

ORIGINAL RESEARCH

Assessment of morbi-mortality related to ileostomy and colostomy closure

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ABSTRACT

Background: The diverting loop ileostomy is a commonly used stoma that is often employed to diminish the consequences of an anastomotic leak in low-colorectal anastomoses, ileal pouchanal anastomoses, and in situations in which reversible patient factors increase the risk of an anastomotic dehiscence. The present study was conducted to assess morbi-mortality related to ileostomy and colostomy closure.

Materials & Methods: 46 patients admitted to general surgery department for ileostomy/colostomy closure during emergency/elective surgery of both genders were enrolled.

Parameters such as indications for loop or end ileostomy/colostomy, morbidity and complications post ileostomy or colostomy closure was recorded.

Results: Out of 46 patients, males were 30 and females were 16. Indication for loop or end ileostomy /colostomy was cancer in 28, emergency diversion in 10 and perforation in 8 patients. The difference was significant ($P < 0.05$). Co-morbid conditions were COPD in 5, diabetes in 7, hypertension in 8 and renal impairment in 2. Complications were medical complications in 8, major in 4 and minor in 2 patients. The difference was significant ($P < 0.05$).

Conclusion: Ileostomy is a viable and efficient diversion technique and has lowered the rates of complications and morbidity.

Key words: Ileostomy, colostomy closure, morbidity

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INTRODUCTION

Ileostomy and colostomy closure refer to the surgical procedures performed to reverse the temporary diversion of the small intestine (ileostomy) or colon (colostomy) to the abdominal wall through a stoma.¹ These procedures are usually performed after a temporary ostomy was created to allow the bowel to heal or recover from a previous surgery or condition.² Ileostomy closure involves reconnecting the small intestine to the remaining portion of the colon or rectum. The procedure is performed under general anesthesia, and the surgeon typically makes an incision in the abdominal area to access the stoma site. The stoma is then removed, and the remaining small intestine is reconnected to the colon or rectum.³ The incision is closed, and the digestive system is restored to its original state. Colostomy closure is the surgical procedure to reconnect the divided ends of the colon after a colostomy.⁴ Similar to ileostomy closure, this procedure is performed under general anesthesia. The surgeon makes an incision in the abdominal area, removes the stoma, and reconnects

the divided ends of the colon. The incision is then closed, allowing the resumption of normal bowel function.⁵ The diverting loop ileostomy is a commonly used stoma that is often employed to diminish the consequences of an anastomotic leak in low-colorectal anastomoses, ileal pouchanal anastomoses, and in situations in which reversible patient factors increase the risk of an anastomotic dehiscence. A defunctioning loop ileostomy is traditionally closed 6 to 12 weeks after the initial surgery.⁶ The present study was conducted to assess morbi-mortality related to ileostomy and colostomy closure.

MATERIALS & METHODS

The present study consisted of 46 patients admitted to general surgery department for ileostomy/colostomy closure during emergency/elective surgery of both genders. All gave their written consent to participate in the study. Data such as name, age, gender etc. was recorded. Parameters such as indications for loop or end ileostomy /colostomy, morbidity and complications post ileostomy or colostomy closure

was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant. Table: I shows that out of 46 patients, males were 30 and females were 16. Table: II, graph I

shows that indication for loop or end ileostomy /colostomy was cancer in 28, emergency diversion in 10 and perforation in 8 patients. The difference was significant (P< 0.05).

