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MANAGEMENT OF TYPHOID ILEAL PERFORATION, AN EXPERIENCE OF 120 CASES

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ABSTRACT

BACKGROUND: *Typhoid perforation of ileum is a grave problem seen in patients having typhoid fever. Various treatment modalities are there for repairing the typhoid ileal perforation. The objective of this study is to state our surgical experience and postoperative complications of treatment of typhoid ileal perforation.*
METHODOLOGY: *This prospective observational study was conducted in the Department of Surgery, Liaquat University of Medical Sciences and Hospital and a private hospital, Hyderabad from August 2007- July 2009. The patients with typhi dot and/or positive blood culture were included in this study after obtaining an informed consent. Patients with co-morbidities were excluded.*
RESULTS: *A total of 120 patients were operated for typhoid ileal perforation in the study period. There were 91 males (75.83%), 29 females (24.1%) with mean age of 21.43 years (17-38 years). Majority of patients were in 1st and 2nd decade of life. Seventy three patients (60.83%) had single perforation while rest of 47 patients (39.16%) had two or more perforations. Perforation was repaired in 93 patients (77.5%) while 27 patients (22.5 %) patients have resection anastomosis. wound infection was seen in 37 patients (30.83%) and wound dehiscence was seen in 8 patients (6.66%). Enterocutaneous Fistulae was seen in 17 patients (14.16%) Seven patients (5.83%) were died.*
CONCLUSION: *Typhoid ileal perforation is frequently reported in developing countries. A high postoperative complications rate was observed in this study. Aggressive resuscitation and prompt surgical intervention leads to decreased morbidity and mortality.*

KEY WORDS: Typhoid ileal perforation, wound dehiscence, wound infection, typhoid fever complications.

INTRODUCTION:
Typhoid fever is an infection with Salmonella enterica serotype typhi bacterium. Typhoid perforation of ileum is a critical complication of typhoid. It involves reticuloendothelial system with itchiness, prostration, abdominal ache in 2nd week and intestinal hemorrhage with ulcers of Payer's patches and shock in 3rd week.[1] In large number of patients, typhoid ulcer is in a longitudinal plane situated within 45 cms of ileocecal valve.[2] In our country typhoid ileal perforation secondary to typhoid fever is an alarming situation.[3] The very first sign of the perforation is usually occurs in the 3rd week of disease course.[2,3] The frequencies of perforation vary in different geographical areas, 15-33% in West Africa and 1-3% in Egypt and Iran.[4] At the present time, the mortality rate while declining, is still remains very high ranging from 1 to 39% with significant morbidity in spite of curative advancement.[2] A number of predictors have been defined like male gender, leucopenia, insufficient treatment and small duration of symptoms. Outstanding outcomes can be obtained from early intervention with various treatment modalities like primary closure, excision and closure, resection and anastomosis. A wide variety of postoperative problems can be observed including wound sepsis, enduring intra abdominal abscess, wound dehiscence, fecal fistula and mortality.[4]
A number of suggestion have been made in order to improve the results including aggressive resuscitation by intravenous hydration for 4-6 hours, broad-spectrum antibiotics, resection of the last 60 cm of ileum and a meticulous abdominal washout.[5] In lieu of the aforementioned particulars, in this study we state our surgical experience vis-à-vis management of typhoid ileal perforation at Liaquat University Hospital, Jamshoro, Sindh Pakistan.

PATIENTS & METHODS:
This prospective observational study was conducted in the Department of Surgery, Liaquat

University and hospital and a private hospital, Hyderabad from August 2007- July 2009. In the study period a total of 110 patients were found with typhoid ileal perforation. The diagnosis of typhoid perforation was made on clinically with baseline investigations, x-ray, ultrasound examination, and operative findings. A predesigned proforma was used to collect the study variables like demographic details, clinical features, treatment modalities used, operative results and complications. The patients with typhi dot and/or positive blood culture were included in this study after obtaining an informed consent. Patients with co-morbidities were excluded.

