

Postoperative Outcome of Early Oral Feeding Following Elective Colonic Anastomosis

Ainul Hadi, Zafar Iqbal, Musarrat Hussain

ABSTRACT

Objective To assess the safety of early oral feeding after colonic anastomosis.

Study design Descriptive case series.

Place & Duration of study Department of Surgery Lady Reading Hospital Peshawar, from September 2009 to April 2011.

Methodology Preoperative evaluation included history, physical examination and base line investigations. A limited bowel preparation was done in all the patients. Postoperatively 10-60 ml of sips were allowed 3 hourly after recovery from anesthesia. Free oral fluid intake was allowed on postoperative day-1, semisolids on day-2 and 3 as tolerated and full oral diet allowed on day-4. In case of two episodes of vomiting and absence of bowel sounds, patients were kept nil by mouth and nasogastric tube was placed.

Results Out of total 101 patients, 77 (76.24%) were males and 24 (13.76%) females (M:F 3.2:1). The age range was from 25 year to 77 year with mean age of 49.5±2.3 year. The time of passage of first flatus was 2 to 6 days (mean 2.4 days), and the time of first passage of stool was 4-9 days (mean 4.6 days). Twenty two (21.78%) patients did not tolerate feeding. They developed vomiting and abdominal distension. Postoperative complications included wound infection (7.92%), electrolyte imbalance (4.95%), respiratory tract infection and aspiration pneumonia (5.94%), anastomotic leaks (0.99%) and wound dehiscence (1.98%). The hospital stay was 3-8 days (mean 5.4 days).

Conclusion Early oral feeding after colonic surgery was safe and well tolerated by majority of the patients.

Key words Early oral feeding, Enteral feeding, Colonic anastomosis.

INTRODUCTION:

Nutrition has always played a major role in a successful gut anastomosis. There is traditional practice to delay oral intake because of fear of postoperative ileus. Feeding is started when there is evidence of bowel function such as the passage of flatus or bowel movements. It was feared that due to early feeding, nausea and vomiting would lead to wound breakdown, aspiration pneumonia or anastomotic complications.¹ The delay in starting

feeding has now been questioned because many studies suggest that early feeding is well tolerated.² Initially early feeding was demonstrated to be safe and effective in patients undergoing laparoscopy assisted colectomy which resulted in shortened hospital stay.^{3,4} In last decade, studies revealed that early feeding was safe and not damaging to the anastomosis. Recent evidence however seems to indicate that immediate postoperative feeding is actually feasible and safe after laparoscopic surgery or laparotomy including gastrointestinal surgery.^{5,6}

Early enteral feeding in surgical patients has the advantage of reducing septic complications and overall morbidity when compared with parenteral nutrition.^{7,8} Kehlet H and his colleagues have

Correspondence:

Dr. Ainul Hadi
Department of Surgery
Lady Reading Hospital Peshawar.
E-mail : surgeonhadi05@yahoo.com

demonstrated that a postoperative stay of 2-3 days following colonic surgery may be achieved without increase in complication rate. This is done by using a combination of preoperative patient information, avoidance of fluid overload, use of epidural catheter, postoperative analgesia, early feeding and ambulation.^{9,10} Trials with gynecological oncology patients have also found tolerance of accelerated postoperative feeding.¹¹ The aim of this study was to assess the safety of early feeding following colonic anastomosis.

METHODOLOGY:

This study was conducted from September 2009 to April 2011, at Surgical "D" unit, Lady Reading Hospital Peshawar. A total of 101 patients were included. They were admitted through OPD. Preoperative evaluation included history, physical examination and baseline investigations including full blood count, blood urea, blood sugar, serum electrolytes, x-ray chest and ECG to assess their fitness for the general anesthesia. Abdominal ultrasound, CT scan and barium enema/distal loopogram were also done to exclude recurrence or residual disease and to demonstrate patency of distal bowel.

