



## A Retrospective Observational Clinical Study Of Temporary Loop Ileostomy In Cases Of Perforating Peritonitis In Tertiary Care Hospital Of South Gujarat.

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Type of Publication: Original Research Paper

Conflicts of Interest: Nil

### Abstract

**Background:** Perforation of the bowel is a serious complication and remains a significant surgical problem in developing nations. The causes of perforation are Peptic ulcer disease, ileal perforation due to typhoid and tuberculosis, jejunal perforation, Acute appendicitis, Cohn's disease, trauma etc. Typhoid small bowel perforation is the foremost and most dreaded complication of enteric fever can complicate globally a case management.

Abdomen is related to the most important and delicate viscera which has created emergency situations requiring early diagnosis and management. Hence the study is required to obtain the data on magnitude, mode, severity, management and its final outcome.

### Goal & Objectives:

Evaluate the signs and symptoms

presentation of the study group and identify the underlying abdominal Pathology and its component or its complication and further to correlate it with management given according to standard protocol.

To study the frequency, demographic profile, and case profiles of Temporary Loop ileostomy.

To conclude the outcome and hospital stay of various case profiles in the study group.

**Methodology:** 30 cases will be selected based on the inclusion criteria and exclusion criteria for the study purpose. Patients Records will be collected from the Medical Records Department and It will be analyzed to Study Clinical Presentation, Examination, Basic investigations, Management, Outcome, Hospital stay of those patients. Finally analysis of the collected data will be done. All the cases of Temporary loop ileostomy included in study. All the details were entered in a pre- designed proforma. Clinical history and Reports were Noted. Systemic examination of cardiovascular, respiratory and Central nervous system noted, diagnosis of typhoid was made only if Widal test was positive, or Salmonellae were isolated from blood or urine and if histopathological evidence of typhoid perforation was found. When the etiology of a non-traumatic perforation was not found, it was termed Non-specific. By analyzing the data, the age distribution, mode of injury, diagnostic pathology of the associated findings , treatment modalities, outcome, mortality and hospital stay in the cases of Temporary loop ileostomy will be analyzed.

**Result :** In this study, total 45 selected patients as per inclusion criteria were included, In this study, 41(91%) were males and 4(9%) were females, Of total study participants, 17 (37.8%) had fever, Vomiting and Abdominal distension. In 12

(26.7%) cases had past history of typhoid, Out of total, on palpation only in 1 patients presence of guarding while in remaining patients tenderness was present. Out of total, 16(35.5%) participants were belonged to 21-30years of age group followed by 24.4% in 31-40 years of age group. Mean age of participants was 28.7 + 12.6 years.

**Conclusion:** Temporary loop ileostomy for perforation peritonitis due to benign systemic diseases such as typhoid fever confers a very high morbidity and more preponderance to male and presents with tenderness over abdomen.

**Keywords:** NIL

## Introduction

Ileal Perforation peritonitis is one of the communal surgical emergencies in India. In spite of advancements in surgical techniques, anti-microbial therapy and intensive care, management of peritonitis continues to be highly demanding, difficult and complex [1, 2]. Peritonitis usually presents as an acute abdomen. Local findings include abdominal tenderness, guarding or rigidity, distension, diminished bowel sounds. Systemic findings include fever, chills or rigor, tachycardia, sweating, tachypnea, restlessness, dehydration, oliguria, disorientation and ultimately shock [3].

There is scantiness of data in India regarding its etiology, predictive indicators, morbidity and mortality patterns. [4] Typhoid is the most common cause for this terrified complication while tuberculosis, trauma, and nonspecific enteritis. [5] The incidence of typhoid ileal perforation has been reported to be 0.8% to 18% [6]. Tuberculosis accounts for 5–9% of all small intestinal perforations in India and it is the second commonest cause.[7] In patients of peritonitis perforation is often require ileostomy as a lifesaving measure. However, in the Western countries, indications for ileostomy are altogether different and include inflammatory bowel disease, familial adenomatous polyposis, colorectal cancer, pelvic sepsis, trauma, diverticulitis, fistula, ischemic bowel disease, radiation enteritis, fecal incontinence, and paraplegia [8].

1. Various operative procedures were advocated for perforating peritonitis, such as the following:
2. Simple primary repair of perforation,
3. Repair of perforation with ileotransverse colostomy,
4. Primary ileostomy,

5. Single layer repair with an omental patch;
6. Resection and anastomosis.

The ideal control measure for secondary peritonitis due to muffled viscous perforation is resuscitation followed by laparotomy. The various methods for repair the ileal perforations include primary closure, resection, and anastomosis of small gut or diverting stoma as well as it is depending on the site and number of perforations, severity of peritonitis, and general condition of the patient. Thereafter, the patient is treated with antibiotics and continued postoperative care. Ileostomy serves the purpose of diversion, decompression, and exteriorization. Primary ileostomy has been found to be superior to other surgical procedures as far as the morbidity and mortality are concerned and especially so in moribund patients presenting late in course of their illness, where it proves to be a lifesaving procedure [9].

