

# Early Postoperative Complications In Patients Undergoing Laparotomy and Ileostomy For Ileal Perforation

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## ABSTRACT

**Objective** To find out early postoperative complications in patients undergoing laparotomy and ileostomy for ileal perforation.

**Study design** Descriptive case series.

**Place & Duration of study** Surgical Unit III, Ward-26 Jinnah Postgraduate Medical Center Karachi, from June 2015 to April 2016.

**Methodology** Patients with peritonitis having ileal perforations were included in this study. Ileostomy was performed under general anesthesia. Early Postoperative complications were noted. Final outcome was assessed at the end of two weeks postoperatively.

**Results** Seventy patients were included in the study. Average age of the patients was 33.17±5.32 year. Wound infection was the most common ileostomy related complication (n=14 - 19.72%) followed by skin excoriation (n=10 - 14.08%), wound dehiscence (n=8 - 11.43%), and retraction of stoma (n=5 - 7.04%).

**Conclusions** More than 50% of the patients developed stoma related complications of which wound infection occurred in 20%. Stoma related fluid losses also caused morbidity as the reflected by number of patients with skin excoriation and electrolyte imbalance.

**Key words** Peritonitis, Ileostomy, Peri-stomal skin excoriation.

## INTRODUCTION:

Diversion stoma can be temporary for variety of infective cases or permanent in malignancy for palliation. The indications in resource rich countries for fecal diversion include inflammatory bowel disease, familial adenomatous polyposis, colorectal cancer, trauma, diverticulitis, radiation enteritis etc.<sup>1</sup> De-functioning loop ileostomy is commonly used to protect low colorectal anastomosis where it reduces chances of leakage.<sup>2</sup> Ileal perforation secondary to enteric fever and tuberculosis are common

causes of peritonitis in Pakistan. Ileostomy is the most commonly performed procedure in these patients because of local or systemic factors not favoring the primary repair or anastomosis.

Ileostomy although is a life saving procedure, but has drastic effects on patient's personal and social life. Stoma related complications are frequent and their impact varies from simple inconvenience to life threatening complications.<sup>3,4</sup> Complications can occur early or late, and may be intermittent or progressive. Good pre-operative preparation and surgical technique with psychological support, can prevent many complication.<sup>5</sup> Specialized stoma therapist or nurse is therefore necessary to minimize the incidence of complications.<sup>6</sup>

In a study by Muneer et al, the complications were retraction (3.5%), prolapse (2.94%), electrolyte imbalance (5.8%), stenosis (1.17%), skin excoriation (17.64%), and death (1.17%).<sup>7</sup> Peristomal skin

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excoriation was the most common ileostomy related complication in many studies.<sup>8-10</sup>

Numerous studies are available locally as well as internationally but there is diversity in the magnitude of complications which is evident even in local studies. This study was designed to find out the this disparity and focused on early complications in a tertiary care hospital.

**METHODOLOGY:**

This was a descriptive case series carried out at Surgical Ward 26 Jinnah Postgraduate Medical Center Karachi, from June 2015 to April 2016. Patients meeting including criteria were selected by non- probability, consecutive sampling. All patients of between 20 to 60 year of age with peritonitis due to ileal perforation were included in this study. Patients having malignancy, uncontrolled diabetes, organ failure or severe sepsis and immunocompromize status, and in whom the primary repair was done, were excluded from study.

Informed and written consent was obtained. Duration of disease in most of the patients ranged from 24 hour to 72 hour. Early postoperative complications recorded were wound infection, wound dehiscence, peristomal skin excoriation, stoma retraction and electrolytes imbalance at the end of two weeks. This information along with baseline characteristics like age, gender etc, were noted on a form. Data entry and statistical analysis was done using SPSS 16. Stratification for gender and age was also done.

**RESULTS:**

Seventy patients with peritonitis due to ileal perforation were included in this study. Average age of the patients was 33.17±5.32 year and duration of disease was 37.10±13.32 hours. There were 53.52% male and 46.48% female.

Wound infection was the most common ileostomy related complication noted in 14 (19.72%) patients followed by skin excoriation (n=10 - 14.08%). Wound dehiscence occurred in 8 (11.43%), retraction in 5 (7.04%) and electrolyte imbalance in 4 (5.63%)

patients (table 1). Age, gender and duration of disease stratification was performed and it was observed that there was no significant difference in frequency of complications.

**DISCUSSION:**

Complications related to stoma may occur any time, but can be prevented or minimized with proper surgical technique and multidisciplinary management.<sup>11,12</sup> Acute dehiscence of surgical incision can occur in 0.4 to 3.0%.<sup>13</sup> It may present early as a result of ineffective healing.<sup>14</sup> In this study wound infection was the most common ileostomy related complication which was observed in 19.72% of cases. To prevent wound infection and dehiscence, surgeon should obviate the activating factors, use proper incision, perform meticulous dissection of planes and its closure.<sup>15,16</sup>

Another major complication noted was skin excoriation which occurred in 14.08% of patients. This resembles the overall incidence of peristomal skin problems reported in literature (10-14%).<sup>5,17</sup> Skin excoriation develops due to incorrect position, high BMI, and improper postoperative care. In patients with peritonitis it is difficult to plan stoma site by marking in supine or standing positions. Similarly with high BMI, it is difficult to judge the skin folds and waist line. This can be prevented by using flange or bag designed to adhere firmly to skin around the stoma by means of latex mixture, Karaya gum, stoma-adhesive or other pastes.<sup>18</sup>

Excessive fluid loss through stoma is another complication encountered in many patients, severe enough to cause water and electrolyte imbalance as reported in literature as well.<sup>19</sup> Few studies quoted the incidence of electrolyte imbalance in their studies ranging from 0.8 to 16.7%.<sup>20,21</sup> Fluid and electrolyte imbalance usually occurs in first few days postoperatively and require careful monitoring of water balance to prevent it. This was noted in 5.63% of patients in this study. It needed aggressive fluid and electrolyte replacement. Patients should be educated about the warning signs such as persistent

**Table 1: Complications of Ileostomy**

Complications	Number (n)	Percentage (%)
Wound infection	14	20
Skin excoriation	10	14
Wound dehiscence	8	11
Retraction	5	7
Electrolyte imbalance	4	6

volume loss above 1,000 ml/day as they may not specifically appreciate high stoma output; rather they are concerned about secondary effects such as frequent emptying of stoma bags (more than six times per day), nausea, dizziness, malaise, or fatigue. Good counselling about adequate oral hydration can easily prevent readmission for fluid and electrolytes imbalance.

**CONCLUSIONS:**

Despite advances in surgical care and postoperative management, stoma related complications occur frequently. Wound dehiscence and skin excoriation remained common problems.

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