

Early Versus Delayed Enteral Nutrition After Small and Large Bowel Surgery: A Prospective Comparative Study

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Abstract

Background: Early enteral nutrition has increasingly become an important component of enhanced recovery protocols following gastrointestinal surgery. However, delayed postoperative feeding remains common because of concerns regarding postoperative ileus and anastomotic complications.

Objective: To compare the clinical outcomes of early versus delayed enteral feeding in patients undergoing small and large bowel surgery.

Methods: A prospective comparative study was conducted among 80 patients undergoing bowel surgery. Patients were divided into early feeding and delayed feeding groups. Outcomes assessed included postoperative ileus, wound infection, anastomotic leak, mortality, feeding tolerance, and length of hospital stay.

Results: Early enteral feeding was associated with significantly shorter duration of ileus and reduced hospital stay. Anastomotic leak and wound infection rates were lower in the early feeding group. Feeding tolerance was comparable in both groups.

Conclusion: Early enteral nutrition following bowel surgery is safe, feasible, and associated with improved postoperative recovery.

Introduction

Postoperative nutritional support is a critical component of recovery after gastrointestinal surgery. Surgical stress induces inflammatory and metabolic changes that contribute to protein catabolism, delayed wound healing, and prolonged hospitalization. Traditionally, postoperative oral intake was delayed until return of bowel function due to concerns regarding anastomotic leakage and postoperative ileus. Recent evidence has demonstrated that early enteral nutrition may stimulate gastrointestinal motility, preserve mucosal integrity, improve immune function, and reduce postoperative complications. Enhanced Recovery After Surgery (ERAS) protocols now advocate early feeding as an important strategy to improve recovery following gastrointestinal surgery. The present study aimed to evaluate the effects of early versus delayed enteral feeding in patients undergoing small and large bowel surgery.

Materials and Methods

This prospective comparative study was conducted in the Department of General Surgery at Rajiv Gandhi Medical College and Chhatrapati Shivaji Maharaj Hospital, Thane, Maharashtra. A total of 80 patients undergoing bowel surgery were included. Patients were allocated into two groups:

- Early Feeding Group: Enteral nutrition initiated within 24 hours postoperatively.
 - Delayed Feeding Group: Enteral nutrition initiated after return of bowel sounds or passage of flatus.
- Primary outcome measures included duration of ileus, wound infection, anastomotic leak, and hospital stay. Statistical analysis was performed using appropriate comparative tests, with $p < 0.05$ considered statistically significant.

Results

The mean duration of postoperative ileus was significantly shorter in the early feeding group compared with the delayed feeding group (4.22 ± 1.25 vs 5.70 ± 1.36 days; $p < 0.01$). Anastomotic leakage was observed only in the delayed feeding group. Wound infection rates were significantly lower among patients receiving early enteral nutrition. Hospital stay was also significantly shorter in the early feeding group (5.72 ± 1.39 vs 7.20 ± 1.20 days; $p < 0.01$). Feeding tolerance was comparable in both groups.

Discussion

The findings of the present study support the growing body of evidence favoring early enteral nutrition after gastrointestinal surgery. Early feeding was associated with improved bowel recovery, reduced complication rates, and shorter hospitalization. Early enteral stimulation promotes gastrointestinal motility, enhances mucosal blood flow, and maintains gut barrier function. These mechanisms may contribute to improved anastomotic healing and reduced infectious morbidity. The results of this study are consistent with ERAS recommendations and previous meta-analyses supporting early postoperative enteral nutrition following bowel surgery.

Conclusion

Early enteral nutrition after small and large bowel surgery is safe and clinically beneficial. Compared with delayed feeding, early postoperative nutrition reduces duration of ileus, lowers postoperative complications, and shortens hospital stay without increasing anastomotic morbidity. Implementation of early enteral feeding protocols should therefore be encouraged in gastrointestinal surgical practice.

References

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