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ORIGINAL ARTICLE

Assessment of exploratory laparotomy of enteric perforation cases

[1]Devendra Kumar Babbar, [2]Vipin Kumar Sisodia

[1]Assistant Professor, Department of General Surgery, Saraswathi Institute of Medical Sciences, Hapur, Uttar Pradesh, India;
[2]Assistant Professor, Department of General Surgery, F H Medical College, Firozabad, Uttar Pradesh, India

ABSTRACT:
Background: Typhoid ileal perforation is a serious complication of typhoid fever. The present study was conducted to assess exploratory laparotomy of enteric perforation. **Materials & Methods:**58 cases of enteric perforation of both genders were managed with emergency exploratory laparotomy via a midline incision under general anesthesia. **Results:** Out of 58 patients, males were 38 and females were 20. The type of operation performed was ileal resection in 32 and simple closure in 26 patients. The amount of peritoneal fluid was <1000 ml in 18 and >1000 ml in 40 patients. No. of perforation was single in 30 and multiple in 28 patients. Symptoms were fever in 50, cough in 41, abdominal pain in 34, and diarrhea in 23 patients. The difference was significant (P< 0.05). **Conclusion:** The type of operation performed was ileal resection and simple closure. Symptoms were fever, cough, abdominal pain, and diarrhea.
Keywords: Typhoid ileal perforation, peritoneal fluid, abdominal pain

Corresponding author: Vipin Kumar Sisodia, Assistant Professor, Department of General Surgery, F H Medical College, Firozabad, Uttar Pradesh, India

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INTRODUCTION

Typhoid ileal perforation is a serious complication of typhoid fever, a bacterial infection caused by Salmonella Typhi. Typhoid fever primarily affects the gastrointestinal system and can lead to various complications, including the perforation of the ileum.[1]The ileum is the final part of the small intestine, and perforation refers to the formation of a hole or rupture in the intestinal wall. This can occur due to the inflammation and ulceration caused by the Salmonella bacteria.[2]

Perforation of the ileum can lead to intense abdominal pain, especially in the lower right quadrant.Persistent or high-grade fever is a hallmark symptom of typhoid fever, and it may continue even after perforation.[3]Perforation can lead to the leakage of intestinal contents into the abdominal cavity, causing a condition known as peritonitis. This can result in shock, with symptoms such as rapid heartbeat, low blood pressure, and confusion.[4]The abdomen may become rigid and tender to the touch.Patients may experience nausea and vomiting.Patients with typhoid perforation usually require surgical intervention and vigorous antimicrobial therapy. In cases of perforation, laboratory confirmation of a clinical diagnosis of typhoid fever is difficult, because blood and bone marrow cultures often show no growth.[5]The present study was conducted to assess exploratory laparotomy of enteric perforation.

MATERIALS & METHODS

The present study consisted of 58 cases of enteric perforationof both genders. All gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. The diagnosis of typhoid ileal perforation was made through clinical examination, widal test, and radiological findings of pneumoperitoneum.All patients underwent emergency exploratory laparotomy via a midline incision under general anesthesia. The edge of the ileal perforation was excised, and double-layer closure was done with chromic catgut 2/0 and silk 2/0. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 58		
Gender	**Male**	**Female**
Number	38	20

Table I shows that out of 58 patients, males were 38 and females were 20.

