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Research Article

**AN AUDIT OF THE SURGICAL RESULTS OF THE
ILEOSTOMY CLOSURE AT THE SURGICAL DEPARTMENT
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Abstract:

Objective: The use of an ileostomy is an effective method of protecting pelvic anastomosis. It is also used as a means of damage control in neglected peritonitis. A second operation is required to close the stoma with possible complications. The percentage of complications associated with ileostomy closure has been reported to be associated with the patient's primary pathology and general condition. This study aims to determine the outcomes of ileostomy closure.

Place and Duration: In the Surgical department of Sir Ganga Ram Hospital, Lahore for one year duration from January 2019 to January 2020.

Study design: A retrospective study.

Methodology: The goal of our research is to identify risk factors associated with ileostomy removal in surgical practice. To determine the risk factors associated with complications of ileostomy closure, we examined a group of 66 patients who had undergone closure of the ileostomy. Planned procedures were considered. All complications related to the stoma have been registered.

Results: The overall complication rate was 17%. After discharge, complications developed in 17 patients, wound infection in 10 patients, anastomotic leakage in 2 patients, intestinal obstruction in 2 patients and paralytic intestinal obstruction in 3 patients. The transition to laparotomy occurred in 7-8% due to difficulties in the assessment of 5% of patients, all patients were conservatively treated and no surgery was required, but they had to remain in the hospital for a long time.

Conclusion: withdrawal ileostomy was found to be associated with a low rate of serious complications; Ileostomies should be done as needed.

Key words: ileostomy closure, Stoma Anastomotic Leak.

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INTRODUCTION:

Anastomosis leak is a serious postoperative complication after colorectal surgery. The pelvic anastomosis at a distance of 6 cm from the anal border is associated with a high leakage rate of 10-30%. They encouraged surgeons to develop protective measures to reduce the severity of results¹⁻². Creating a bone marrow ileostomy is an effective method of protecting pelvic anastomosis. Ileostomy is a life-saving procedure for malnourished patients. Creating an intestinal stoma is just as important as any other aspect of the surgery³⁻⁴. Men report less impact on quality of life than women. Early diagnosis and primary externalization of perforation as a temporary ileostomy can significantly reduce morbidity and mortality. Ostomy dysfunction is beneficial for high-risk patients who do not qualify for the second abdominal surgery required to control seam leakage⁵⁻⁶.

It is generally accepted that proximal intestinal stoma does not reduce the incidence of anastomotic leakage from distal anastomosis of the colon, but facilitates clinical management of adverse effects in the event of leakage. Increased sphincter sparing surgery in the last 2-3 years has led to an increase in the number of temporary loop ileostomy constructions⁷⁻⁸. This excludes the distal intestine after pelvic reservoir construction and colon / large intestinal anastomosis after various other indications.

Small bowel obstruction is one of the most common complications after loop ileostomy. The incidence of small bowel obstruction is between 0% and 15%⁹. Treatment was conservative in most patients, and the obstruction resolved without re-surgery. Common causes of obstruction in postoperative patients were mainly intraperitoneal adhesions. The overall incidence associated with cycle reversal ileostomy varies between different authors and between 10.8% and 69%¹⁰. This morbidity affects patient health, postoperative hospital stay and hospital costs.

METHODS:

This retrospective non-randomized study was held in the Surgical department of Sir Ganga Ram Hospital, Lahore for one year duration from January 2019 to January 2020.

The purpose of this study is to assess the complications associated with ileostomy removal. A

total of 66 more patients were selected who underwent the closure of a loop and end ileostomy. Data was obtained from the patient's form, which collected all information about the patient's details, indications for the operation, type of procedure performed as well as postoperative morbidity and mortality. The second was divided into early postoperative morbidity and mortality (within 30 days after surgery) or late (after 30 days).

CLOSING ILEOSTOMY TECHNIQUES:

Prior to closure of the ileostomy, which is between 6 to 8 weeks of construction, the distal anastomosis is checked with a water soluble contrast. All patients were offered a clear diet the night before surgery. During induction of anesthesia, prophylactic antibiotics (co-amoxiclav 1 gmI / V and Metronidazole 50 mg I / V) were administered. The choice of anastomosed or manual anastomosis depends on the surgeon's decision. If necessary, laparotomy done after the consent of all patients. A circumferential elliptical incision was made and the stoma was mobilized from the surrounding fascial and peritoneal adhesions. Three techniques were used for closing the loop ileostomy depending on the surgeon's preferences, closing the enterotomy with Vicryl 3/0, single-layer intermittent sutures, resection of thickened free edges and hand-stitched anastomoses from end to end with a single layer break of 3/0 Vicryl sutures, minimal edge resection and anastomosis stitched from side to side with a linear knife with the possibility of reloading 75 mm, and then stapled the ends with the same stapler. Muscle gap closed with interrupted Vicryl sutures. All skin incisions were primarily closed with intermittent proline 2/0 thread material and an aseptic dressing was performed. All statistics were calculated using the Social Science Statistics Pack (SPSS) version 17 for Windows. Descriptive statistics were calculated for continuous variables. Results are presented as needed as frequency and percentage.

