ORIGINAL ARTICLE

Ileostomy in management of typhoid enteric perforation presenting late: an experience at tertiary-care hospital, Jharkhand, India

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Abstract

Background: Typhoid enteric perforation is a common acute abdominal emergency in our hospital. Most of our patients come from rural areas and presented late in severely morbid condition.

Objective: To determine the role of ileostomy in the cases of enteric perforation presenting late.

Study design: It is a retrospective study.

Setting: All cases of enteric perforation admitted in the Department of General Surgery, RIMS, Ranchi, Jharkhand, India.

Materials and methods: The study includes all cases of enteric perforation presented as peritonitis from June 2007 to December 2008 in Rajendra Institute of Medical Sciences, Ranchi.

Results: 46 cases of late enteric perforation were admitted at RIMS, Jharkhand, India. In 26 cases, exteriorization of the ileal perforration was done; 11 of these cases subsequently developed leakage from surrounding ileum, needing laparotomy. 20 of the cases had double layer closure of perforation and ileostomy from healthy bowel; only two of these cases presented with perforation and peritonitis.

Conclusion: Refreshing of edges, double layer closure of perforation and ileostomy proximal to perforatoin in a relatively normal looking bowel is a safer procedure for typhoid enteric perforation presenting late.

Key Words: Typhoid perforation, ileostomy, double layer closure

Introduction:

Typhoid enteric perforation is a common acute abdominal emergency in our hospital. Most of our patients come from rural areas and reach the hospital with an average delay of 2-3 days after onset of acute illness. There is a very high mortality associated with these cases. [3] The aim of the present study was to evaluate the role of ileostomy in cases of enteric perforation presenting late.

Material and methods :

This is a retrospective study of all cases of typhoid enteric perforation cases admitted in the Department of General Surgery, RIMS, Ranchi, Jharkhand, India. The study was carried out from June 2007 to December 2008 (eighteen months). A total of 46 cases of typhoid enteric perforation were admitted in our unit. The age ranges from 4 to 29 years with a mean age of 15.5 years.

Majority of these cases presented with abdominal pain, fever, vomiting and abdominal distension (Table 1).

As soon as these patients were seen by our doctors, a quick history and clinical examination were performed.

All these patients had intravenous excess, nasogastric tube insertion and catheterization. Blood sent for full blood count, random blood sugar, urea and electrolytes, hepatitis B surface antigen, anti-hepatitis C virus.

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Table 1: *Symptamatology of cases of eneteric fever patients*

Symptom	No. of Cases
Abdominal pain	46
Fever	36
Vomiting	36
Abdominal distension	39

Blood cultures were routinely performed in all cases.

X-ray chest and urgent ultrasound abdomen were performed in all cases. All these cases had gas under diaphragm on their x-ray chest PA view.

After sufficient rehydration, as the patient became stable, laparotomy was performed.

Results :

46 patients which were admitted with typhoid perforation presenting late, were divided into two groups. Group A had 26 patients and group B had 20 patients. All the patients in group A had laparotomy and exteriorization of the perforation as loop ileostomy. In group B, all the patients had laparotomy and the edges of the perforation freshened and the perforation closure was performed in two layers using vicryl suture. Exteriorization of the proximal healthy looking ileum as diverting loop ileostomy was routinely performed in all cases.

In group A, where exteriorization was done as primary procedure, 11 cases subsequently developed faecal fistulae. As faeculent material started coming out from the drain. Nine of these cases required re-exploration and it was found that there was a second perforation in the closed proximity of the original perforation. The mortality was seen in two cases as shown in the Table 2.

In group B, where the perforation was closed in two layers and loop ileostomy was performed from proximal healthy ileum, only two patients developed faecal fistulae which was managed by parenteral nutrition and rest to the intestine and conservative management.

Table 2: *Results of our management of enteric perforation presenting late*

Complication	Group A	Group B
Wound infection	13	7
Partial wound dehiscence	4	1
Faecal fistulae	11	2
Re-exploration	9	None
Mortality	2	None

Discussion :

Typhoid is quite common in our part of the country, primarily because of poor public sanitation and uncontrolled waste disposal system[1]. Typhoid is a severe febrile illness caused primarily by salmonella typhi[1,2]. The most lethal complications of typhoid fever are ileal perforation and intestinal bleeding[1,3,4], both arising from necrosis of Peyer's patches in the terminal ileum[1,10]. Typhoid ulcers can occur anywhere from stomach to rectum but terminal ileum is mostly involved due to increased number of Peyer's patches in the terminal ileum.[5]

Typhoid fever may occur at any age. The highest incidence of this disease occurs in 5 to 19 years of age. After the age of 20 years, the incidence falls, probably due to immunity from clinical or sub-clinical infections.[21]

Perhaps safest and easiest way of managing typhoid ileal perforation is exteriorizing the perforation as loop ileostomy[15] . Other methods are primary closure of perforation[8,12] , wedge excision or segmental resection and anastomosis [11,13,20] , even side to side ileo-transverse anastomosis[12] after primary closure of perforation can be performed. Primary closure[1] is done only when patient presents early[1,6] and bowel is healthy looking . Sepsis and bowel oedema make suturing hazardous so primary closure is to be avoided in patients presenting late[6].

In our experience, instead of exteriorizing the perforation as loop ileostomy [15,18] , either resection of highly inflamed or multiple

perforations bearing segment of ileum and exteriorizing both ends as ileostomy and mucus fistula, or double layered closure of perforation combined[1] with ileostomy of relatively less inflamed ileum is a safer option in typhoid enteric perforation presenting late.

Conclusion:

We conclude that exteriorizing perforation bearing ileum as loop ileostomy is not a very safe procedure as chances of second perforation in the vicinity of primary perforation in highly inflammed terminal ileum is quite high leading to faecal peritonitis and very high mortality. We suggest freshening of edges, double layered closure of perforation with diverting ileostomy approximately 15 - 20cm proximal to the perforation in relatively normal looking ileum as a safer procedure for typhoid enteric perforation presenting late .

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