

**Assessment of the Surgical Profile among Patients of Gastro-Intestinal Tract Perforation****Abhishek Jain<sup>1</sup>, Trilok Jain<sup>2</sup>, Dinesh Kumar Badaya<sup>3</sup>, Vinita Jain<sup>4</sup>**<sup>1</sup>Associate Professor, Department of Surgery, RD Gardi Medical College & Hospital, Ujjain<sup>2</sup>Associate Professor, Department of Surgery, Mahatma Gandhi Medical College & Hospital, Jaipur<sup>3</sup>Assistant Professor, Department of Surgery, Mahatma Gandhi Medical College & Hospital, Jaipur<sup>4</sup>Assistant Professor, Department of Pathology, Mahatma Gandhi Medical College & Hospital, Jaipur

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**Abstract****Background:** Gastrointestinal tract perforation occurs when pathology of any specific disease involves the entire depth of the gastrointestinal tract. Gastrointestinal tract perforation leads to the contamination of peritoneal cavity with intestinal contents. According to previous researches it was reported that perforations can be occurred anywhere in full length of gastrointestinal tract.**Material & Methods:** Patients who were diagnosed as perforation and peritonitis on the basis of laboratory diagnosis and clinical examination were enrolled by simple random sampling. Clearance from Institutional Ethics Committee was taken before start of study. Written informed consent was taken from each study participant.**Results:** In the present study, out of total study participants abdominal pain was the most common presenting symptom present in patients which was followed by fever, abdominal distension and vomiting. On the basis of time of perforation, 10% cases presented within 12 hour, between 12 and 24 hour was reported among in 50% cases, in the range of 24 and 48 hour seen in 20% patients, in the range of 48 and 72 hour reported in 10% cases, in range of 72 and 96 hour reported in 10% cases. Near about all patients were operated in the range of 12 hours of hospitalization. We found that majority of cases had circular perforation of typhoid at antimesenteric border which was followed by tubercular elliptical perforation on the antimesenteric border and traumatic type perforation.**Conclusion:** The most common presenting symptoms present among patients were abdominal pain, abdominal distension, vomiting, fever and obstipation. We found that majority of cases had circular perforation of typhoid at an times enteric border which was followed by tubercular elliptical perforation on the antimesenteric border and traumatic type perforation.**Keywords:** Gastro-intestinal tract perforation, signs and symptoms, presentation.

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**Introduction**

Gastrointestinal tract perforation occurs when a pathology of any specific disease involves the entire depth of the gastrointestinal tract [1]. Gastrointestinal tract perforation leads to the contamination of peritoneal cavity with intestinal contents. According to previous researches it was reported that perforations can be occurred anywhere in full length of gastrointestinal tract. In various researches it was also reported that perforations of gastrointestinal tract had been documented as surgical emergencies [2]. Some studies also reported that the proof of gastrointestinal tract perforations in ancient mummies. In various researches it was reported that gastrointestinal tract perforation are common surgical emergencies especially in the tropical area of world and particularly in India [3]. The most prevalent causes reported are tuberculosis and enteric fever. Some studies also reported that

gastrointestinal tract perforation are accounts for near about 20% of total abdominal surgical emergencies [4].

Previous studies were reported various causes of ileal perforation which includes tuberculosis, salmonella infection, Yersinia infection, cytomegalovirus, human immunodeficiency virus, histoplasma, A. lumbricoides, E. histolytica and Nonsteroidal anti-inflammatory drugs [5]

According to previous researches it was reported that ileal perforation had an high incidence of mortality, longer hospital stays and economic burden on patients [6] There were various operative procedures were reported in various researches which are simple primary repair, management by repair with ileo-transverse colostomy, management by single layer repair with an omental patch and

management by resection and anastomosis and management by primary ileostomy [7]. We conducted the present study to assess the surgical profile among patients of Gastrointestinal tract perforation.

### Materials & Methods

The present prospective study was conducted at department of general surgery of our tertiary care hospital. The study duration was of two years from June 2022 to July 2023. A sample size of 30 was calculated at 90% confidence interval at 5% acceptable margin of error by Epi info software version 7.2. Patients who were diagnosed as perforation and peritonitis on the basis of laboratory diagnosis and clinical examination were enrolled by simple random sampling. Institutional Ethics Committee Clearance was obtained before start of study and written and informed consent for the procedure was obtained from all the patients. Strict confidentiality was maintained with patient identity and data and not revealed, at any point of time. The data were collected by predesigned Performa after randomization of the patients was done before commencement of the study. Patients who had chronic debilitating diseases, patients who were on steroid therapy or suffering from malignancy were excluded from the present study.

Standard operative and postoperative protocol was followed for all the study participants. All the study participants were followed up for 1 year to record for recurrences. Data were entered in the MS office 2010 spread sheet and Epi Info v7. Data analysis was carried out using SPSS v22. Qualitative data

was expressed as percentage (%) and Pearson's chi square test was used to find out statistical differences between the study groups and sensitivity, specificity, positive predictive value and negative predictive value were calculated. If the expected cell count was < 5 in more than 20% of the cells then Fisher's exact test was used. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05 and highly significant if p value less than 0.01.

