

## Spectrum of gastro intestinal perforation peritonitis in S N medical college Agra

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### Abstract

**Introduction:** Perforation peritonitis is the most common surgical emergency encountered India and all over world. The etiology of perforation peritonitis as seen in India is different from its western counterpart. The objective of the study was to highlight the spectrum of perforation peritonitis as encountered in S N Medical College Agra.

**Materials and Methods:** It is descriptive, prospective study of perforation peritonitis seen and treated over a period of three years.

**Results:** Total 136 cases were included in the study. The maximum number of patients in our study was in age group of 41 - 50 years (26%) with a mean age was 43.6, years. There were 102 males (%) as compared to 34 females (%). The most common site of perforation in our series was gastro duodenal (57%) followed by small bowel perforation (26%), appendicular perforations (6%), colonic perforation (2%), perforation after obstruction (2%), malignant perforation (3%), traumatic perforation (3%) and rectal perforation (1%). The rate of complication was 26%. Mortality rate was 12% and significantly high in patients coming to the hospital after 48 hours.

**Conclusion:** In contrast to western literature, where lower gastrointestinal tract perforation, upper gastrointestinal tract perforation constitute the majority of cases in India. The high rates of mortality among these who presented late divert attention to the fact early recognition of symptoms and referral of patients is very important in reducing mortality and morbidity.

**Keywords:** Peritonitis, Perforation, Gastrointestinal, Traumatic.

### Introduction

Perforation is the most disastrous complication of peptic ulcer and in spite of modern management it is still life threatening catastrophe. Perforation peritonitis mostly results from the perforation of a diseased viscus. Other causes of perforation include abdominal trauma, ingestion of sharp foreign body and iatrogenic perforation. The diagnosis is mainly based on clinical grounds. Plain abdominal X-rays (erect) may reveal dilated and oedematous intestines with pneumoperitoneum. Ultrasound and CT scan may diagnose up to 72% and 82% of perforation respectively. Gastrointestinal (GI) tract perforations that occur due to various causes, and most of these perforations are emergency conditions, that require early recognition and timely surgical treatment.<sup>1</sup> The mainstay of treatment for bowel perforation is repair of perforation, surgically, Endoscopic, Laparoscopic and laparoscopic assisted procedures are now being increasingly performed instead of conventional laparotomy.

Perforation of a duodenal ulcer allows egress of gastric and duodenal contents into the peritoneal cavity with a resulting initial chemical peritonitis. If continuing leakage of gastro duodenal contents, bacterial contamination of the peritoneal cavity can occur.<sup>2,3</sup> Peritonitis due to perforation of gastro intestinal hollow viscus is the common surgical emergency in India and the spectrum of disease is different from that found in the western world.

Peritonitis usually presents as an acute abdomen. Local findings include abdominal tenderness, guarding or rigidity, distension, diminished bowel sounds. Systemic findings include fever, chills or rigor, tachycardia, sweating, tachypnea, restlessness, dehydration, oliguria, disorientation and ultimately shock.<sup>3</sup>

The advent of proton pump inhibitors and helicobacter pylori eradications in the management of chronic peptic ulcer disease has reduced the operative treatment of this condition to its complications. But yet perforated duodenal ulcer remains a major life threatening complication of chronic ulcer peptic disease. Despite advances in surgical techniques, antimicrobial therapy and intensive care support, management of peritonitis continues to be highly demanding, difficult and complex.<sup>4</sup>

### Material and Methods

This study was carried out in Department of Surgery of Sarojini Naidu Medical College, Agra.

It is a descriptive epidemiological, prospective study of patients with perforation peritonitis who were admitted in the Surgery Department of Sarojini Naidu Medical College, Agra over a period of 3 years (January 2016 to December 2018).

Initial diagnosis was made on the basis of detailed history, clinical examination and presence of pneumoperitoneum on erect abdominal X-ray.

All patients of perforation peritonitis were operated and operative data was taken from patient's record.

In all cases nasogastric tube was put for gastric aspiration. Urinary catheterization was done for monitoring urine output. After proper hydration, all the patients who were fit for anaesthesia underwent emergency exploratory laparotomy. Control and repair source of contamination, generous irrigation of peritoneum and drain insertion was done during surgery. Abdomen was closed with continuous non-absorbable suture.

Information was documented under the following headings:

1. Demographical data (age, gender).

2. Clinical features (Abdominal pain, distention of abdomen, vomiting, fever, cold peripheries, decreased urine output, constipation, dyspnea, duration of symptoms).
3. Clinical examination findings (Pulse, BP, Temperature, Respiratory rate, pedal edema, systemic examination of respiratory system, cardiovascular system, central nervous system and abdominal examination to see for tenderness, localized guarding, rigidity).
4. Investigations complete hemogram, blood urea, serum creatinine, sodium, potassium, total serum protein electrocardiogram, air fluid levels.
5. Type of surgical intervention.
6. Post-operative complications.