A limited bowel preparation was done in all the patients in the form of a phosphate enema per rectally and through stoma two hours before surgery to decrease the bulk of stool and to evacuate the barium in the distal loop. Postoperatively 10-60 ml of sips were allowed after complete recovery from general anesthesia. Free fluids were allowed on 1st postoperative day, semisolids on 2nd and 3rd day as tolerated (indicated by the absence of vomiting and abdominal distension). Patients were allowed full oral diet on 4th postoperative day with the advice of taking small frequent meals. Patients were monitored for vomiting, abdominal distension and duration of ileus, tolerance of regular

diet, hospital stay and complications. In case of two episodes of vomiting and absence of bowel sounds, patients were kept fasting and nasogastric tube was inserted. They were treated conservatively till vomiting subsided, bowel sounds reappeared and abdominal distension settled down. Patients were discharged from hospital when they were tolerating oral fluids and diet and were fully mobilized. All patients were advised to visit OPD after 10 days for general assessment and removal of stitches. Data was collected and analysed through SPSS version 10.

RESULTS:

Out of total 101 patients, 77 (76.24%) were males and 24 (13.76%) females with M:F of 3.2:1. The age range was 25 year to 77 year with mean age of 49.5±2.4 year. The time of passage of first flatus ranged from 2 to 6 days (mean 2.4 days) and the time of first passage of stool ranged from 4-9 days (mean 4.6 days).

Twenty two (21.78%) patients did not tolerate feeding and developed vomiting and abdominal distension. These patients were treated conservatively with intravenous (I/V) fluids and maintenance of electrolyte balance. Three (2.97%) patients were readmitted, 02 (01.98%) due to abdominal distension and vomiting and one (0.99%) due to anastomotic leakage. Two (01.98%) patients with vomiting and distension were kept nil per orum, nasogastric tube placement and I/V fluids started. Both of them settled down within 24-48 hours. One (0.99%) patient with anastomotic leak was reexplored, peritoneal lavage done and stoma was brought out.

Superficial wound infection occurred in 08 (7.92%) cases which were treated with drainage of pus, local antiseptic dressing and antibiotics. Five (4.95%) patients had electrolyte imbalance with resultant

Table I: Postoperative Complications (n=101)

Complication	No. of patients	Percentage
Vomiting	15	14.85%
Abdominal Distension	09	08.91%
Anastomotic Leak	01	0.99%
Wound Infection	08	07.92%
Electrolyte Imbalance	05	04.95%
RTI/Aspiration Pneumonia	03	02.97%
Wound Dehiscence	02	01.98%

abdominal distension. They were managed with I/V fluids as required. Three (02.97%) patients developed RTI/aspiration pneumonia which was managed with physiotherapy, nebulizatoin and antibiotics. Two (1.98%) patients had wound dehiscence secondary to abdominal distension. Tension sutures were applied in these aptients. Total hospital stay was from 3-8 days (mean 5.4 days). No mortality occurred in this series.

DISCUSSION:

The traditional postoperarive protocol was to use nasogastric tube for gut decompression. Postoperative ileus is defined as decreased bowel sounds, bowel distension and delay in passage of stool and flatus. There are many causes of postoperative ileus such as postsurgical stress, manipulation of the bowel, anesthesia and use of opioids.¹² In our series the mean time of 1st passage of flatus was 2.4 days and 1st passage of stool was 4.4 days. These figures are comparable to those reported by Nakeeb AE et al.¹³

Our study has shown that early oral feeding after gut anastomois was safe. There was also decrease incidence of infection. Seventy nine (78.21%) patients tolerated early feeding. Difronzo LA et al reported that more than 80% patients tolerated early feeding after colonic anastomosis.¹⁴ He noted that males were comparatively intolerant to oral feeding and that could be due to prolonged ileus from retroperitoneal dissection. In our study the intolerability of feeding was not significant in any gender.

Abdominal distension and vomiting hasve been reported in other studies after resuming early oral feeding e.g. 28% by Gutillo G et al and 40% by Schilder JM et al.^{15,16} Postoperarivley anastomotic leak occured in one (0.99%) patient in our series which is comparable to other reports. Other postoperative complications which occurred in our series were fairly acceptable when compared with other studies.

