



COMPARISON OF OUTCOMES OF ILEOSTOMY, PRIMARY REPAIR AND RESECTION ANASTOMOSIS FOR ILEAL PERFORATION IN TERTIARY CARE HOSPITAL

General Surgery

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ABSTRACT

Introduction: Ileal perforation peritonitis is a commonly encountered surgical emergency in the Indian subcontinent and in tropical countries. Despite the availability of modern diagnostic facilities and advances in treatment regimes, this disease has an abrupt onset and a rapid downhill course with a high mortality if not treated [1,2]. Better antibiotics, aggressive surgery and the elimination of conservative treatment, better preoperative and postoperative management have all significantly contributed to the improvement in patient outcome. **Methods:** The present study includes 50 patients of ileal perforation with emphasis on typhoid, nonspecific and traumatic perforations, their preoperative and postoperative management and the factors influencing outcome. This was an observational study of patients presented with ileal perforation managed with operative management like primary closure, resection- anastomosis and ileostomy. **Result:** Fever and abdominal pain were the most common clinical presentations. Ileostomy was performed in the majority of the cases after proper preoperative resuscitation, general condition of patient and intra-operative findings. **Discussion:** Nonspecific was the leading cause followed by typhoid. Abdominal pain, fever and vomiting were the most common symptoms of peritonitis. Most of the patients with ileal perforation have single perforation of size ranging 0.5-1 cm. Ileostomy as a treatment modality performed in 28 patients out of 50. **Conclusion:** Ileostomy may be given priority over other surgical options especially in those moribund patients who present late in the course of their illness, have more than one perforation with massive fecal contamination of the abdominal cavity. Primary closure of perforation is a preferred technique in clinically stable patients with a single perforation with minimal soiling of the abdominal cavity. After adequate preoperative resuscitation, loop ileostomy holds the best result in terms of complications like postoperative leak, intra abdominal abscess, fecal fistula, peritonitis, septicemia, paralytic ileus.

KEYWORDS

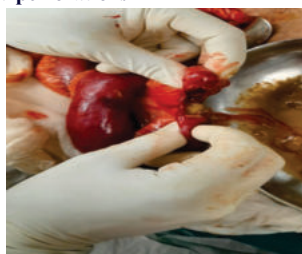
1.INTRODUCTION

Ileal perforation is a common problem seen in the Indian subcontinent and tropical countries. The commonest cause being typhoid fever and non specific causes. The reported rate of bowel perforation in typhoid varies from 0.5% to 78.6% [3,4,5,6] In western countries the causes are malignancy, trauma and mechanical etiology. In a significant number of cases the cause of perforation is not known and it is called nonspecific ileal perforation. The perforation causes gram-negative aerobic and anaerobic infection leading to peritonitis [7]. Over the years a definite changing trend has been observed in ileal perforations both in terms of causes, treatment and prognosis. Better antibiotics, aggressive surgery and the elimination of conservative treatment, better preoperative and postoperative care have all significantly contributed to the improvement in patient outcome. It is evident that outcomes have improved but still cases of ileal perforation cause a significant morbidity and mortality that persists despite the significant changes in healthcare over the years.

The aim of the paper is to evaluate the outcome of primary repair, loop ileostomy and resection anastomosis in cases of ileal perforation by comparing them in terms of postoperative morbidity, mortality, factors influencing prognosis and outcome, cost-effectiveness and complications.



*Multiple ileal perforations



*Ileal perforation

2.METHODS

This observational study was conducted in the Department of General Surgery, Government Medical college, New civil hospital, Surat. 50 patients admitted to Surgical Emergency with acute abdomen were selected for the study.

All the cases included in this study were between 18 and 60 years of age and willing for participation in study. History like presence of fever, pain, vomiting, abdominal distension, constipation and treatment prior to admission was taken. Vital signs, hydration, tenderness, guarding, rigidity and presence of free fluid were noted. Systemic examination of cardiovascular, respiratory and nervous systems was done.

All patients underwent laparotomy under general anesthesia. In the majority of cases Midline incisions were employed. The operative procedure for ileal perforations were decided depending on the site and number of perforations, severity of peritonitis, and general condition of the patient.

The following procedures were employed.

