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RETHINKING THE POSTOPERATIVE FAST: A PROSPECTIVE STUDY OF EARLY ENTERAL FEEDING AFTER GASTROINTESTINAL ANASTOMOSIS

General Surgery

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ABSTRACT

Background: Delaying intake until bowel function returns remains common after gastrointestinal anastomosis, although enhanced-recovery guidance supports early feeding.**Objective:** To compare early and delayed enteral feeding after elective gastrointestinal anastomosis, focusing on feeding tolerance, anastomotic leak, gastrointestinal recovery, postoperative complications, and hospital stay. **Materials and Methods:** This prospective comparative observational study included 60 adults undergoing elective gastrointestinal surgery with primary anastomosis. Consecutively enrolled patients were managed according to institutional protocols: Group A (n = 30) received enteral feeding within 24 hours, while Group B (n = 30) commenced feeding after return of bowel activity, generally 48-72 hours postoperatively. Outcomes were compared using independent-samples, chi-square, or two-sided Fisher's exact tests, as appropriate.**Results:** Feeding tolerance was similar (86.7% vs. 93.3%; p = .671). First flatus (2.4 ± 0.6 vs. 4.3 ± 0.7 days), first stool (3.4 ± 0.7 vs. 6.1 ± 0.8 days), and postoperative stay (7.6 ± 2.1 vs. 13.9 ± 3.1 days) favored early feeding (all p < .001). Abdominal distension and paralytic ileus were less frequent with early feeding (both p < .001). Anastomotic leak occurred in 1/30 versus 6/30 patients (two-sided Fisher's exact p = .103).**Conclusion:** Early enteral feeding was feasible and associated with faster gastrointestinal recovery and shorter hospitalization. The observed difference in anastomotic leak was imprecise; larger randomized studies are required.

KEYWORDS

Enteral Nutrition; Gastrointestinal Anastomosis; Enhanced Recovery; Postoperative Care

INTRODUCTION

Traditional postoperative care withheld oral or enteral intake until bowel sounds, flatus, or stool returned, largely because feeding was believed to stress a fresh gastrointestinal anastomosis. Contemporary enhanced-recovery pathways instead favor early restoration of oral intake. Enteral nutrients help maintain mucosal integrity, stimulate gastrointestinal motility, support splanchnic perfusion, and limit the metabolic effects of starvation [1,2]. The 2025 European Society for Clinical Nutrition and Metabolism guideline similarly identifies early re-establishment of oral feeding as a core principle of perioperative nutritional care [3].

Systematic reviews suggest that early feeding may shorten hospitalization without clearly increasing anastomotic dehiscence, although the evidence is heterogeneous and adverse-event estimates remain imprecise [4-6]. This study compared early versus delayed enteral feeding after elective gastrointestinal anastomosis in a single tertiary center.

Materials and Methods

This prospective comparative observational study was conducted over two years in the Department of General Surgery, K.D. Medical College, Hospital & Research Center, Mathura. Sixty hemodynamically stable adults undergoing elective gastrointestinal surgery with primary anastomosis were enrolled consecutively. Emergency operations, peritonitis or sepsis, severe malnutrition, chronic liver or renal failure, immunosuppression, long-term steroid or chemotherapy use, previous abdominal radiotherapy, and refusal of consent were exclusion criteria.

Patients were managed according to predefined institutional protocols. Group A (n = 30) began oral enteral intake within 24 hours of surgery, with progression according to tolerance. Group B (n = 30) began feeding after clinical return of bowel activity, usually 48-72 hours after surgery. Allocation was not randomized. Patients were followed prospectively to discharge.

The primary outcome was clinically diagnosed anastomotic leak. Secondary outcomes were feeding tolerance, vomiting, abdominal distension, paralytic ileus, surgical-site infection, time to first flatus and stool, and postoperative length of stay. Quantitative data are presented as mean ± standard deviation and categorical data as number (percentage). Continuous outcomes were compared using independent-samples tests. Categorical outcomes were compared using chi-square tests, with two-sided Fisher's exact tests when expected cell counts were small. A p value < .05 was considered statistically significant.

