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Original Research Paper

Surgery

"INDICATIONS AND MORBIDITY OF TEMPORARY LOOP ILEOSTOMY IN A TERTIARY CARE CENTER"

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ABSTRACT

Introduction: Ileostomy is an opening constructed between the ileum and the abdominal wall. Faecal diversion through a temporary stoma in cases of perforation peritonitis can be a life saving measure and can reduce the incidence of anastomotic leaks in distal colorectal anastomosis. This study was undertaken to look into the indications for performing this common surgical procedure and to analyse whether a correctly performed ileostomy can reduce local complications so commonly associated with this procedure.

Aim and Objectives: To study the demography, etiology and pathology of conditions necessitating a temporary loop ileostomy and morbidity in patients with the same.

Methods: This was a prospective observational study over a period of one year on 50 patients of loop ileostomy. Age, gender, indications, systemic and local complications of the procedure, morbidity, post-operative hospital stay and mortality were recorded in a previously prepared proforma for this purpose. Psychological problems of the patients, timing of reversal of loop ileostomy and subsequent follow up of the patients were also studied.

Result: The mean age for performing an ileostomy was 35.26 ± 19.3 years. Males accounted for 70% of the patients. Non-specific perforation was the commonest cause (32%), followed by typhoid and tubercular perforation, eachin 18% patients.Trauma 12%, intestinal obstruction 10%, strangulated hernia 6%, mesenteric ischaemia 2% and colonic carcinoma 2% accounted for the rest. Surgical site infection was the commonest local complication in 30% patients followed by skin excoriation (18%) patients, burst abdomen (16%), intestinal obstruction (10%) patients, prolapse and bleeding (6%) patients, retraction (4%) and stenosis in (2%) patients. 74.47% of patients developed psychological imbalances ranging from anxiety, depression, loss of confidence and fear of rejection.

Conclusion: Loop ileostomy is a life-saving procedure commonly performed in the setting of perforation peritonitis. A meticulous surgical technique ensuring a spout of 4-6 cm. above the skin margin can go a long way in reducing skin excoriation and facilitating early closure of the temporary stoma. Educating and counseling the patient on stoma care goes a long way in helping patients cope with this distressing albeit temporary condition.

KEYWORDS : loop ileostomy, perforation.

INTRODUCTION

Ileostomy is a frequently performed surgical procedure. It is an opening constructed between the ileum and the abdominal wall, usually in the distal ileum but sometimes more proximally.1 Faecal diversion through a temporary stoma in cases of perforation peritonitis can be a life saving measure and can reduce the incidence of anastomotic leaks in distal colorectal anastomosis. Ileostomy is divided in 2 types: (1) Temporary Ileostomy- the stoma is often constructed as a loop ileostomy. A segment of distal ileum is brought through the defect in the abdominal wall as a loop. The advantage of a loop or divided loop ileostomy is that subsequent closure often can be accomplished without a formal laparotomy. (2) Permanent Ileostomy- The end of the small intestine is brought through the abdominal wall defect and matured.A permanent ileostomy sometimes is required after total proctocolectomy or in patients with obstruction.2In India, typhoid fever is the most common cause of ileal perforations. Tuberculosis, trauma, non-specific enteritis, inflammatory bowel disease, malignancy and foreign bodies account for the rest and account for the most common reasons to construct a loop ileostomy.3 Most patient of ileal perforation present as diffuse peritonitis and late with MODS (Multi organ dysfunction syndrome).4Diagnosis is confirmed radiologically by X-ray with the presence of free intraperitoneal gas which usually indicates bowel perforation5 and Ultrasound of the whole abdomen which demonstrates free air and unusual fluid collections.6 Surgery especially loop ileostomy plays an important role in patients who present late with ileal perforation peritonitis. This study was conducted to find out the age, sex incidence, etiological factors for performing this surgical procedure and to analyse the complications associated with this procedure.

AIMS AND OBJECTIVES

To study the demography, etiology and pathology of conditions necessitating temporary loop ileostomy and morbidity in patients with the same.