### Results

The mean age of presentation was 43.6 years. The maximum number of patients of gastrointestinal perforation were in the age group of 41-50 years (26%) followed by in the age group of 31-40 years (21%). There were 79% of patients having the history of the using NSAIDs within 15 days of perforation or before. There were 11 patients in the age group of less than 20 years and only 6 patients were in the age group of more than 70 years. Male outnumbered female. There are 102 males (75%) and as compared to 34

females (25%) M: F ratio was 3:1. Nearly all patients belong to the low socio-economic class and lower middle class (98%). Out of 136 patients 89 patients had presented within 24 hours of onset of symptoms and the 47 patients had presented after 24 hours of onset of symptoms. Peptic (Gastro duodenal) perforations (57%) was the commonest, which was followed by small bowel perforation (26%), appendicular (6%), colonic perforation (2%), perforation after obstruction (2%), malignant perforation (3%), traumatic perforation (3%) and rectal perforation (1%). Pain was the most common complain present in all (100%) patients, followed by vomiting (79%), abdominal distension (81%), fever is present only in 13%, while constipation was present in 97% of perforations

Out of 136 patients, 18 patients (13.2%) died in the post-operative period. All of these 18 patients had presented late, after the 48 hours of the onset of symptoms with poor general condition and preoperative shock, anemia, and uremia.

37 patients had reported post-operative complications. The fever was present in 29(78.3%) patients. Wound infection was observed 67.6%. Fecal fistula was present in 2.7% cases. Burst abdomen was present in 35.71%.

**Table 1: Site of perforation**

Site of perforation	Number	Percentage
Gastroduodenal	77	56.6
Small bowel perforation	35	25.7
Appendicular perforation	8	5.9
colonic perforation	3	2.2
perforation after obstruction	3	2.2
malignant perforation	4	2.9
traumatic perforation	4	2.9
rectal perforation	2	1.47
Total	136	100

**Table 2: Post-operative complications (total 37)**

Complications	Number	Percentage
Fever	29	78.3
Wound infection	25	67.6
Fecal fistula	1	2.7
Burst abdomen	13	35.13
Paralytic ileus	10	27
Intraabdominal abscess	06	16.2
Septicemia	2	5.4

**Table 3: Chief complaints**

Symptom	Number	Percentage
Pain	136	100
Vomiting	107	79
Abdominal distention	110	81
Fever	17	13
Constipation	132	97
Abdominal tenderness	132	97
Guarding	119	87.5

Absent bowel sounds	136	100
Shock	24	17.6
Tachycardia	56	41
Dehydration	34	25
Obliteration of liver dullness	103	75.7

## Discussion

This study was intended to evaluate the spectrum of gastrointestinal perforation peritonitis in the Sarojini Naidu Medical College.

In our study we found that among the patients with gastrointestinal perforation peritonitis, majority of patients were young males in the age group of 41-50 years. It was almost equivalent to the mean age of 49 years found by Singh G et al.<sup>5</sup>

Most of the patients presented early, usually less than 24 hours of onset of symptoms, to the hospital. The commonest site of perforation was peptic (gastro duodenal) 57%,<sup>6</sup> followed by small bowel (jejunum and ileum) 26%. Other sites i.e. appendix, colon, are less common site of perforation. The results of our study are comparable with other published series in terms of demography.<sup>7</sup>

In various studies, it has been observed that there is an association between peptic perforation and use of NSAIDs, steroids and alcohol ingestion.<sup>8</sup> In our study there is also strong correlation of use of NSAID and perforation.

Appendicular perforations were seen in 8(5.9%) patients comparable to other studies that showed an incidence of 5% to 13.7%.<sup>8</sup>

Traumatic perforations accounted for 4(2.9%) of all causes and it is less with the 9% incidence shown by Jhobta RS et al.,<sup>8</sup>

Pain is the most predominant feature and is present in almost all the patients.<sup>9</sup> In the present study all the patients had pain abdomen (100%), followed by vomiting (79%) and abdominal distention (81%). The constipation was present in 97% of all patients. Similar observations were made by Ghooiand Panjwani<sup>9</sup> and Desa et al.<sup>10</sup> in their studies. Most of the patients 89(65.4%) presented early, usually before 24 hours of onset of symptoms, to the hospital.

Though Buddhraj et al.<sup>11</sup> found wound infection as commonest complication followed by faecal fistula. In this study fever was present in 29 (78.3%) patients. Wound infection was observed 67.6%. Fecal fistula was present in 2.7% cases. Burst abdomen was present in 35.71%.

Overall mortality in this study was 18(13.2%) and similar mortality were reported by various studies varying from 6% to 38%.<sup>8,12</sup>

## Conclusion

We had the study of 136 cases of perforation peritonitis in the Sarojini Naidu Medical College Agra. The education

of population of this territory is below average, and the peoples are very unaware about their health. Most of the people remain empty stomach and doing hard work and for their tiredness they are abusing the painkiller with their empty stomach. Out of 136 cases 79% patients have history the using painkiller within 15 days of perforation for any reason.

**Conflict of Interest:** None.

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