

# Primary Repair Versus Ileostomy In a Single Typhoid Perforation of Ileum

AHMAD RAZA NSAR\*, TAHIR HAMID\*\*, MUHAMMAD RIZWAN SALEEM, MANSAB ALI

## ABSTRACT

**Aim:** To compare the usefulness of primary repair and ileostomy in cases of single typhoid perforation.

**Methods:** The study was conducted in surgical unit 1, Nawaz Sharif Social Security Teaching Hospital, Multan Road Lahore for one year from 01-01-2014 to 31-12-2014. Sixty patients fulfilling inclusion criteria were included in this study and they were divided into two equal groups A and B by using the table of random numbers. The group A was treated with primary repair and group B with ileostomy.

**Results:** The mean age group of A was (26.9±9.3) years and in group B was (31.5± 10.0) years. The mean duration of hospital stay in group A was 6.5 ±1.1 days and in group B was 9.1 ±2.4 days. In post operative complication, in group A 02 (6.6%) patients developed leakage of primary repair, however, no mortality in group A. In group B 27 (90%) patients developed skin irritation, 04 (13.4%) retraction of ileostomy, 01(3.3%) necrosis and 3(10%) expired.

**Conclusion:** The early presentation of patients with typhoid perforation, the primary repair is better than ileostomy.

**Keywords:** Primary repair, ileostomy, single typhoid perforation.

---

## INTRODUCTION

Typhoid perforation is a major problem in developing countries and carries a high mortality and morbidity. To improve survival in typhoid perforation, attention should be focused on preoperative resuscitation and early intervention<sup>1</sup>.

The most lethal complications of typhoid perforation are intestinal bleeding and ileal perforations, both arising from necrosis Pyle's patches in the terminal ileum<sup>2,3</sup>.

Typhoid intestinal perforation is the most common cause of acute generalized peritonitis followed by perforated acute appendicitis. Prognostic factors include age, the cause of perforation, amount of pus, fecal fistula and intraabdominal abscesses<sup>4</sup>. Mortality and morbidity after surgical treatment of typhoid ileal perforation remain very high in developing countries<sup>5</sup>. If there is gross peritonitis with copious amount of pus and fecal matter, multiple perforations within 10cm of ileo-cecal valve and delay in the operation then loop ileostomy is a fair option followed by second operation (reversal)<sup>6</sup>. This can be done six to eight weeks after the first surgery, however, it has its own risk factors in addition to its psychological and social trauma to the patients<sup>7</sup>.

Primary repair can be done in patients who present within 36 hours experiencing sharp shooting pain and per-operative findings of minimal contamination<sup>8</sup>.

Repair of the perforation is a better procedure than temporary ileostomy in enteric perforation due to its cost effectiveness and absence of complications related to ileostomy<sup>9</sup>. There is a less morbidity rate (20%) in primary surgical repair compared with loop ileostomy which is (31%)<sup>10</sup>.

Ileostomy and ileo-transverse bypass should be considered as a treatment option in patients with unhealthy gut. Ileostomy is a life saving to be used judiciously, accepting inconvenience to the patients<sup>11</sup>.

## MATERIAL AND METHODS

This study was conducted in surgical unit 1 Nawaz Sharif Social Security Teaching Hospital Lahore for one year from 01-01-2014 to 31-12-2014. Sixty patients were included in this study who present with peritonitis and clinically diagnosed as typhoid perforations and confirmed at laparotomy. All the patients divided in to two equal groups A and B. Each group was composed of thirty patients. For group A single perforation identified and closed with single layer with vicryl 3/0. For group B ileostomy was done in right iliac fossa. Patients with ileostomy were followed at 3 months for reversal.

## RESULTS

Group A primary repair and group B ileostomy.

Table 1 Age (in years) in two groups

Groups	n	Mean	S.D
A	30	26.9	9.3
B	30	31.5	10

---

\*Senior Registrar University College of medicine and dentistry

\*\* Assistant Professor University College of medicine and dentistry

Correspondence to Dr. Tahir Hamid Email: tahir\_surgeon@yahoo.com

The mean age in group A was 26.9±9.3 years and in group B was 31.5±10 as shown in table 1.the mean age in both groups is comparable.

Table 2: Complications of primary repair( Group A)

Complications	Frequency	%age
Leakage of primary repair	2	6.6

The complication of leakage of primary repair found in only 2 patients (6.6%).While 29 patients (93.4%) completely closed.No moratlity occurred in group A.

Table 3: Complication of ileostomy (Group B) n=30

Complications	Frequency	%age
Skin irritation	27	90
Retraction	4	13.4
Necrosis	1	3.3
Mortality	3	10.0

While in group B 27(90%) patients had seen irritation. 04(13.4%) patients had retraction of ileostomy .01(3.3%) had necrosis and 3 (10%) were expired.

Table 4 Hospital stay (in two groups) in days

Group A Mean±S.D	Group B Mean±S.D
6.5±1.1	9.1±2.4

P value <0.05

## DISCUSSION

Typhoid disease is mainly effecting the young average age mentioned in literature is about 28 years and in our study is 29 years<sup>12</sup>. Typhoid ileal perforation commonly effects young adults in the second and third decades of life, and usually occurs in the second and third week of fever<sup>13</sup>. In typhoid ileal perforation the number and location of the perforation may be 2 other factors influencing the prognosis. Beniwal et<sup>14</sup> al have founded that the number of perforation affects the mortality.