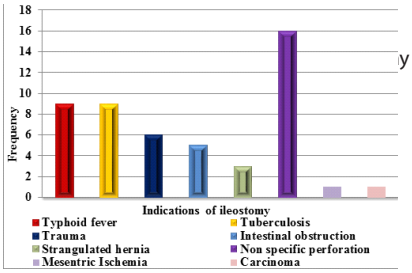
MATERIAL AND METHODS

This was a prospective observational study over a period of one year on 50 patients of loop ileostomy. Age, gender, indications, systemic and local complications of the procedure, morbidity, post-operative hospital stay and mortality were recorded in a previously prepared proforma for this purpose. Psychological problems of the patients, timing of reversal of loop ileostomy and subsequent follow up of the patients was also taken into consideration in this study.

RESULT

A total of 50 patients (35 males and 15 females) were included in this study. Maximum number of patients 16 (32%) were in the 11-20 year of age group and the least 2(4%) patients were in 0-10 year age group. The mean age of ileostomy was 35.26 ± 19.3 years.

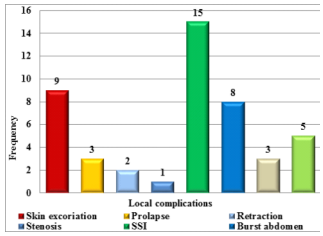
Non-specific perforation(32%) was thecommonest cause for performing a loop ileostomy followed by typhoid and tuberculosis in 18% patients each.Trauma 12%, intestinal obstruction 10%, strangulated hernia 6%, mesenteric ischaemia2%, carcinoma 2% made up for the rest of the causes (graph 1).



In the 50 patients with ileostomy the following local complications were noted. 30% patients presented with SSI (surgical site infection) followed by skin excoriation (18%) patients, burst abdomen (16%), obstruction (10%) patients, prolapse and bleeding (6%) patients,

retraction (4%) and stenosis in (2%) patients (graph 2).
The duration of hospital stay ranged from 15 to 25 days in (46%) of the patients. 34% patients had a hospital stay of less than 10 to 15 days. Only 20% patients had a hospital stay of 25 days (graph 4). The mean duration of hospital stay was 21.08±9.03 days.

*Mortality occurred in 3 (6%) patients.



Graph 2- Local complications of ileostomy

70.6% Males and 84.6% female had psychological problems like anxiety, depression, loss of confidence, fear of rejection whereas 82.4% males and 76.9% female had complaintsof physical restriction in their routine work like daily home activities, clothing problem, sexual inactivity.

Fig. 1- SHOWING SINGLE ILEAL TYPHOID PERFORATION 20cm PROXIMAL TO ILEOCAECAL JUNCTION

Fig 2- SHOWING A WELL-ESTABLISHED LOOP ILEOSTOMY WITH PROXIMAL AND DISTAL LOOP

DISCUSSION

In our study, the mean age for loop ileostomy was 35.26 ± 19.3 years with a male (70%) to female (30%) ratio of 2.33:1.Similar results were found by Jawahar Krishnaswamy et al7 in their studyon 74 patients which also had mean age of 37.8 years with 73% males to 27% females in the ratio of 2.7:1. Poras Chaudhary et al8 in New Delhi also found that the mean age of most of their loop ileostomy patients was 34 years with a male to female ratio of 1.8:1.

Non-specific perforation was the most common cause (32%) for perforation peritonitis in our study which required a temporary loop ileostomy, followed by typhoid and tubercular perforations in 18% patients each. Trauma in 12% patients, intestinal obstruction in 10% patients, strangulated hernia in 6% patients, mesenteric ischaemia and carcinoma in 2% patients each made up for the rest of causes for performing a loop ileostomy. Similar result have been reported by Nadkarni et al9 in their study who also found non-specific perforation as the most common cause for performing a loop ileostomy. Non-specific inflammation was diagnosed when biochemical (Widal test was negative) and histopathological analysis revealed no specific cause10. Dhruv Mahajanet al11 in 2016 also found the non-specific inflammation as a major cause for non-traumatic perforations.