RESULTS:

In total, 66 patients (36 women and 30 men) qualified for the study. The average age was 35 years (12-60 years). The main diseases requiring conservative ileostomy were abdominal tuberculosis 28 (42.4%), traumatic ileum perforation and perforation requiring rectal cancer 12 (18.1%) and ileostomy 10 (15.1%) to protect anal ileum. 7 (10.6%) causing peritonitis secondary to intestinal fever and 9 (13.6%) protecting pelvic anastomosis.

Table I. Indication for Ileostomy

Indications	No. (%)
Abdominal Tuberculosis	28(42.4)
Protection of ileal pouch-anal anastomosis	12(18.1)
Traumatic ileal perforation	10(15.1)
Protection of pelvic anastomosis	9(13.6)
Perforation secondary to enteric fever	7(10.6)

These patients closed the slits after a break determined by the surgeon's and patient's preferences. The median interval between ileostomy and closure was 14 weeks. The average length of hospital stay was seven days a week. The average operative time to close the ileostomy was 90 minutes (40-200 minutes). Closure of the ileostomy was performed with manual anastomosis in 60 patients and primary anastomosis in 6 patients.

Table II. Complications of Ileostomy Closure

Complications	No.	(%)
Wound Infection	10	41.6
Anastomotic Leak	2	8.3
Intestinal Obstruction	4	16.6
Paralytic Ileus	4	16.6
Enterocutaneous Fistula	2	8.3
Incisional Hernia	2	8.3

Postoperative complications occurred in 24 patients after closure of the ileostomy, and the overall incidence was 36.36%. Wound infection treated with simple drainage and oral antibiotics developed in 10 (41.6%) patients, 4 (16.6%) developed intestinal obstruction, 2 (8.3%) relaparotomy and 2 (8, 3%) gastric decompression, intestinal rest and intravenous hydration treated, 4 (16.6%) patients remained in postoperative paralytic obstruction, conservatively treated, and 2 (8.3%) had anastomotic leakage. Conservatively, 2 (8.3%) patients developed enterocutaneous fistula, successfully treated with antibiotics, intestinal rest and complete parent nutrition, developed 2 (8.3%) postoperative hernia requiring oral hernia repair. Interestingly, the primary disease requiring an ileostomy in the protective cycle was significantly associated with all morbidity rates.

DISCUSSION:

Diverting stomas are usually performed during ileo-ileum, ileum and colon, as well as during peritonitis caused by tuberculosis and Crohn's disease¹¹⁻¹². Since the first report on this procedure in 1966 by Turnbull and Weakley, loop Ileostomies have gained popularity due to their technical simplicity, odorlessness, fluid secretion, periosteal hernia and reduced prolapse and offer excellent deflection of the stool. In addition to these benefits, another factor that prompts surgeons to use protective loop ileostomy instead of protective colostomy is the expected reduction in morbidity and mortality associated with a second surgery to remove the stoma¹³. However, closing the ileostomy is by no means a disease free procedure. The total complication rate of reported ileostomy closure ranges from 10% to 17% and can be as high as 30% when performed to deflect ileum bags. There are

many factors associated with increased postoperative complications, such as primary surgery and closure interval, intestinal use, antibiotic prophylaxis, and technical techniques that develop after ileostomy closure. Ileostomy complications were also common¹⁴⁻¹⁵. Wound infection was the most common complication (41.6%) and was higher than reported by other authors; it was 1.3% with an open skin incision and 2.8%, 3% and 14.2%. The skin incision was originally closed. The primary closure of the skin incision was made with proline 2/0 suture after closing the ileostomy in all patients in our study. Although the results presented in the literature on this subject are contradictory, this may be a factor contributing to the high rate of wound infections. However, most wound infections were small and were resolved by small wound opening and infection drainage through broad-spectrum antibiotic therapy

and often did not prolong hospital stay and led to better cosmetics.

The most common complication was intestinal obstruction and paralytic ileus 16.6%. The frequency of this postoperative problem varies in different series depending on different techniques; this is a fact, contrary to what some have reported. He found a low rate of obstruction in patients with sutured anastomosis, but there was no difference in hospitalization, readmission and frequency of re-intervention between the two groups. The number of stitched anastomoses in our patients is small, so you cannot comment on which method is better, but complex syndromes save time. Late complications were stoma hernia in 2 patients (8.3%). Reported between 0-2.8percent by various authors. This may be due to the high rate of wound infection, as in our series.

CONCLUSION:

In acute surgery patients, abdominal tuberculosis causing obstruction and peritonitis was the most common indication for an ileostomy. Although the percentage of postoperative complications after closing an ileostomy is up to 30%, but it is consistent with the frequency reported in the literature. Most of our patients developed a low-grade wound infection and were treated conservatively, resulting in prolonged hospitalization. Some of our patients have developed intestinal obstruction, paralytic intestinal obstruction and anastomotic leak, and most of them have conservatively stabilized, but no mortality. The time interval from the construction of the ileostomy to the closure of the ileostomy is crucial because most of our patients suffered from tuberculosis, which required a longer time between primary surgery and reverse ileostomy to achieve optimal health. Leaks of the small intestine and colon anastomosis after complete mesorectal resection in patients with rectal cancer in the middle and low anus are a frightening complication. The rate of leakage increases when the anastomosis is located 6 cm from the anal edge, reaching an index of up to 15%.

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