RESULTS

Table: I Distribution of patients

Total- 46		
Gender	Male	Female
Number	30	16

Table: II Indications for loop or end ileostomy /colostomy

Indications	Number	P value
Cancer	28	0.01
Emergency diversion	10	
Perforation	8	

Graph: I Indications for loop or end ileostomy /colostomy

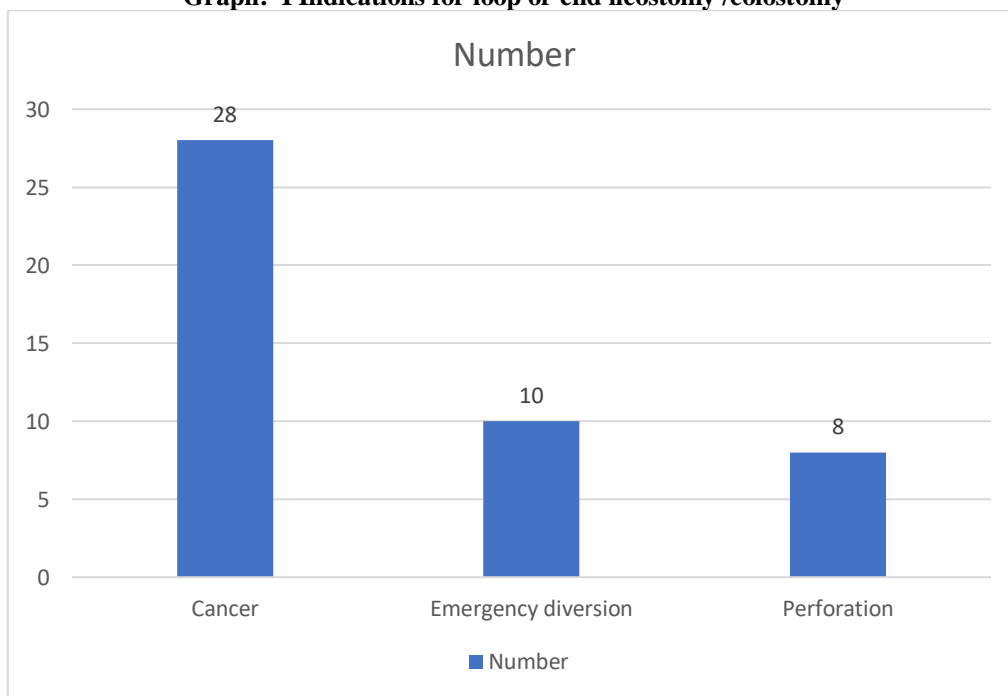
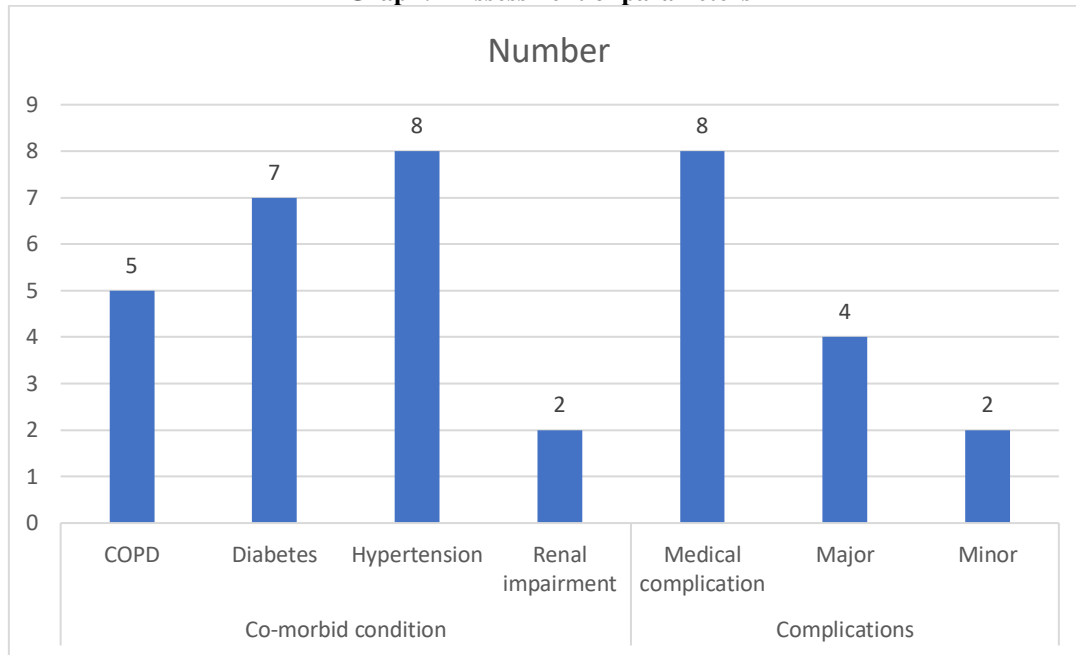