In patients with loop ileostomies the local complications were, surgical site infection presenting as discharge from the main wound within 7 days of performing the procedure and was present in 30% of patients, followed by skin excoriation in (18%) patients, burst abdomen (16%), obstruction (10%) patients, prolapse and bleeding (6%) patients, retraction (4%) and stenosis in (2%) patients. These findings were similar to those of Maneshwar Singh Mittal et al12 who in their study found local surgical site infection as the most common post-operative complication in (35.0%) patients which progressed to wound dehiscence in six (15%) patients and two (5%) of these progressed to burst abdomen. Dandpat M et al13 in 2012 reported surgical site infection in 21% patients as the commonest complication followed by wound dehiscence in 6.6%, respiratory infection in 6.6% and enterocutaneous faecal fistula in 5% patients.
In our study, the mean duration of hospital stay of loop ileostomy patients was 21.08±9.03 days. 46% of patients stayed for 15 to 25 days, 34% stayed for less than 10 to 15 days. 20% patients who stayed for more than 25 days were due to local and systemic post-operative complications. This bears resemblance with a study by Dhruv Mahajanet al11 in 2016 who found that the average duration of hospital stay for loop ileostomy patients was 23.5 days.

Sadaf Khalid et al14 found that the average hospital stay of the patient with loop ileostomy was 14±3.27 days whereas patients who developed complications stayed for a mean period of 22.4±4.7 days.

In our study, 70.6% males and84.6% females had psychological problems like anxiety, depression, loss of self-confidence and a fear of rejection. 82.4% of males and 76.9% females experienced physical restrictions in their daily home activity, clothing problems, restriction in sexual activity.Similar result were seen by Fakhrialsadat Anaraki et al15 in 2012 who demonstrated that 83.3% of stoma patients had to change their job, 82.4% had to change their diet and 48% had to change their clothing style. They also found that psychological implications after stoma surgery in 63% patients was depression.

Pradeep Saini et al16 in 2012 found that this disfiguring surgery changed the body image, and significantly influenced physical, mental, emotional, and social life of their patients.

CONCLUSION

The mean age of performing a loop ileostomy was 35.26 ± 19.3 years with the maximum number of patients 16 (32%) in the 11-20 years age group.

Loop ileostomy was commoner in males as compared to females in a ratio of 2.33:1.In our study, non-specific perforation was the most common cause (32%) for performing a temporary loop ileostomy followed by typhoid and tubercular perforation in 18% cases each. Blunt or penetrating trauma accounted for 12% of patients, small intestinal obstruction 10%, strangulated hernia 6%, small intestinal mesenteric ischaemia and carcinoma colon 2% each made up for the rest.

Exploratory laparotomy with a temporary loop ileostomy and exteriorisation of a perforation site is a life saving measure. The only drawback of an ileostomy is the need for a second operation to restore the intestinal continuity. However the increased survival rate makes the procedure worthwhile in cases of perforation peritonitis. The mean duration of hospital stay in our study was 21.08±9.03 days.Systemic complications like chest infection was seen in (32%) patients followed by electrolyte imbalance in (30%), acute renal failure in (24%) and anemia in (22%) patients and these delayed the recovery in the post-operative period.Other local complications were surgical site infection (30%), skin excoriation (18%), burst abdomen (16%), obstruction (10%), prolapse (6%), bleeding (6%), stoma retraction (4%) and stenosis (2%).Skin excoriation was present in only 18% of our patients because the length of ileostomy spout in most of our cases was 4-6cm from the skin which facilitated faeces collection in the stoma bag.70.6% males and 84.6% females

had psychological problems like lack of confidence, anxiety, depression, fear of rejection while 82.4% males and 76.9% females experienced physical restrictions in daily home activities, clothing problem and restriction in sexual activity.Most ileostomies could be reversed by 89.13 ± 38.9 days without complications Mortality occurred in only 3 patients who presented late with shock and MODS.

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