TABLE I
AGE DISTRIBUTION OF PATIENTS

Age (years)	Number of patients (%)
10-20	29
21-30	48
31-40	17
>40	26
Total	120

TABLE II
POSTOPERATIVE COMPLICATIONS & MORTALITY

Clinical features	Number of Patients (%)
Enterocutaneous Fistulae	17 (14.16%)
Wound Infection	37 (30.83%)
Wound Dehiscence	8 (6.66%)
Intra-Abdominal Abscess	11 (9.16%)
Mortality	7 (5.83%)

RESULTS

A total of 120 patients were operated for typhoid ileal perforation in the study period. There were 91 males (75.83%) and 29 females (24.1%) with mean age of 21.43 years (17-38 years). Majority of patients were in 1st and 2nd decade of life. Table I. Fever was the comments symptoms present in all patients, 56 patients (46.66%) had fever for one week, 47 patients (39.11%) were presented with fever for two weeks and 17 patients (14.16%) for three weeks. All patients were presented with generalized abdominal pain and distension. Duration of abdominal pain was 24 hours in most of patients that is 71 patients (59.16%). Thirty eight patients (31.66%) had abdominal pain and distention for 2 days and 11 patients had abdominal pain and distension for 3 days. Most of patients who were presented in 2nd and 3rd day of abdominal distension were referred from other private hospitals of basic health units from interior of Sindh Province.

Out of 120 patients only 31 patients (25.83%) had previous treatment for typhoid fever. Seventy three patients (60.83%) had single perforation while rest of 47 patients (39.16%) had two or more perforations. Perforation was repaired in 93 patients (77.5%) while 27 patients (22.5 %) patients have resection anastomosis. Perforations were 5-51cm (mean 23cms) located from ileocecal junction beside the antimesenteric border of the ileum.

In this study the wound infection was seen in 37 patients (30.83%) and wound dehiscence was seen in 8 patients (6.66%). Enterocutaneous Fistulae was seen in 17 patients (14.16%) Seven patients (5.83%) were died during the hospitalization. Table II.

DISCUSSION

Perforation of a typhoid ulcer generally takes place at some stage in the 3rd week and is occasionally the first sign of the ailment.[1] Crohn's disease, malignancies, foreign bodies and drugs are among the most frequent reason of sudden ileal perforation in underdeveloped countries. Prompt exploration and intervention leads to enhanced outcome.[5]

Typhoid perforation is common with male domination;[5] in our study 91 males (75.83%) had typhoid ileal perforation. Typhoid ileal perforation affects young people with age range of 19-34 years. In our study age range was 17-38 years with mean age of 21.43 years. Treatment modalities used in this were study including repair and resection and anastomosis were same as done in previous studies. General anesthesia was given to all patients. In our study 73 patients (60.83%) had single perforation and 47 patients (39.16%) had two or more perforations.

Regarding the number and location of perforations in our series, 36 (81.81%) patients had single perforation & 8 (18.18%) patients had more than one perforation, these figures are similar to previously conducted studies. [6, 7]

Most of perforations were 5-51cm (mean 23cms) located from ileocecal junction beside the antimesenteric border of the ileum, a comparable figure has been reported by Ghulam Shabbir et al [8] in a study conducted at Chandka Medical Hospital, Larkana, Sindh Pakistan and Abdul Ghaffar et al has reported a similar figure in their study conducted at People's Medical College, Nawabshah, Sindh Pakistan.[9]

In underdeveloped countries the morbidity and mortality of typhoid ileal perforation is still alarmingly high.[10] Wound complications like infection and dehiscence are major cause of mortality in typhoid ileal perforation, and same was the case with 7 patients in our study who died due to uncontrollable wound infection and dehiscence. Delayed wound closure doesn't prove to be preventive for abdominal wound infections in this study and same has been reported by Ramachandran et al.[11] overall mortality in this study is 5.83% which is comparatively less as previously reported by other authors. This may be credited to the early resuscitation and prompt intervention that was provided to patients.

CONCLUSION

Typhoid ileal perforation is still associated with high morbidity and mortality. Complications are found in all treatment modalities of typhoid ileal perforation. Aggressive resuscitation and prompt surgical intervention leads to decreased morbidity and mortality.

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