OF HOSPITAL STAY (LOS)

The length of hospital stay is significantly lower in the case group as a result of significant reduction in the rate of complications like pulmonary complications, wound infections and post operative ileus. (p=0.014)

TABLE -6

LOS	CASE	CONTROL
<10	24	15
11 – 25	6	13
26 – 40	0	0
>40	0	2
Total	30	30

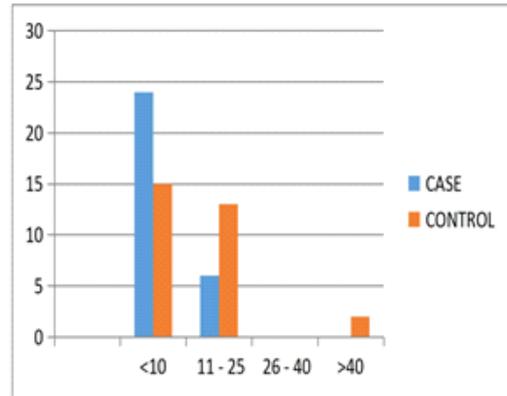


CHART-6

Statistical analysis

Analysis was done using applied : Chi square test.

TABLE-7

Control	Case	P value	S/NS
Wound infection			
9/30	3/30	P=0.0213	<u>S</u>
Pulmonary complication			
10/30	3/30	P=0.028	<u>S</u>
Length of stay			
(<10 days) 15/30	24/30	P=0.047	<u>S</u>
(11-25days) 13/30	6/30	P=0.047	<u>S</u>
(26-40days) 0/30	0/30		
(>40days) 2/30	0/30	P=0.553	NS
Post op ileus			
(9/30 days)	3/30	P=0.04	<u>S</u>

Discussion

In this study 60 patients (30 cases and 30 controls) who underwent emergency gastrointestinal surgeries in acute abdomen resending within 24 hours were studied post operatively. In control group oral feeding was started according to the standard practice of

1. Appearance of bowel sounds
2. Ryles tube aspirate less than 150ml
3. On the 6th post operative day In study group early enteral feeding was started within 48hours by oral or via ryles tube.

In our study, as we have seen the most common case operated was Early duodenal perforation. (40 %) both in case and control group. The follow up of the patients revealed that the rates of pulmonary compliations like pneumonia, atelectasis, pleural effusions was found to be significantly more in control group who were kept in starvation for around 6 days with parental fluids only and with no immunomodulatory effects of nutrition.(p=0.028).

This finding was consistent with the study by HS Lee, H Shim, JY Jang, H Lee, JG Lee in the Yonsei Medical Journal July 11, 2013

Post operative ileus was significantly lesser (p=0.049) in patients who were given early enteral feeding which was consistent with the study by N Kaur, MK Gupta, VR Minocha, World Journal of Surgery 2005:29:1023-7

In case group wound infection was also significantly lesser ($p=0.0213$) which gives a results as same as that of study by Moore *et al Annals of surgery 1992;216:172-83*

Compiling the results of the above complications the length of hospital stay among the case group was also significantly low. ($p=0.014$)

CONCLUSION

In this study we have documented and analysed cases patients undergoing emergency gastrointestinal surgeries and studied the outcome of early enteral feeding versus late enteral feeding in such patients. The post operative follow up and documentation of various complications in the post operative period were noted and statistically analysed comparing the case and control group. In conclusion we infer that.

- Early enteral feeding is feasible in patients undergoing emergency gastrointestinal surgeries post operatively.
- The rates of complications like pulmonary complications, wound infections and ileus in post operative patients is found to be significantly lower in the Early enteral feeding group
- The length of hospital stay in patients started on early enteral feeds were significantly lower.

SUMMARY:

- This is a prospective study conducted on cases who under went emergency gastro intestinal surgeries.
- The most common case operated was early duodenal perforation
- A total of 60 cases were studied and the post operative outcome was documented and analysed
- The rates of complications (pulmonary complications($p=0.028$), wound infections($p=0.0213$) and ileus($p=0.049$) and length of hospital stay($p=0.014$) was found to be significantly lower in the Early enteral feeding group.

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