Adesunkanmi and Ajad<sup>13</sup> reported a high incidence of residual abscess in patients single perforation. In contrast Rehman et al<sup>15</sup> reported that the number of perforations does not significantly affect the outcome and mortality rate. The most important factor influencing the outcome of surgical procedure is the time of surgery since perforation. The morbidity and mortality remains high particularly in these patients in whom surgical intervention is carried out after 24 hours of perforation<sup>16</sup>.

Ileostomy is not very much favored in literature because of its high morbidity and complications<sup>17</sup>. In our study 27(90%) patients had skin irritation, 04(13.4%) retraction, 01(3.3%) necrosis and 3(10%) patients expired after ileostomy and are comparable to various other studies, however, no one of these complications occurred in patients who had primary closure<sup>18</sup>. The reported mortality after primary closure ranges from 8 to 39%<sup>19</sup>. In the presence study

mortality rate after primary closure was nil and in ileostomy was 3 (10%).The hospital stay with primary repair was 6.5±1.1 days significantly less than ileostomy which was 9.1±2-4 days. primary closure of the perforation is a favored procedure throughout international literature.<sup>2</sup>

## REFERECES

1. Rehman GA, Abubakar AM, Johnson AW, Adeniran JO. Typhoid ileal perforation in Nigerian children: an analysis of 106 operative cases. *Pediatr Surg Int* 2001; 17:628-30.
2. Akgun Y, Bac B, Boylu S, Aban N, Tacyildiz I. Typhoid enteric perforation. *Br J Surg* 1995; 2: 1512-15.
3. Talwar S, Sharma RK, Mittal DK, Prasad P. Typhoid enteric perforation. *Aust N Z J Surg* 1997; 67:351-3
4. Adesunkanmi, Khan AR, Badmus, Tajudeen A. Causes and determinants of outcome of intestinal perforations in a semiurban African community. *Ann college Surg Hong Kong.* 2003; 7:116-23.
5. Adesunkanmi, Badmus TA, Fadiora FO, Agbakwura EA. Generalized peritonitis secondary to typhoid ileal perforation: assessment of severity using modified APACHE II score. *Indian J Surg* 2005; 67:29-33
6. Lunniss PJ. The acute abdomen. In: Lumley JSP, ed. *Physical signs.* 18<sup>th</sup> ed. Italy: Butterworth-Heinmann, 1997; 299-318
7. Taj H, Mehmood A, Abdul Salam, Shah D. Ileal typhoid perforation: an experience with 42 cases. *J Surg Pak* 2001; 6: 30-2.
8. Khan AA, Khan IR, Najeeb U, Sheikh NA. Comparison between primary repair and exteriorization in cases of typhoid perforation. *Ann King Edward Med Coll* 2005; 11:226-7
9. Bebhwak US, Jindal D, Jagdish S, Shyam G. Comparative study of operative procedures in typhoid perforation. *Indian J Surg* 2003; 65:172-7
10. Memon SAB. A surgical audit of the management of typhoid perforation. *J Surg pak* 2001; 6:4-5
11. Basher M, Nadeem T, Iqbal J, Rashid A. Ileostomy in typhoid perforation. *Ann King Adward Med Coll* 2003; 9:1-3
12. Mirza SM, Ali AA, Gondal KM, Asghar M, Hanif F, Ahmad M, et al. typhoid perforation: an experience at Mayo Hospital, Lahore. *Ann King Edward Med Coll* 1999;5; 34-7
13. Adesunkanmi ARK, Ajao OG. The prognostic factors in typhoid ileal perforation : a prospective study of 50 patients. *JR Coll Surg Edinb* 2002; 42:395-9
14. Beniwal U, Jindal D, Sharma J. Comparative study of operative procedures in typhoid perforation. *Indian J Surg* 2003; 65:172-7
15. Rehman GA, Abubakar AM, Johnson A-WBR. Typhoid ileal perforation in Nigerian children : an analysis of 106 operative cases. *Pediatr Surg Int* 2001; 17: 628-30
16. Waqar T, Khan SA. Comparative study of primary repair versus ileostomy in patients of typhoid perforation. *Ann King Edward Med Coll J* 2006; 12:61-3.
17. Conolly DP, Ugwu BT, Eke BA. Single layer closure for typhoid perforation of the small intestine: case report : *East Afr Med J* 1998; 75: 439-40.
18. Saleh AB. A surgical audit of the management of typhoid perforation. *J Surg Pak* 2001; 6:4-5
19. Pal DK. Evaluation of best surgical procedures in typhoid perforation: an experience of 60 cases. *Trop Doct* 1998; 28:16-8.
20. Athie CG, Guizar CB, Alcaantara AB, Alcaraz GH, Montalvo EJ. Twenty five years of experience in the surgical treatment of perforations of ileum caused by Salmonella typhi at the general hospital of Maxico city, Mexico. *Surgrey* 1998;123:632.