Table: III Assessment of parameters

Parameters	Variables	Number	P value
Co-morbid condition	COPD	5	0.05
	Diabetes	7	
	Hypertension	8	
	Renal impairment	2	
Complications	Medical complication	8	0.01
	Major	4	
	Minor	2	

Table: III, graph I shows that co-morbid conditions were COPD in 5, diabetes in 7, hypertension in 8 and renal impairment in 2. Complications were medical complications in 8, major in 4 and minor in 2 patients. The difference was significant (P< 0.05).

Graph: I Assessment of parameters

DISCUSSION

After ileostomy or colostomy closure, patients usually experience a recovery period in the hospital. The duration of the hospital stay may vary depending on the individual's overall health and the complexity of the procedure.⁷ During the recovery period, patients are monitored for any signs of complications, such as infection, bleeding, or bowel obstruction.⁸ Following the surgery, it may take some time for bowel function to return to normal. Initially, patients may experience changes in bowel movements and consistency as the digestive system adjusts to the restored continuity of the bowel.⁹ Healthcare providers may recommend dietary modifications, such as gradually reintroducing solid foods and monitoring for any bowel irregularities.¹⁰ It is important to note that the decision to close an ileostomy or colostomy is made on an individual basis, taking into account factors such as the underlying condition, the need for bowel rest or healing, and the patient's overall health. In some cases, a permanent stoma may be required if the reversal procedure is not feasible or recommended.¹¹ We found that out of 46 patients, males were 30 and females were 16. Sharma et al¹² recorded morbidity related to ileostomy or colostomy closure at tertiary care hospital. Out of 30 cases, (30.00%) patients had hypertension, 6 (20.00%) had diabetes, 5 (16.67%) had renal dysfunction and 2 (6.67%) cases had COPD. 11 (36.67%) patients developed complications post closure of ileostomy or colostomy. Medical complications accounted for a large proportion of complications (n=5), while major (n=4) and minor complications (n=2) were present. We found that indication for loop or end ileostomy/colostomy was cancer in 28, emergency diversion in 10 and perforation in 8 patients. Perez et al¹³ determined risk factors and the impact of the

interval from primary operation on morbidity. Ninety-three consecutive patients undergoing loop ileostomy closure at a single institution after coloanal or ileoanal anastomosis were retrospectively reviewed. Complications were classified as medical or surgical according to its treatment requirements. Results were correlated to clinical and operative features. Of the 93 patients, 43 were male and 50 were female with mean age of 56 years. Overall, complication rate was 17.2 percent. The most common complication was small-bowel obstruction. Complications required operative management in 3.2 percent and medical management alone in 14 percent. There was no mortality. There was no correlation between complication occurrence and age, gender, type of suture (manual or mechanical), and operative time. Complications were significantly associated with primary disease and shorter interval between primary operation and ileostomy closure. Regarding the optimal interval between primary surgery and ileostomy closure, the cutoff value for increased risk of developing postoperative complications was 8.5 weeks, below which the risk of such occurrence was significantly higher with a sensitivity rate of 88 percent. We found that co-morbid conditions were COPD in 5, diabetes in 7, hypertension in 8 and renal impairment in 2. Complications were medical complications in 8, major in 4 and minor in 2 patients. Kalady et al¹⁴ found that the study and control groups were statistically similar in age, gender, diseases, and duration after original operation. Twenty-eight patients underwent loop ileostomy closure, and all were discharged the following day. Two patients were admitted for nausea and vomiting within 48 hours after closure and remained in the hospital for two and four days, respectively. One of these patients was readmitted 12 days after surgery with an abdominal

abscess that was drained percutaneously. The mean cost per patient in the study group was \$2,665. For the control population, the mean hospital stay was 2.9 days. Return of bowel function was delayed in two patients, resulting in prolonged hospital stays of six and eight days, respectively. Two patients were readmitted after discharge for nausea and vomiting. The mean cost per cohort patient was \$3,811. The limitation the study is small sample size.

CONCLUSION

Authors found that

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