### Results

In the present study we enrolled 30 Patients of Gastrointestinal tract perforation after randomization of study participants. So that we can get an equal and comparable study participants. Total study participants were classified in two major groups according to the surgical procedure used. Among the total study participants, 12 (40%) patients were in the age group of 21-40 years, 15 (50%) cases were in the age group of 41-60 years and 3 (10%) patients were in the age group of 61-80 years.

Out of the total study participants, 21 (70%) patients were male and 09 (30%) patients were female. The mean age of study participants was  $46.23 \pm 4.5$  years. Out of the total study participants, 21 (70%) patients were male and 09 (30%) patients were female. The mean value of BMI of study participants was  $26.45 \pm 1.22$ . However, this distribution was statistically non-significant (P value >0.05). (Table 1)

**Table 1: Age and gender wise distribution of the study participants.**

Parameters			p value
Age (Years)	21-40	12 (40%)	>0.05
	41-60	15 (50%)	
	61- 80	3 (10%)	
Mean age (Years)		$46.23 \pm 4.5$	
Gender	Male	21 (70%)	>0.05
	Female	09 (30%)	
BMI (Mean)		$26.45 \pm 1.22$	

In the present study, out of total study participants abdominal pain was the most common presenting symptom present in patients which was followed by fever, abdominal distension and vomiting. On the basis of time of perforation, 10% cases presented within 12 hour, between 12 and 24 hour was reported among in 50% cases, in the range of 24 and 48 hour seen in 20% patients, in the range of 48 and 72 hour

reported in 10% cases, in range of 72 and 96 hour reported in 10% cases. Near about all patients were operated in the range of 12 hours of hospitalization. We found that majority of cases had circular perforation of typhoid at antimesenteric border which was followed by tubercular elliptical perforation on the antimesenteric border and traumatic type perforation. (Table 2)

**Table 2: Distribution according to clinical presentation.**

Presenting symptom	Number of patients
Abdominal pain	70%
Fever	60%
Abdominal distension	50%
Vomiting	40%
Obstipation	40%
Trauma	10%

### Discussion

In the present study we enrolled 30 Patients of Gastrointestinal tract perforation after randomization of study participants. So that we can get equal comparable study participants. Total study participants were classified in two major groups according to the surgical procedure used. Among the total study participants, 12 (40%) patients were in the age group of 21-40 years, 15 (50%) cases were in the age group of 41-60 years and 3 (10%) patients were in the age group of 61-80 years. Out of the total study participants, 21 (70%) patients were male and 09 (30%) patients were female. The mean age of study participants was  $46.23 \pm 4.5$  years. Out of the total study participants, 21 (70%) patients were male and 09 (30%) patients were female. The mean value of BMI of study participants was  $26.45 \pm 1.22$ . However, this distribution was statistically non-significant ( $P$  value  $>0.05$ ). Similar results were obtained in a study conducted by Wani et al among patients with perforation of gastrointestinal tract they reported that higher prevalence of males were affected than females in the ratio of 3: 1 [8]. Similar results were obtained in a study conducted by Adesunkanmi et al among patients with perforation of gastrointestinal tract they reported that higher prevalence of males were affected than females in the ratio of 4: 1 [9].

In the present study, out of total study participants abdominal pain was the most common presenting symptom present in patients which was followed by fever, abdominal distension and vomiting. On the basis of time of perforation, 10% cases presented within 12 hour, between 12 and 24 hour was reported among in 50% cases, in the range of 24 and 48 hour seen in 20% patients, in the range of 48 and 72 hour reported in 10% cases, in range of 72 and 96 hour reported in 10% cases. Near about all patients were operated in the range of 12 hours of hospitalization. We found that majority of cases had circular perforation of typhoid at antimesenteric border which was followed by tubercular elliptical perforation on the antimesenteric border and traumatic type perforation. Similar results were obtained in a study conducted by Talwar et al among patients with perforation of gastrointestinal tract they reported that abdominal pain was the most common presenting symptom present in patients which was followed by fever, abdominal distension, vomiting and obstipation [10]. Similar results were

obtained in a study conducted by Beniwal et al among patients with perforation of gastrointestinal tract they reported that the most common presenting symptoms present among patients were abdominal pain, abdominal distension, vomiting, fever and obstipation [11]. Similar results were obtained in a study conducted by Prasad et al among patients with perforation of gastrointestinal tract they reported that the most common presenting symptoms present among patients were abdominal pain, abdominal distension, vomiting and obstipation [12].

### Conclusion

We concluded from the present study that the most common presenting symptoms present among patients were abdominal pain, abdominal distension, vomiting, fever and obstipation. We found that majority of cases had circular perforation of typhoid at antimesenteric border which was followed by tubercular elliptical perforation on the antimesenteric border and traumatic type perforation.

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