1. Simple two layer closure
2. Loop or double barrel ileostomy
3. Resection and anastomosis

All the procedures were carried out with a hand sewn method. Primary repair was done in two layers, the inner layer closed with 3-0 poly glycolic acid (vicryl) and the outer layer closed with silk 3-0. Loop ileostomy was done in single perforation. In multiple perforations resection of segment was done and either double barrel ileostomy or double layer anastomosis done depending on contamination, ileitis and general condition of the patient.

Antibiotics were routinely given for 7-8 days unless there were any infection or collection present. Postoperative management and management of complications were standardized in all cases.

Postoperative complications like surgical site infection, wound dehiscence, intra abdominal abscess, stricture of anastomosis site, fecal fistula, peritonitis, septicemia, ileostomy related complications, paralytic ileus are evaluated.

The follow up duration was 6 months to 2 years.



***Resection and anastomosis**



***Loop ileostomy**

3. RESULTS

The age of patients ranged from 18 to 65. Perforation commonly occurred in the fourth and fifth decade of life. Perforation was more common in males compared to females. The ratio being 4:1. The commonest causes of ileal perforation was nonspecific.

Diagnosis	Our study(n-50)
Nonspecific	26
Typhoid	17
Trauma	3
TB	3
Meckel's	1

Ileostomy was the commonest procedure done in 28 patients followed by primary repair in 16 patients.

Procedure	Our study (n-50)
Ileostomy	28
Primary repair	16
Resection and anastomosis	6

In this study the common complications are wound infection, burst abdomen, fecal fistula and respiratory complications. Wound infection is the commonest complication in this study with a complication rate of 38% , Leak rates about 8% and intra abdominal collection about 22%.

Complications	Ileostomy (n-28)	Primary Closure (n-16)	Resection and Anastomosis (n-6)
SSI	10	6	3
Wound Dehiscence	5	3	1
Collection	3	6	2
Leak	0	2	2

Four out of 22 cases of ileal perforation proceed with primary repair and anastomosis having gross fecal contamination, out of forty two cases had complications like anastomotic leak and subsequently reoperation was done in the form of ileostomy.

4. DISCUSSION

Ileal perforation peritonitis is a common surgical emergency encountered in tertiary care hospitals. Onset of symptoms and time of presentation in hospital are important prognostic factors. An early presentation holds a good prognosis even with primary repair of perforation. Unfortunately, in developing countries like India, the presentation to hospital is usually late with fully blown peritonitis. Some cases may present with septicemia and multiorgan failure.

One of the many factors affecting the surgical outcome in patients with intestinal perforation is the time interval between duration of illness and surgical intervention (perforation-surgery interval). Early surgery

can minimize the complications while delayed surgery leads to severe peritonitis and septic shock. In the present study, the majority of patients were operated more than 24 hours after the onset of illness.

The various methods in use are local drains, simple closure, closure with omental patch, wedge resection, resection and anastomosis, ileotransverse anastomosis and ileostomy. The morbidity was higher in patients who underwent ileostomy as compared to patients who underwent primary repair in our study. There was no mortality in our study. Wound infection was the most common postoperative complication followed by wound dehiscence, intra-abdominal collections, systemic complication, and anastomotic leak.

The other complications were related to ileostomy which hampered quality of life and significantly added to morbidity in these patients. Peristomal skin excoriation was the most frequently recognized early complication. It was followed by weight loss and retraction.

The hospital stay of the patients was slightly longer in case of ileostomy in comparison with primary repair. Whenever intestinal leakage was suspected in the postoperative period, urgent exploratory laparotomy was undertaken and the continuing peritoneal contamination was controlled by exteriorizing the site of intestinal leak as ileostomy.

CONCLUSION:

Temporary defunctioning loop ileostomy in cases of ileal perforation plays an important role in reducing the incidence of complications like fecal fistula, leak, sepsis and multiorgan dysfunction.. This helps reduce mortality in patients undergoing surgery for ileal perforations.

Ileostomy-specific complications, however, increase the postoperative stay of the patient and subsequent stoma closure surgery. These complications can be reduced, if not outright eliminated, by proper fashioning of the stoma and provision of adequate nursing care of the stoma.

Defunctioning ileostomy should be preferred over other surgical options in cases of ileal perforations in tertiary care hospitals if the patient is presenting after more than 24 hours with gross contamination with ileitis and poor general condition . It should be noted that ileostomy in these cases is only temporary and the extra postoperative hospitalization and subsequent closure of ileostomy is not more than the price of life.

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