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EARLY POSTOPERATIVE OUTCOMES IN PATIENTS UNDERGOING LAPAROTOMY AND ILEOSTOMY FOR ILEAL PERFORATION: A RETROSPECTIVE STUDY

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ABSTRACT

Background: Although ileostomy is a life-saving procedure and is often used in infectious as well as malignant diseases, it is responsible for causing various early and late effects that affect patients' physical, mental, and social well-being. Indications in general vary geographically, with infectious causes like enteric fever and tuberculosis being prevalent in Pakistan. Complications such as peristomal skin excoriation, stoma retraction, and electrolyte imbalance are frequent, with the frequency of reports significantly different among studies.

Objective: To detect early postoperative problems in individuals who require laparotomy and ileostomy due to ILeaL perforation.

Study Design: This is retrospective study.

Duration and place of study: This study was conducted in Surgical unit 4 Bolan Medical Complex Hospital Quetta from March 2023 to March 2024.

Methodology: This retrospective study was carried out through non-probability consecutive sampling and involved patients aged 20-60 years with ILeaL perforation. Informed consent was obtained, and most of the patients had ailments that took between 24 to 72 hours. Wound dehiscence, wound infection, stoma retraction, peristomal skin excoriation, and electrolyte imbalance were some of the initial postoperative issues observed in two weeks. Information was gathered and processed employing SPSS version 26.

Results: There were a total of 80 patients involved in this research. All the participants of this study were aged from 20 years to 60 years. The mean age calculated was 33.17 years. The average time of the disease was found to be 37.10 hours. Majority of the participants were male (53.75%). Ileal

perforation, responsible for peritonitis, occurs most often in middle-aged to young adults. In our study, the age group 20-40 developed more cases of ileal perforation-induced peritonitis. Complications were seen in a total of 57.5% cases. Amongst those, the most common complication, related to ileostomy, was wound infection.
Conclusion: In total, 57.5% of cases were having complications, and wound infection emerged as the most common ileostomy-related complication.

INTRODUCTION

A diversion stoma may be temporary, such as in infection, or permanent in the setting of malignancy for palliation [1]. In high-resource nations, prevailing indications of stoma formation are for faecal diversion for cancer of colon, familial adenomatous polyposis, inflammatory bowel disease, trauma, diverticulitis, and radiation enteritis [2]. A defunctioning loop ileostomy is a frequent application to protect low colorectal anastomosis since it significantly reduces the risk of anastomotic leakage [3]. In Pakistan, perforation of the ileum due to enteric fever and tuberculosis is a frequent etiology of peritonitis [4]. Under such conditions, ileostomy is the most commonly applied operation, since local or general issues often prevent primary repair of anastomosis [5].

Ileostomy is a life-saving surgery, yet it impacts a patient's emotional and social life considerably [6]. The effects secondary to the stoma are extremely common, from a mere nuisance to serious, life-threatening complications. The complications occur either early or late in the course of the surgery and are either intermittent or progressive [7]. Many of these complications are avoidable with thorough preoperative planning, proper surgical technique, and adequate psychological support. The role of a stoma specialist care nurse or therapist is critical in reducing the risk and severity of such complications [8].

Muneer et al. encountered issues like stoma retraction (3.5%), peristomal skin excoriation (17.64%), electrolyte imbalance (5.8%), prolapse (2.94%), stenosis (1.17%), and mortality (1.17%) [9]. Out of these, periostmal skin excoriation was the most prevalent ileostomy-related outcome, as attested by numerous other studies. Despite numerous studies both locally and globally, the prevalence of these issues reported are quite disparate—despite studies occurring within the same geographical locale [10-11]. This research attempted to examine this variation by concentrating on initial postoperative issues in a tertiary care center.

METHODOLOGY

This study is a descriptive analysis which was conducted as Non-probability and consecutive sampling was used to select the participants. All the individuals that were included in this research were having peritonitis due to ileal perforation. All the participants of this study were aged from 20 years to 60 years.

