Early Oral Feeding Following Intestinal Surgery is it Safe?

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Abstract

Background: A period of starvation ("nil by mouth") is common practice after gastrointestinal surgery during which an intestinal anastomosis has been formed. The stomach is decompressed with a nasogastric tube and intravenous fluids are given, with oral feeding being introduced as gastric dysmotility resolves.

The rationale of nil by mouth is to prevent postoperative nausea and vomiting and to protect the anastomosis, allowing it a time to heal before being stressed by food

Aim of the Study: To assess the safety, tolerability, and outcome of early oral feeding after intestinal procedures.

Patients and Method: This is a prospective study of 60 patients underwent intestinal surgery over a period of one year and 9 months (January 2009-september 2010) in Baquba Teaching Hospital, reviewed for the safety, tolerability and outcome of early oral feeding following intestinal surgery.

Both of emergency and elective surgeries are included in the study.

Results: Early oral intake can be tolerated by most of the patients with intestinal surgeries.

Conclusion: Early oral feeding is a safe practice and is devoid of complications as repeated vomiting or fecal fistula.

Key word: Early oral feeding, intestinal procedures.

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Introduction

A 'nil by mouth' (NBM) approach after major gastrointestinal (GI) surgery has been well known for many years. Early enteral nutrition (EN), as opposed to the conventional NBM and intravenous fluids (IVF) approach, has received increasing attention in recent years. [1]

A period of starvation ("nil by mouth") is common practice after gastrointestinal surgery during which an intestinal anastomosis has been formed. The stomach is decompressed with a nasogastric tube and intravenous fluids are given, with oral feeding being introduced as gastric dysmotility resolves. [2]

The rationale of nil by mouth is to prevent postoperative nausea and vomiting and to protect the anastomosis, allowing it a time to heal before being stressed by food. Contrary to widespread opinion, evidence from clinical studies and animal experiments suggests that initiating feeding early is advantageous. Postoperative dysmotility predominantly affects the stomach and colon, with the small bowel recovering normal function 48 hours after laparotomy. Feeding within 24 hours after laparotomy is tolerated and the feed absorbed. Gastrointestinal surgery is often undertaken in patients who are malnourished, which in severe cases is known to increase morbidity. In animals, starvation reduces the collagen content in

anastomotic scar tissue and diminishes the quality of healing, whereas feeding reverses mucosal atrophy induced by starvation and increases anastomotic collagen deposition and strength. Experimental data in both animals and humans suggest that enteral nutrition is associated with an improvement in wound healing. Finally, early enteral feeding may reduce septic morbidity after abdominal trauma and pancreatitis. [3, 4]

Adequate nutrition has always been a major goal of postoperative care. However, because of ileus, early oral feeding after abdominal surgery is usually avoided and routine nasogastric decompression has been used.' More recent studies showed that the routine use of a nasogastric tube after elective abdominal surgery and colorectal surgery may not be necessary. Regardless of the use of a nasogastric tube, oral feeding has been delayed until after the resolution of postoperative ileus. Recently, with the increased popularity of laparoscopic surgery, several authors showed that early feeding after laparoscopic colectomy is safe and tolerated by the majority of patients. Other studies clearly showed the advantages of early enteral nutrition in surgical patients in reducing septic complications and overall morbidity when compared with parenteral nutrition. There is no evidence that bowel rest and a period of starvation are beneficial for healing of wounds and anastomotic integrity. Indeed, the evidence is that luminal nutrition may enhance wound healing and increase anastomotic strength, particularly in malnourished patients. Over the past few years, the advantages of early enteral feeding over delayed enteral feeding and over conventional total parenteral nutrition were noticed. It has been found to preserve the integrity of the gut mucosa, reduce bacterial translocation, stimulate the host defense mechanisms and improves outcome. [5, 6, 7]

Recently, it has been demonstrated that early enteral feeding in multiple injury cases diminishes gastric intolerance towards food and promotes earlier establishment of motility in the gastroduodenal segment of the digestive tract

The widespread practice of starving patients in the immediate period after gastrointestinal surgery has been challenged by this prospective study.[8]

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Both of emergency and elective surgeries are included in the study.

The emergency surgeries are due to stab wounds, shell injuries, bullet injuries or blunt trauma. **(Table 1, 2)**

Table (1): Types of elective surgeries included in the study.

Type of surgery	Number
Closure colostomy	6
Closure ileostomy	3
Total number	9

Table (2): Types of emergency surgeries included in the study.

Type of surgeries	Single	Multiple	Total
Single or multiple perforation in the small bowel	15	23	38
Single or multiple perforations in the large bowel	4	1	5
Single or multiple resections and anastomoses in the small bowel	5	3	8
Total number	24	27	51

The strategy of the study was not to place a nasogastric tube and to start oral sips of water (30 ml) every 1 hour starting 24 hours following surgery (and continue for 24 hours), regardless the presence or absence of bowel sound (assuming that the small bowel function return to normal within 4-6 hours) and providing the patient has no vomiting.

In the next 24 hours the patient asked to increase fluid intake to half a glass (125 ml) every a half an hour with added simple solid food as biscuit or cake or small pieces of bread.

In the next 24 hours (fourth 24 hours postoperatively), the patient allowed free oral fluid and to have solid food as well. The patients tested for the development of gastric upset, repeated vomiting or the development of fecal fistula (disruption of intestinal suturing).

The way of bowel suturing (perforation or anastomosis) used was single interrupted extramucosal using two zero vycril (polyglactine).The patient asked to stop intake whenever he (she) developed repeated vomiting. Considered the patient is not tolerating early oral intake when 3 days (72hours) passed and still not able to tolerate the oral intake(fluid or solid).

Results

Sixty patients undergone intestinal surgery both elective and emergency in Baquba Teaching Hospital over a period of one year and nine months. They were reviewed for the safety of early oral feeding.

Regarding the tolerability, 54 patients (90%) tolerated the regimen mentioned above and passed it smoothly without developing repeated vomiting or gastric upset. They tolerated full oral intake in the fourth 24 hours postoperatively.

Three patients (5%) did not tolerate the sips of water in the second 24 hours but tolerated it in the third 24 hours. They also tolerated full oral intake in the fourth 24 hours but late in this day.

Three patients (5%) continued were not tolerating oral intake till the fourth 24 hours. They reached tolerable full oral intake in the seventh 24 hours.

Regarding the development of fecal fistula, no patient developed it. **Table 3**

No patient developed ileus

Table (3): Number and % of patients tolerating early oral intake**.**

Without complications		With complications		
Number	**%**	**Type**	**No**	**%**
54	**90**	Repeated vomiting	3	5
		Fecal fistula	0	0

Discussion

90% of patients tolerated full oral intake within four days. These results are in concordance with that of Moss G. [9], McCarter MD, Gomez ME [10], McWhirter JP, Pennington CR (11), Hill GL, Pickford I, Young GA, Schorah CJ and Blackett RL [12]. All of them proved that early oral feeding is safe and tolerable.

No patient developed fecal fistula. This is in compatible with those of Uden P, Blomquist P, Jiborn H, Zederfeldt B [13], Irvin TT, Hunt TK [14], Ward MW, Danzi M, Lewin MR, Rennie MJ, Clark CG.[15]

Conclution

Early oral feeding is a safe practice and is devoid of complications as repeated vomiting or fecal fistula.

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