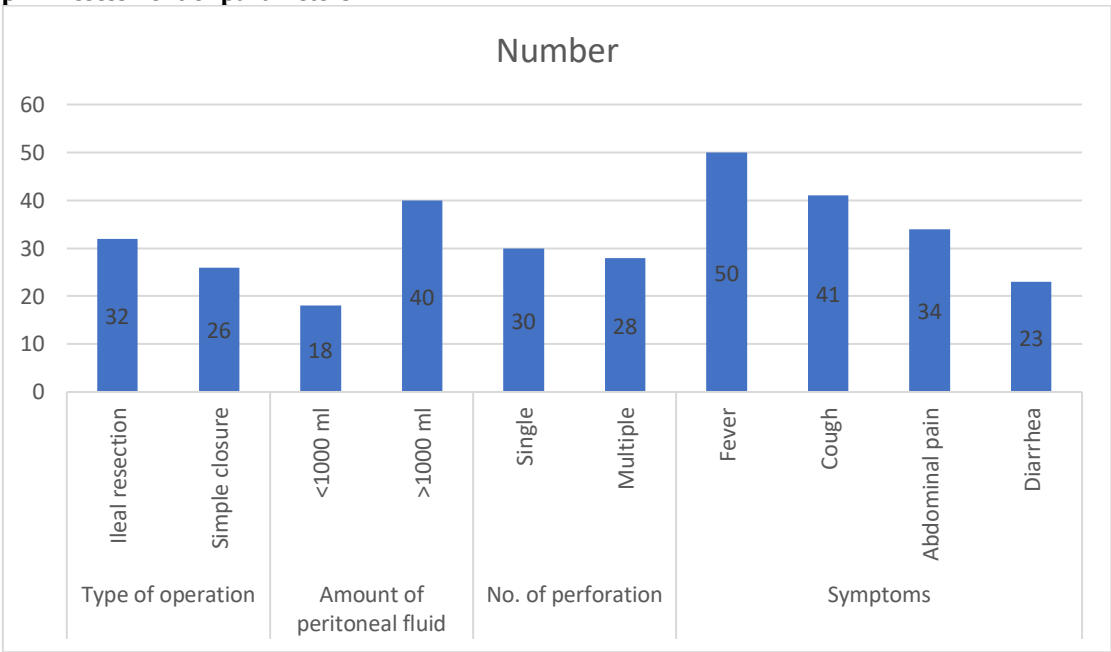
Table II Assessment of parameters

Parameters	Variables	Number	P value
Type of operation	Ileal resection	32	0.81

	Simple closure	26	
Amount of peritoneal fluid	<1000 ml	18	0.01
	>1000 ml	40	
No. of perforation	Single	30	0.92
	Multiple	28	
Symptoms	Fever	50	0.54
	Cough	41	
	Abdominal pain	34	
	Diarrhea	23	

Table II, graph I show that the type of operation performed was ileal resection in 32 and simple closure in 26 patients. The amount of peritoneal fluid was <1000 ml in 18 and >1000 ml in 40patients.No. of perforation was single in 30 and multiple in 28patients.Symptoms were feverin 50, cough in 41, abdominal pain in 34, and diarrhea in 23patients. The difference was significant (P< 0.05).

Graph I Assessment of parameters



DISCUSSION

The management of typhoid ileal perforations involves a combination of medical and surgical interventions. It is crucial to treat this condition promptly to prevent complications such as peritonitis, sepsis, and organ failure.[6]Emergency surgery is the cornerstone of the management of typhoid ileal perforations. The goal is to repair the perforation, remove any contaminated material, and address complications.[7]Surgical options may include primary closure of the perforation, resection of the affected segment of the intestine, and drainage of any abscesses.Peritoneal lavage may be performed to clean the abdominal cavity and reduce the risk of infection.[8,9]The present study was conducted to assess exploratory laparotomy of enteric perforation.

We found that out of 58 patients, males were 38 and females were 20. Abdullah et al[10]revealed that their mean age was 42 years (±14) ranging from16-75 years, with male to female ratio was 2:1. The main cause of perforation was enteric fever 59 (71.95%) of the patients, non-specific inflammation 17(20.74%), chronic granulomatous lesion 5(6.1%). The main presenting symptom in all patients was severe abdominal pain associated with fever, and abdominal distention in variable degrees.The operative finding was single perforation in 61patients(74%), two perforations in 8 patients(10%) and multiple in 13 patients(16%). The simple closure was done in 50 patients(60%), and others treated by resection and end-to-end anastomosis, loop ileostomy, resection and ileotransverse anastomosis, and follow-up of patients revealed that 7(8%) died postoperatively, 3 patients(3.6%) developed wound dehiscence,6 patients(7%) developed enterocutaneus fistula,10 patients (12.1%) developed wound infection and 6 patients (7.3%) developed residual collection.

We found that the type of operation performed was ileal resection in 32 and simple closure in 26 patients. The amount of peritoneal fluid was <1000 ml in 18 and >1000 ml in 40 patients. No. of perforation was single in 30 and multiple in 28 patients. Symptoms were fever in 50, cough in 41, abdominal pain in 34, and diarrhea in 23 patients. Chowdri et al[11]compared the results of commonly performed simple closure (SC) with resection of the affected segment and

ileotransverse anastomosis (ITA) for terminal ileal perforation.The two groups were not entirely comparable, as the majority of cases in the ITA group (especially those with multiple perforations) were operated on after January 1999. There were 21 men in one SC group as compared with 17 in the ITA group. The mean age was 33.18 (± 13.8) years in the SC group and 39.8 (± 18.16) years in the ITA group. This difference was not significant ($p > 0.05$). The only significant difference between the two groups regarding clinical features was constipation ($p = 0.014$). The delay in operation since the estimated perforation was 2.2 (± 1.23) days in the SC group and 2.61 (± 1.52) days in the ITA group; the difference was insignificant ($p > 0.05$).

Adesunkanmi et al[12]determined the prognostic factors in typhoid ileal perforationin 50 patients with typhoid ileal perforation confirmed at operation. Attention was paid to pre-operative and post-operative factors. The sex ratio was 4:1 in favour of male, with an age range of 7-42 years and a mean of 19.5 years. The age and sex did not affect the prognosis. Late presentation, delay in operation, multiple perforations, and drainage of copious quantities of pus and faecal material from the peritoneal cavity adversely affected the incidence of fecal fistula and the mortality rate. The development of faecal fistula significantly affected the mortality rate. Early presentation, single perforation, and moderate amounts of pus/fecal matter draining from the peritoneal cavity enhanced the development of wound infection, wound dehiscence and residual intra-abdominal abscess. Fourteen patients (28%) died, 50% of these within the first 5 post-operative days. Seventy-one percent of the 14 died within 10 days.

The limitation of the study is the small sample size.

CONCLUSION

Authors found that the type of operation performed was ileal resection and simple closure. Symptoms were fever, cough, abdominal pain, and diarrhea.

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