

ASSESSMENT OF THE SURGICAL OUTCOME AND COMPLICATIONS AMONG PATIENTS OF ILEAL PERFORATION

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ABSTRACT:

Background: Gastrointestinal tract perforation leads to the contamination of peritoneal cavity with intestinal contents. Some studies also reported that ileal perforation are accounts for near about 20% of total abdominal surgical emergencies. The most prevalent causes reported are tuberculosis and enteric fever. **Material & Methods:** The present observational study was conducted at department of general surgery of our tertiary care hospital. The study duration was of one years from June 2017 to May 2018. A sample size of 60 was calculated at 95% confidence interval at 5% of maximum allowable error. Patients who were operated for perforation and peritonitis were enrolled by simple random sampling. **Results:** Among all patients wound infection was the most common complication (20%). Among study participants who undergone loop ileostomy peristomal skin excoriation was the most common complication present in 9 patients (30%) which was followed by weight loss among 4 patients (13.3%) and retraction was present in 3 (10%) and fluid and electrolyte imbalance reported in 3 patients (10%) and prolapse was reported in only 1 patient (3.3%). Complications in relation to relation to loop Ileostomy closure reported in 5 patients (15%), wound infection was present in 4 patients (13.3%), anastomotic leak was present in 1 patient (3.3%), intraabdominal collections reported in 2 patients (6.6%), wound dehiscence was present in 1 patient (3.3%), and reoperations done in 1 patient (3.3%). The difference of complications between among two groups was statistically significant (P value < 0.05). **Conclusion:** We concluded from the present study that among all patients wound infection was the most common complication. Among study participants who undergone loop ileostomy peristomal skin excoriation was the most common complication which was followed by weight loss, retraction, fluid and electrolyte imbalance and prolapse.

Keywords: ileal perforation. primary closure, loop ileostomy.

INTRODUCTION:

The Gastrointestinal tract perforation leads to the contamination of peritoneal cavity with intestinal contents. Some studies also reported that ileal perforation are accounts for near about 20% of total abdominal surgical emergencies. The most

prevalent causes reported are tuberculosis and enteric fever. In various researches it was reported that perforations of gastrointestinal tract had been surgical emergencies (1). Gastrointestinal tract perforation occurs when a

pathology of any specific disease involves the entire depth of the gastrointestinal tract. In various researches it was reported that perforations can be occurred anywhere in full length of gastrointestinal tract. (2). In various researches it was reported that ileal perforation are common surgical emergencies especially in the tropical area of world and particularly in India (3). Some studies also reported that the proof of gastrointestinal tract perforations in ancient mummies (4).

In previous studies, there were various causes of ileal perforation reported which includes tuberculosis, salmonella infection, cytomegalovirus, Yersinia infection, human immunodeficiency virus, histoplasma, A. lumbricoides, E. histolytica and apart from infective causes Nonsteroidal anti-inflammatory drugs also reported to be a risk factor for ileal perforation (5). There were various operative procedures were implemented in various studies, some of them are simple primary repair, management by primary ileostomy, management by single layer repair with an omental patch, management by repair with ileo-transverse colostomy and management by resection and anastomosis (6). We conducted the present study to assess the surgical outcome and post-operative complications among patients of ileal perforation.

MATERIALS & METHODS

The present observational study was conducted at department of general surgery of our tertiary care hospital. The study duration was of one years from June 2017 to May 2018. A sample size of 60 was calculated at 95% confidence interval at 5% of maximum allowable error.

Patients who were operated for perforation and peritonitis were enrolled by simple random sampling. Clearance from Institutional Ethics Committee was taken before start of study. Written informed consent was taken from each study participant.

The data were collected by predesigned Performa after randomization of the patients. Detailed history and general physical and clinical examination were conducted among two groups according to surgical procedure applied. On the basis of operative procedure, we divided study participants in two groups i.e. group A (primary repair) and group B (loop ileostomy). Patients who had chronic debilitating diseases such as cardiac and renal diseases, patients who were on immunosuppressants, steroid therapy or suffering from malignancy were excluded from the present study. The antibiotics coverage was given to all study participants in both groups. Data analysis was carried out using SPSS v22. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05.

RESULTS

In the present study the we enrolled 60 Patients of ileal perforation and randomize and divide them among two groups, so that we can assess equal and comparable study participants. Hence, all the study participants were divided in two major groups according to the surgical procedure used. Among the primary repair group, 10 (33.3%) patients were in the age group of 21-40 years, 17 (56.6%) cases were in the age group of 41-60 years and 3 (10%) patients were in the age group of 61-80 years. Among the ileostomy closure group, 10 (33.3%) patients were in the

age group of 21-40 years, 18 (60%) cases were in the age group of 41-60 years and 2 (6.6%) patients were in the age group of 61-80 years. However, this distribution was statistically non-significant (P value >0.05). Among the primary repair group, 24 (80%) patients were male and 6 (20%) patients were female. Among the ileostomy closure group, 21 (70%) patients were male and 9 (30%) patients were female. However, this distribution was statistically non-significant (P value >0.05).

(Table 1)

Table No.-1: Age and gender wise distribution in both the groups.