Exclusion criteria: Individuals who had uncontrolled diabetes, malignancy, immunocompromised status, and severe sepsis or organ failure were not a part of this study. Moreover, patients in whom primary repair was done were also not a part of this study.

All patients gave informed written consent. In the majority, illness ranged from 24 to 72 hours. Dehiscence of the wound, infection of the wound, retraction of the stoma, peristomal skin excoriation, and electrolyte imbalance were some of the early postoperative issues noted within two weeks of surgery. These issues, along with baseline patient factors such as gender and age, were documented on a data collection form. Data entry and statistical analysis were performed utilizing SPSS version 26 with stratifications by age and gender.

RESULTS

There were a total of 80 patients involved in this research. All the participants of this study were aged from 20 years to 60 years. The mean age calculated was 33.17 years. The average time of the disease was found to be 37.10 hours. Majority of the participants were male. Table number 1 shows the distribution of our study population according to gender.

Table No. 1:

Gender	N	%
Female	37	46.25
Male	43	53.75

Ileal perforation, responsible for peritonitis, occurs most often in middle-aged to young adults. In our study, the age group 20-40 developed more cases of ILeaL perforation-induced peritonitis.

Table number 2 shows the distribution of the study population according to age.

Table No. 2:

Age group (yrs)	N	%
20-40	56	70
41-60	24	30

Complications were seen in a total of 57.5% cases (n=46). Amongst those, the most common complication, related to ileostomy, was wound infection. Table number 3 shows the complications of ileostomy.

Table No. 3:

Complications	N	%
Skin excoriation	11	13.75
Wound infection	16	20.00
Retraction	6	7.50
Electrolyte imbalance	4	5.00
Wound dehiscence	9	11.25
Total	46	57.50

DISCUSSION

Stoma complications may develop at any time, but they are often avoidable or manageable with proper surgical methods and interdisciplinary therapy [12]. The frequency of acute surgical wound dehiscence is 0.4% to 3.0%, and it can appear early as a result of poor healing of the wound [13]. Wound infection was the leading complication of ileostomy in this study, occurring in 20% of cases. To reduce the risk of wound infection and dehiscence, surgeons need to tackle risk factors, select an optimal site for incision, and dissect and close tissue planes carefully.

Another serious complication encountered was peristomal skin excoriation, which was seen in 13.75 percent of patients, in line with the percentage described in the literature (10-14%) [14-17]. Skin excoriation may be due to unsatisfactory stoma placement, a high BMI, or unsatisfactory postoperative attention. Defining the stoma area may be challenging in patients who have peritonitis, either supine or standing [18]. Also, measuring skin folds and waistline in individuals with high BMI may prove difficult. This can be prevented by using a flange or stoma bag specially designed to stick tight to the surrounding skin of the stoma through the use of latex blends, Karaya gum, stoma adhesives, or other suitable pastes.

Fluid loss in excess via the stoma is another common issue, often severe enough to interfere with water and electrolyte balance, as reported in the literature [19-20]. In some studies, the frequency of electrolyte imbalance is between 0.8% and 16.7%. This imbalance tends to occur within the initial days following surgery, which requires close monitoring of outflow and inflow of fluids to prevent issues. Electrolyte imbalance was found in 5% of the patients in this study, and immediate and aggressive fluid and electrolyte resuscitation was required. Patients must be taught about warning signs like increased stoma output greater than 1,000 ml/day, even if they do not realize the excessive output. Instead, patients may describe secondary symptoms including nausea, frequent stoma bag emptying (more than six times per day), overall malaise dizziness, or lethargy. Proper guidance on maintaining enough oral hydration can dramatically lower the risk of readmission owing to fluid and electrolyte imbalances.

CONCLUSION

Summary, in total, 57.5% of cases were having complications, and wound infection emerged as the most common ileostomy-related complication.

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This study was conducted without receiving financial support from any external source.

Conflict in the interest

The authors had no conflict related to the interest in the execution of this study.

Permission

Prior to initiating the study, approval from the ethical committee was obtained to ensure adherence to ethical standards and guidelines.

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