In our study the mean hospital stay was 5.4 days which was slightly longer than 3.9 days by Difronzo LA et al.¹⁷ The study of Ferrer VF et al showed that early postoperative feeding decreased the risk of infection.¹⁸ They also noted that both postoperative ileus and hospital stay are reduced without increasing mortality and morbidity. In our study, only three patients developed respiratory tract infection. There was no hospital mortality in our series as is reported in other studies.^{13,14}

CONCLUSION:

Early oral feeding after colonic anastomosis was safe and well tolerated by majority of patients with insignificant complications.

REFERENCES:

1. Pearl ML, Valea FA, Fischer M, Mahler L, Chalas E. A randomized controlled trial of early postoperative feeding in gneacologic oncology patients undergoing intra-abdominal surgery. *Obset Gynecol.* 1998;92:94-7.
2. Bufo AF, Feldman S, Daniels GA, Lieberman RC. Early postoperative feeding. *Dis Colon Rectum.* 1994;37:1260-5.
3. Jacobs M, Verfeja JC, Goldstien HS. Minimally invasive colectomy (laproscopic colectomy). *Surg Laproscopy Endosc Percutan Tech.* 1991;1:144-50.
4. Phillips EH, Franklin M, Carroll BJ. *Ann Surg.* 1992;216:703-7.
5. Repin VN, Tkachenko IM, Gudkov OS. Repin MV. Enteral tube feeding early after surgery on stomach and the duodenum. *Khirurgiia (Mosk).* 2002;12:21-5.
6. Akbaba S, Kayaalp C, Savkilioglu M. Nasogastric decompression after total gastrectomy. *Hepatogastroenterology.* 2004;41:1881-5.
7. Hoover HC, Ryan JA, Anderson EJ, Fischer JE. Nutritional benefits of immediate postoperative jejunal feeding of an elemental diet. *Am J Surg.* 1981;139:153-9.
8. Meguid MM, Campus AC, Hammond WG. Nutritional support in surgical practice. *Am J Surg.* 1990;159:427-43.
9. Basse L, Hjort D, Jakobsen. Billesbolle P. A clinical pathway to accelerate recovery after colonic resection. *Arm Surg.* 2000;232:51-7.
10. Base L. Thorbol JE. Lossl K. Colonic surgery with accelerated rehabilitation or conventional care. *Dis Colon Rectum.* 2004;47:271-7.
11. Schilder JM, Hurteau JA, Look KY, Moore

-
- DVI, Rafi G, Stehman FB. A prospective controlled trial of early postoperative oral intake following major abdominal gynecologic surgery. *Gynecol Oncol.* 1997;67:235-40.
12. Holte K, Kehlet H. Postoperative ileus: progress towards effective management. *Drugs.* 2002;62:2603-15.
13. Nakeeb AE, Fikry A, Metwally EL, Elyamani Fouda, Youssef M, Ghazy H, Badr S. Early oral feeding in patients undergoing elective colonic anastomosis. *Int J Surg.* 2009;7:206-9.
14. DiFronzo LA, Cymerman J, O'Connell TX. Factors affecting early postoperative feeding following elective open colon resection. *Arch Surg.* 1999;134:941-6.
15. Cutillo G, Maneschi F, Massimo F, Giannice R, Scambia G, Benedetti-Panici P. Early feeding compared with nasogastric decompression after major oncologic gynecologic surgery: a randomized study. *Obstet Gynecol.* 1999;93: 41-5.
16. Schilder JM, Hurteau JA, Look KY, Moore DH, Raff G, Stehman FB. A prospective controlled trial of early postoperative oral intake following major abdominal gynecologic surgery. *Gynecol Oncol.* 1997;67:235-40.
17. DiFronzo LA, Yamin N, Patel K, O'Connell TX. Benefits of early feeding and early hospital discharge in elderly patients undergoing open colon resection. *Am Coll Surg.* 2003;197:747-52.
18. Ferrer VF, Esteban BM, Garcia Corel MJ, Romero GJ, Vila RV. Evidence of early oral feeding in colorectal surgery. *Rev Enferm Dig (Mad).* 2007;99: 709-13.