Parameters		primary repair	loop ileostomy	p value
Age (Years)	21-40	10(33%)	10 (33%)	>0.05
	41-60	17 (56%)	18 (60%)	
	61- 80	3 (10%)	2 (6.6%)	
Gender	Male	24 (80%)	31 (70%)	>0.05
	Female	6 (20%)	9 (30%)	

In the present study, out of total study participants Among all patients wound infection was the most common complication (20%). Among study participants who undergone loop ileostomy peristomal skin excoriation was the most common complication present in 9 patients (30%) which was followed by weight loss among 4 patients (13.3%) and retraction was present in 3 (10%) and fluid and electrolyte imbalance reported in 3 patients (10%) and prolapse was

reported in only 1 patient (3.3%). Complications in relation to loop Ileostomy closure reported in 5 patients (15%), wound infection was present in 4 patients (13.3%), anastomotic leak was present in 1 patient (3.3%), intraabdominal collections reported in 2 patients (6.6%), wound dehiscence was present in 1 patient (3.3%), and reoperations done in 1 patient (3.3%). The difference of complications between among two groups was statistically significant (P value < 0.05).

Table No.-2: Distribution according to outcome and complication.

Complications	Primary repair	Loop ileostomy
Wound infection	8 (26.6%)	4 (13.3%)
Wound dehiscence	6 (20%)	1 (3.3%)
Systemic complications	3 (10%)	3 (10%)
Intra-abdominal collections	3 (10%)	2 (6.6%)
Anastomotic leak	2 (6.6%)	1 (3.3%)

In the present study, on the basis of time of perforation, 4% cases presented in 12 hours, between 12 and 24 hour 50% cases reported, in the range of 24 and 48 hour 24% patients reported, in the range of 48 and 72 hour 12% cases reported, in range of 72 and 96 hour 8% cases reported, and in range of 96 and 120 hour 2% case reported. Near about all patients were operated within 12 hours of hospitalization. We found that majority of cases diagnosed with

circular perforation of typhoid at antimesenteric border and 2nd most common cause was tubercular elliptical perforation on the antimesenteric border which was followed by traumatic type perforation. (Table 2)

DISCUSSION

In the present study we enrolled 60 Patients of ileal perforation and randomized and divided them among two groups, so that we can assess equal and comparable study participants. Hence, all the study participants were divided into two major groups according to the surgical procedure used. Among the primary repair group, 10 (33.3%) patients were in the age group of 21-40 years, 17 (56.6%) cases were in the age group of 41-60 years and 3 (10%) patients were in the age group of 61-80 years. Among the ileostomy closure group, 10 (33.3%) patients were in the age group of 21-40 years, 18 (60%) cases were in the age group of 41-60 years and 2 (6.6%) patients were in the age group of 61-80 years. However, this distribution was statistically non-significant (P value >0.05). Among the primary repair group, 24 (80%) patients were male and 6 (20%) patients were female. Among the ileostomy closure group, 21 (70%) patients were male and 9 (30%) patients were female. However, this distribution was statistically non-significant (P value >0.05). Similar results were reported in a study conducted by Wani et al among patients with perforation of gastrointestinal tract they reported that higher preponderance of males were affected than females in the ratio of 3.1: 1 (7). Similar results were reported in a study conducted by Adesunkanmi et al among patients with perforation of gastrointestinal tract they reported

that higher preponderance of males were affected than females in the ratio of 3.9: 1 (8).

In the present study, out of total study participants among all patients wound infection was the most common complication (20%). Among study participants who underwent loop ileostomy peristomal skin excoriation was the most common complication present in 9 patients (30%) which was followed by weight loss among 4 patients (13.3%) and retraction was present in 3 (10%) and fluid and electrolyte imbalance reported in 3 patients (10%) and prolapse was reported in only 1 patient (3.3%). Similar results were reported in a study conducted by Talwar et al among patients with perforation of gastrointestinal tract they reported that among all patients wound infection was the most common complication (9). Similar results were reported in a study conducted by Beniwal et al among patients with perforation of gastrointestinal tract they reported that among study participants who underwent loop ileostomy peristomal skin excoriation was the most common complication (10). Similar results were reported in a study conducted by Prasad et al among patients with perforation of gastrointestinal tract they reported that peristomal skin excoriation, weight loss, retraction, electrolyte imbalance and prolapse was found among patient (11).

In the present study, complications in relation to relation to loop ileostomy closure reported in 5 patients (15%), wound infection was present in 4 patients (13.3%), anastomotic leak was present in 1 patient (3.3%), intraabdominal collections reported in 2 patients (6.6%), wound dehiscence was present in 1 patient (3.3%), and reoperations done in 1 patient (3.3%). The difference of

complications between among two groups was statistically significant (P value < 0.05).

on the basis of time of perforation, 4% cases presented within 12 hour, between 12 and 24 hour was reported among in 50% cases, in the range of 24 and 48 hour seen in 24% patients, in the range of 48 and 72 hour reported in 12% cases, in range of 72 and 96 hour reported in 8% cases, and in range of 96 and 120 hour reported in 2% case. Near about all patients were operated in the range of 12 hours of hospitalization. Similar results were reported in a study conducted by Nadkarni et al among patients with perforation of gastrointestinal tract they reported that similar result to present study (12).

In the present study, we found that majority of cases diagnosed with circular perforation of typhoid at antimesenteric border and 2nd most common cause was tubercular elliptical perforation on the antimesenteric border which was followed by traumatic type perforation. Similar results were obtained in a study conducted by Nadkarni et al among patients with perforation of gastrointestinal tract they reported that most common etiology was nonspecific cause of ileal perforation which was followed by typhoid and tubercular perforation (12). Similar results were obtained in a study conducted by Visser A et al among patients with perforation of gastrointestinal tract they reported that most common etiology was typhoid and tubercular perforation (13).

CONCLUSION

We concluded from the present study that among all patients wound infection was the most common complication. Among study participants

who undergone loop ileostomy peristomal skin excoriation was the most common complication which was followed by weight loss, retraction, fluid and electrolyte imbalance and prolapse. We found complications in relation to relation to Ileostomy were wound infection, anastomotic leak, intraabdominal collections, wound dehiscence and reoperations.

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