

# Primary Repair Vs Ileostomy in Patients with Typhoid Perforation

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This is prospective study conducted in the department of Surgery, Mayo Hospital, Lahore over the period of four years. Comparative data was compiled on 100 patients divided in two equal groups. Efficacy of two operations was assessed in terms of morbidity and mortality. The final results were conclusive enough to show the benefits of ileostomy over the primary repair in cases of typhoid perforation.

**Key Words:** Typhoid Fever, Typhoid Enteritis, Typhoid Perforation.

Typhoid fever is an extremely common infectious disease of the gastrointestinal tract in the underdeveloped areas, all over the world today, particularly some countries of South East Asia, but not so prevalent in west. It however continues to be a major problem in the developing countries. In Pakistan where contamination of water and poor sanitation is not uncommon, typhoid is endemic with epidemics occurring in the late summer months. The incidence of enteric fever has not declined in this country in the last few decades<sup>1</sup>.

The usual victims of typhoid fever are the children and the young adults at the beginning of their economically productive years. The incidence of typhoid fever in children is high, being highest during five to ten years of age, with peak at eight years.

Typhoid perforation appears as punched out hole along the anti mesenteric border of the bowel<sup>2</sup>. It is an acute surgical emergency. The incidence of typhoid perforation is still high in our country. More than 50% of small bowel perforations are attributed to typhoid fever<sup>3</sup>. The most frequent complication of typhoid fever requiring surgery is intestinal perforation<sup>4</sup>.

The ideal treatment of typhoid perforation is still a hotly discussed issue. There are various surgical options which have their own merits and demerits<sup>5</sup>. Purpose of present study is to find out a comparatively better surgical procedure with rapid recovery and less chances of post operative complications<sup>6</sup>, So that we should be able to save the life and economy of poor patients.

## Materials and Methods:

This is prospective study carried out at the department of Surgery, KEMC, Mayo Hospital, Lahore from March 2001 to March 2005. A total of 100 patients with typhoid perforation were included in this study. They were randomly selected and divided into two groups on the basis of the type of surgical procedure adopted.

**Group A Patients:** The patients in whom primary repair of perforation after debridement was performed. Total count was 50.

**Group B Patients:** Patients in whom Ileostomy was performed, Count was 50.

## Inclusion Criteria:

All patients presenting within 48 hours of presentation after the development of symptoms and signs of peritonitis were included in the study.

## Exclusion Criteria:

Patients presenting after 48 hours of development of symptoms and signs of acute abdomen.

A detailed proforma was filled up for each patient. Complete clinical examination was done. Each patients was subjected to a set of investigations. Diagnosis of typhoid perforation was made on the basis of history, clinical examination, laboratory investigations, operative findings and histological picture of biopsy taken from the margins of perforation.

Preoperatively all patients were resuscitated on the same lines. Their fluids, electrolyte status was corrected by giving crystalloids. They were given same set of antibiotics. Blood was given only in anaemic patients. Nasogastric decompression and strict intake output was carried out in all patients.

## Results:

Group A patient: n=50

Group B patients: n=50

Complications	Group A	Groups B
Wound infections	05(10%)	06(12%)
Chest infection	04(8%)	404(8%)
Incisional hernia	04(8%)	03(6%)
Burst abdomen	03(6%)	02(4%)
Faecal fistula	04(8%)	0
Intraperitoneal abscess	05(10%)	02(4%)
Adhesion obstruction	03(6%)	03(6%)
Reperforation	02(4%)	00
Stress bleed	01(2%)	00
Fluid electrolyte imbalance	024(%)	02(4%)
Average hospital stay	15	10

## Mortality

Total No. of deaths	Group A	Group B
03(6%)	04(8%)	02(4%)

Post operative care was standard and comparable in both groups. Initially, the patients were kept NPO with nasogastric decompression. Fluid and electrolyte balance was maintained. PreOperative antibiotics were continued

along with H2 Receptor antagonist and analgesia. Physiotherapy of the chest carried out properly. Daily progress of patient was recorded. Step-wise oral intake was started after third day. A meticulous record of complications was maintained. Patients training about the stoma care was satisfactorily carried out.

Appropriate statistical methods were applied to all derived variables.

#### Discussion:

Various variables in both the groups have been compared by applying paired sample statistics and bar charts. The factors which clearly indicate morbidity like hospital stay, post-operative stay, faecal fistula, reoperation, intra-abdominal abscess, burst abdomen, stress bleed and incisional hernia are present in more frequency in group A. Same holds true for mortality which is more in patients who had undergone primary repair of perforation. However the stoma related complications and wound infection were more in group B patients.

One important denominator of study is time of presentation after perforation. We have included only those cases who have presented within 48 hours. Other cases have been excluded. In spite of all this, patients with ileostomy did well, when compared in terms of morbidity and mortality.

Many authors favour the operation of primary repair, because it is simple and less traumatic with better results. Eustachie and Kries have compared simple closure with other procedures and found better results with simple closure<sup>7</sup>. Similarly, simple debridement and meticulous bowel closure with peritoneal toilet is found the simplest and safest procedure<sup>8</sup>. This procedure according to some authors is quick, relatively bloodless and simple<sup>2</sup>. Akjun et al recommends wedge excision with primary repair in patients with perforation larger than 1cm in diameter<sup>9</sup>. According to Rashid et al, wedge excision has low mortality and shorter hospital stay and is the procedure of choice<sup>10</sup>.

Contrary to the above mentioned observations many authors still consider ileostomy as the procedure of choice especially of cases who present late.

Iqbal et al performed ileostomy in three patients who presented late with multiple perforations and found a mortality rate of 33.3%<sup>11</sup>. Also in some studies simple closure with proximal ileostomy was found to be the best procedure with regards to morbidity and mortality<sup>12</sup>. Similarly, in series of 80 cases with typhoid perforation, primary repair was performed in all those cases who presented earlier. Eight cases in this series needed re-exploration. Ileostomy was done in five cases and all

survived<sup>10</sup>. A series of 20 cases of typhoid perforation, described by Khan et al, presenting late with more than one perforation and highly inflamed gut. They were treated by primary closure and proximal loop ileostomy. Post-operative recovery was satisfactory with one mortality (4.2%)<sup>12</sup>.

The Results of our study are comparable with published literature in terms of morbidity and mortality. Ileostomy prevents the formation of post-operative intraluminal pressure which leads to reoperation as described in the above mentioned patients who underwent re-exploration for the said complication. Ileostomy decreases the hospital stay, prevents the formation of faecal fistula and definitely reduces the morbidity and mortality.

#### Conclusions:

In the light of above results and discussion we conclude that ileostomy is a better surgical procedure in patients with typhoid perforation, especially in those cases who present in the later stages. This procedure results in minimal complications and effects the overall well being of the patients with typhoid perforation.

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