Institutional Ethics Committee approval was obtained (KDMCHRC/IEC/2024/45; research project reference KDMCHRC/PG/IEC/2024/19; dated October 10, 2024). All participants provided written informed consent.

RESULTS

The groups were similar in their distributions of sex, diagnoses, and anastomotic sites. Feed tolerance and vomiting did not differ. Early feeding was associated with earlier passage of flatus and stool, less abdominal distension and paralytic ileus, and a mean hospital stay 6.3 days shorter. Surgical-site infection was numerically lower with early feeding but was not statistically significant. Anastomotic leak occurred in 3.3% versus 20.0%; with the appropriate two-sided Fisher's exact test, this difference was not statistically significant (p = .103).

Table 1. Postoperative outcomes by feeding protocol

Outcome	Early feeding (n = 30)	Delayed feeding (n = 30)	p value
Feed tolerated, n (%)	26 (86.7)	28 (93.3)	.671
Vomiting, n (%)	5 (16.7)	5 (16.7)	1.000
Abdominal distension, n (%)	0 (0)	18 (60.0)	< .001
Paralytic ileus, n (%)	0 (0)	19 (63.3)	< .001
Anastomotic leak, n (%)	1 (3.3)	6 (20.0)	.103
Surgical-site infection, n (%)	9 (30.0)	14 (46.7)	.184
First flatus, days, mean ± SD	2.4 ± 0.6	4.3 ± 0.7	< .001
First stool, days, mean ± SD	3.4 ± 0.7	6.1 ± 0.8	< .001
Postoperative stay, days, mean ± SD	7.6 ± 2.1	13.9 ± 3.1	< .001

Note. Fisher's exact test was used for feed tolerance and anastomotic leak; chi-square tests were used for the remaining categorical outcomes.

DISCUSSION

Early feeding was well tolerated and was associated with substantially faster gastrointestinal recovery and shorter hospitalization. These findings accord with enhanced-recovery principles and prior syntheses showing no advantage to routine postoperative starvation [3,5]. They also align with the Cochrane review finding that feeding within 24 hours may reduce length of stay, although that review judged the evidence for complications and leak inconclusive [4].

The apparent six-fold difference in leak proportions should be interpreted cautiously. The study was small, and Fisher's exact test did

not confirm statistical significance. The data therefore support feasibility and do not show evidence that early feeding increased leaks, but they cannot establish a protective effect. The large differences in ileus, bowel recovery, and length of stay are clinically important; however, protocol assignment was nonrandomized, and the delayed-feeding rule itself depended on return of bowel function. Residual confounding and outcome-assessment bias may consequently have magnified the observed associations.

Enteral intake may promote recovery through luminal stimulation, preserved mucosal barrier function, and improved splanchnic oxygenation [1]. Nevertheless, early feeding should remain protocol-driven, progressively advanced, and individualized to hemodynamic stability, operative findings, and tolerance.

Limitations

This single-center study had a modest sample, nonrandom allocation, mixed diagnoses and anastomotic sites, no blinded outcome assessment, and no multivariable adjustment. The timing criterion for delayed feeding overlapped with gastrointestinal recovery outcomes. Routine imaging was not used to detect subclinical leaks. These limitations restrict causal inference and generalizability.

CONCLUSION

Enteral feeding within 24 hours after elective gastrointestinal anastomosis was feasible and associated with earlier bowel recovery, less postoperative ileus and distension, and shorter hospitalization. It did not show evidence of increased anastomotic leak. A larger, adequately powered randomized multicenter trial is needed to determine effects on anastomotic healing and uncommon complications.

Declarations

Ethical approval: Institutional Ethics Committee, K.D. Medical College, Hospital & Research Center (KDMCHRC/IEC/2024/45; project reference KDMCHRC/PG/IEC/2024/19).

Informed consent: Written informed consent was obtained from all participants.

Conflict of interest: None declared.
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