



PLAIN WATER DISTAL GUT PATENCY TEST: AN EFFECTIVE ALTERNATIVE OF CONTRAST DISTAL LOOPOGRAM STUDY BEFORE TYPHOID ILEOSTOMY CLOSURE IN RESOURCE LIMITED SETTING (BUNDELKHAND AREA); AN ORIGINAL STUDY

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INTRODUCTION

Typhoid fever is a common ailment in economically underdeveloped area because of poor sanitation. usually patients seek medical care in advanced stage of disease because of initial nonspecific symptoms and patients usually primarily treated by quack in majority of patients in Bundelkhand area. The delay in diagnosis causes fatal complication in terms of Intestinal perforation, septicemia, multiple organ dysfunction syndrome and eventually death of untreated patients.

It has been estimated that 2% - 4% of typhoid patient develop intestinal perforation with 25 – 50 % mortality from disease because of its complication.^[1] The only treatment of typhoid ilial perforation is surgical intervention in terms of primary closure with or without Ileostomy.^[2] Studies shows that primary closure with proximal Ileostomy have better outcome in terms of mortality^[3] The second operation (stoma closure) needed to restore intestinal continuity by freshening of margins and closure in loop ileostomy or resection and anastomoses after mobilization of temporary ileostomy.^[4] before stoma closure loopogram is done to detect any type of mechanical obstruction (adhesion, stricture, kink, internal hernia, intussuception).^[5] Mortality rate in anastomotic leakage were very high with prolonged stay and high cost of therapy after stoma reversal.^[6] Preoperative contrast study was done to show patent distal loop was done to reduce post operative complication.^[7]

The use of distal contrast iliogram prior to ileostomy closure is still controversial. The purpose of this study was to determine the utility of distal loop coloured water patency test prior to ileostomy closure and its economical impact on patient management in patient with loop ileostomy for previous typhoid perforation.

As the facility for contrast study is often not available in limited resource setting, this study was planned to assess effectiveness of plain water distal loop patency test before typhoid stoma closure.

METHODOLOGY

This was a Prospective study conducted on 38 patients in the Department of Surgery, Bundelkhand Medical College Sagar MP India from 01/01/2016 to 01/07/2018. In this study patients were included in whom stoma was constructed to protect distal perforation repair in Typhoid perforation.

Technique of water patency test

After proper counseling, distal loop is defined and a 20-Fr foleys was catheterized in distal loop and inflated with 20–30ml of normal saline, plain water coloured with methylene blue was instilled without any undue force (no pain experienced by patient) and free flow from anus was noted.

After through and physical examination baseline laboratory investigation including Complete blood count, blood sugar, renal function test, Xray chest and ECG was done. Distal water patency test was done to detect any distal obstruction in all the patient. All the patients underwent spinal anaesthesia, Nasogastric tube was routinely passed and closure of stoma was performed after freshening of margin of stoma.

Inclusion criteria → all post typhoid ileostomy patients irrespective of age and sex in whom stoma was constructed at least 90 days before were included in this study. Distal saline patency test was done prior to stoma closure. All the patient were operated and post operative course was followed.

Exclusion criteria → stoma reversal due to causes other than the typhoid perforation.

Variable		
Age		
11-20	07	18.42 %
21-30	18	47.36 %
31-40	12	31.57 %
>40	1	2.63 %
Type of stoma		
Loop stoma	38	100 %
No of perforation		
One	29	76.31 %
multiple	08	21.05 %
Post operative outcome		
Minor wound infection	02	5.26 %
Post operative intestinal obstruction	01 (after 2 month, treated conservatively)	

RESULTS

There were 38 patients of loop ileostomy for typhoid intestinal perforation. Out of which 03(7.8%) patients were female and 35 (92.10%) were male. The main burden of disease was bear by patients of third (47.36%) and fourth decades(31.57%). There were only 1 patients above the age of 40. The male significantly predominate over female in this study. In all the patients methylene blue coloured water distal patency test was performed before stoma reversal.

Normally patients were discharges between 7th to 9th days after stoma closure. Complication were labelled when patients required stay for more than 9 days for any medication or surgical intervention. All these complication were insignificant as no one needed re laparotomy or stoma formation. No patients were developed any significant infection due to anastomotic leakage.

DISCUSSION

Overall incidence is less in USA and Canada, because of adjuvant surgical measure as prompt planned laparotomy, continuous peritoneal lavage with reduce bacterial load.^[8]

The current study was focused on the use of distal gut water patency test before temporary stoma closure. (stoma made in typhoid perforation).

In various studies the role of contrast radiology before routine stoma reversal has been challenged. Khir et al concludes that routine Gastrograffin enema before stoma closure is of

little value.^[9] Da Silva et al. concluded that it is unnecessary to take a barium enema examination to find out anastomotic stricture after low anterior resection.^[10]

In our study it was concluded that routine contrast radiology can be avoided if distal gut passes coloured saline without any undue force with added advantage of cost effective , no radiation exposure and a bed side procedure.

CONCLUSION

It is evident in our study that distal gut coloured water patency test failed to reveal any contraindication to the post typhoid perforation stoma reversal therefore it is an effective supplement to contrast radiology .so contrast radiology is therefore unnecessary rather wastage of resource to submit the post typhoid stoma patient for contrast study.

REFERENCES

1. Stanly PB, typhoid perforation of the ilium Br. J Radiol., 1966; 39: 37-41.
2. Prieto L, Thosen H, Juul K “Development and Validation of a Quality Control Questionnaire in patients with colostomy and ileostomy. Health and Quality Control Outcomes, 2005; 3: 62-7.
3. Hans M. scharde, Kari H. Staubach, A et al the prevention of anastomotic leakage after total gastrectomy with local decontamination a prospective, randomized, double-blind, placebo- controlled multi center trial. Annals of surgery, Feb, 1997; 225(2): 172-180.
3. Ansari AG, Naqvi SQH, Ghumro AK et al “Management of Typhoid Perforation: A Surgical Experience of 44 Cases”. Gomel Journal of Medical Sciences, January-june, 2009; 7(1): 27-30.
4. Mahmoud N, Kulaylat and Daylas TM Surgical Complications Sabiston Text Book of Surgery Townsend Beauchamp Evers Saunders Elsevier published in Philadelphia, 2008; 1: 328-370.
5. Sierzega M, Kolodziejczyk P, Kulig J and polish gastric cancer study group. Impact of anastomotic leakage on long term survival after total gastrectomy for carcinoma of stomach British journal of surgery, 2010; 97: 1035-42.
6. Ali SA, Soomro AG, Memon AS, Sheikh NA post operative complications of reversal of loop ileostomy. JLMHS, jan-Apr, 2009; 08(01): 23-25.
7. Jeffery BA, Sebastian MW, Amin T et al multiple laparotomies for severe intra-abdominal infection wiley inter science And JS, Jan, 2010(v); 68(2): 139-142.

8. Khair G, Alhamarreh O, Avery J et al Routine use of Gastrograffin enema prior to the reversal of a loop ileostomy Dig Surg, 2007; 24: 338-341.
9. da Silva GM, Wexner SD, Gurland B, Gervaz P, Moon SD, Efron J, et al. Is routine pouchogram prior to ileostomy closure in colonic J-pouch really necessary? Colorectal Dis., 12004; 6: 117-120.[PubMed]