Temporary defunctioning loop ileostomy in cases of ileal perforation peritonitis shows an important role in decreasing the incidence of complications like faecal fistula. It also helps to reduce mortality in patients undergoing surgery for ileal perforating peritonitis. Loop Ileostomy-specific complications, nevertheless, increase the postoperative stay of the patient. These complications can be reduced, if not outright eliminated, by proper fashioning of the stoma and provision of adequate nursing care of the stoma.

Abdomen is related to the most imperative and delicate viscera which have created emergency avoidable situations so, it requires early diagnosis and management. So, the present study was required to obtain the data on magnitude, mode, severity, management and its final outcome.

**Methodology**

30 cases will be selected based on the inclusion criteria and exclusion criteria for the study purpose. Patients Records will be collected from the Medical Records Department and It will be analyzed to Study Clinical Presentation, Examination, Basic investigations, Management, Outcome, Hospital stay of those patients.

Finally analysis of the collected data will be done. All the cases of Temporary loop ileostomy included in study. All the details were entered in a pre-designed proforma.

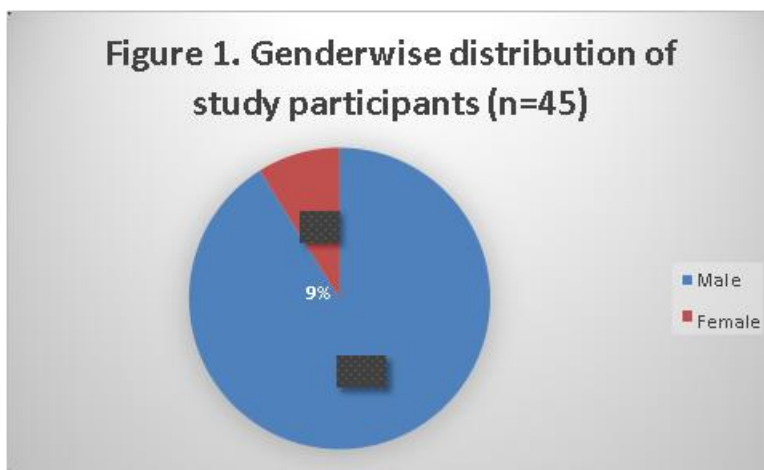
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**Results**

**Table 1. Age wise distribution of study participants. (n=45)**

Age group	Frequency (%)
< 20 years	5(11.1)
21 – 30 year	16(35.5)
31- 40 year	11(24.4)
41-50 year	6(13.3)
>51 year	7(15.5)

Out of total, 16(35.5%) participants were belonged to 21-30years of age group followed by 24.4% in 31-40 years of age group. Mean age of participants was 28.7 + 12.6 years. [Table 1].

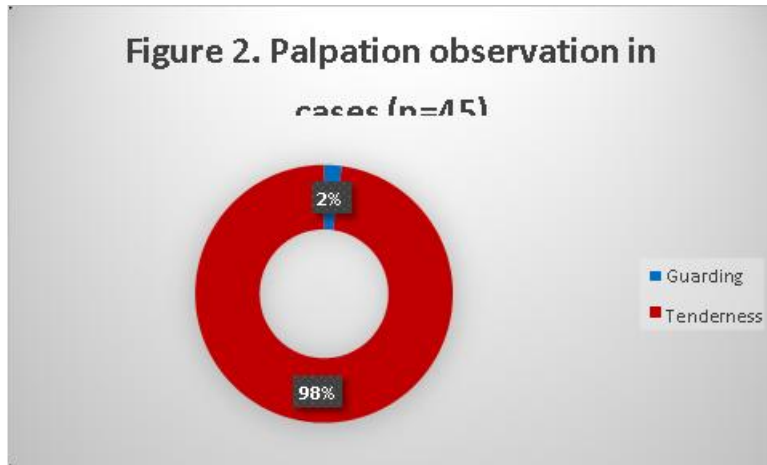


In this study, 41(91%) were males and 4(9%) were females. [Figure 1]

**Table 2. Distribution of clinical symptoms of patients (n=45)**

Clinical Symptom		
<b>Fever</b>	Yes	
	No	
<b>Vomiting</b>	Yes	
	No	
<b>Abdominal Distension</b>	Yes	
	No	
<b>H/o Typhoid</b>	Yes	
	No	

Of total study participants, 17 (37.8%) had fever, Vomiting and Abdominal distension. In 12 (26.7%) cases had past history of typhoid. [Table 2].



Out of total, on palpation only in 1 patients presence of

USG Findings Frequency (%)

Presence of fluid 23(65.71)

Inflammatory changes 12(34.29)

guarding while in remaining patients tenderness was present. [Figure 2]

**Table 3. Ultrasonography findings among study participants (n=35)**

USG Findings	Frequency (%)
Presence of fluid	23(65.71)
Inflammatory changes	12(34.29)

In the study, total 35 patients had done ultrasonography among them in 23(65.71) cases there was presence of fluid and in remaining inflammatory changes was found. [Table 3.]

**Table 4. Distribution of Operative findings among Patients (n=45)**

Operative findings	Frequency (%)
<0.5cm *0.5 cm perforation	14(40)
>0.5cm *0.5 cm perforation	21 (60)

Out of total, on operation there were less than 0.5 cm and more than 0.5cm perforation found in 14 and 21 cases respectively. [Table 4.]

**Table 5. Histological findings among study participants (n=13)**

Histological findings	Frequency (%)
Focal area of Haemorrhage and inflammatory cells.	1(7.6)
Excised margins free of malignancy granuloma	2(15.38)
Fibrocollagenous and Fibromuscular with mixed inflammatory mucosa	8(61.53)
Locally Necrosis of mucosa with haemorrhage	1(7.6)
Ulcerated Mucosa	1(7.6)

Of total, on histological findings only in 1 case there was Presence of focal area of haemorrhage and inflammatory cells. In other 1 patient locally necrosed mucosa with haemorrhage and in another one case ulcerated mucosa was found. While in 2 cases presence of excised margins free of malignancy granuloma and

in remaining 8 patients fibrocollagenous and fibro muscular with mixed inflammatory mucosa was found. [Table 5]

**Table 6. Duration of hospital stay (n=45)**

Duration	Frequency (%)
≤ 5 days	3(6.6)
6-10 days	15(33.3)
11-15 days	5(11.1)
16-20 days	6(13.3)
21-25 days	13(28.8)
> 25 days	3(6.6)

Among the study participants, majority had maximum 6-10 days of hospital stay followed by 21- 25 days in complicated cases. In some patients (6.6%) had less than 5 days of hospital stay. [Table 6].

**Table 7. Comparison of age wise distribution**

In our study	28.7 ± 12.6 years
Jawahar Krishnaswamy et al [40]	28.6 ± 10.9 years
Paras Chaudhary et al [41]	34.0± 5.2 years

**Table -8 Comparison of hospital Stay**

In our study	19.08 days
Dhruv Mahajan et al [40]	23.5 days
Sadaf Khalid et al [41]	14 days

## Discussion

Unlike the west typhoid is still a common cause of perforation in our country, followed by tuberculosis, being common diseases of India [10,11,12]. Typhoid fever is endemic in India with the prevalence rate of 88 cases/lac population and death rate 0.029/lac population for the year 2011 [13]. Delayed

presentation, marked sepsis, and poor nutritional status were the common factors in these patients with perforation peritonitis, so preference was given to temporary loop ileostomy over primary closure or resection of the diseased segment and anastomosis. Loop ileostomy does not provide complete defunctioning but it decreases the incidence and



severity of sepsis following a leak from the anastomosis or primary closure site. Loop ileostomy is considered generally easier to manage and is not associated with a greater rate of complications than loop colostomy.

A study conducted by Chaudhary R et al [14], on assessing out of total participants most common etiology for which stoma was performed enteric perforation (44%) whereas perforation was the commonest etiology for which stoma was performed (64%) apart from gangrene and other etiologies. The commonest post-operative complication encountered was skin excoriation (64%). Most of the complications encountered post operatively were statistically significant when correlated with etiology and duration of presentation.

On observation in the study accompanied by Chaudhary P et al [15] typhoid perforation (n=402) was the most common pathology, followed by tuberculosis (n=106); trauma (n=81); and intestinal obstruction with gangrenous bowel (n=41). Total 299 patients had no stoma-related complications. Skin excoriation was the most common stoma-related complication. Age more than 50 years; shock at presentation; delay in presentation; delay in surgery; the presence of comorbidities; and surgery is done out of working hours, was associated with increased complications.

### Conclusion

1. Temporary loop ileostomy for perforation peritonitis due to benign systemic diseases such as typhoid fever and tuberculosis confers a very high morbidity.
2. Peritonitis patients develop more stomal and systemic complications if they present late and also if surgery is delayed.
3. Presence of shock at presentation and association of comorbidities are also associated with increased rate of complications.
4. Ileostomy had a positive effect on the BMI of severely debilitated patients with perforation peritonitis, although not a direct effect.
5. Most of the patients cope well with adjustments required after creation of temporary loop ileostomy because of psychological support provided by clinicians and reassurance about stoma closure within a few weeks.

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