

# Clinical Study on Profile of Cases of Perforation Peritonitis.

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## ABSTRACT

**Background:** Perforation peritonitis is common cause of abdominal emergency. The morbidity and mortality associated with this condition is very high. **Methods:** The present hospital based study included 55 patients with perforation peritonitis admitted at the department of surgery. Data regarding clinical features, management and complications was noted. **Results:** Most of the patients had perforation in duodenum (58.2%). Pain abdomen was the most common complain (96.4%). Wound infection was seen in 23.6%, pneumonia in 27.3% and abdominal collection in 18.2%. **Conclusion:** Timely diagnosis of perforation peritonitis is essential.

**Keywords:** Clinical, Hospital based, Perforation peritonitis, Profile.

## INTRODUCTION

Perforation peritonitis is one of the common causes of acute abdomen.<sup>[1]</sup> The causes of perforation peritonitis, its severity and clinical course are different in different places.<sup>[2]</sup> Its management is complex and it is still an important challenge for the surgeon. There have been many advances in diagnostic techniques, surgical procedure and antibiotic therapy. Still, the morbidity and mortality associated with this condition is very high.<sup>[3]</sup>

Peritonitis may be localized at the site of origin or may become diffuse. Suppurative peritonitis leads to mortality to the extent of 10-20 % and is still unacceptably high.<sup>[4]</sup> Complex interactions of many factors determine the outcome in these cases. Success can be obtained with the early onset of specific therapy.

Studies regarding aetiology and clinical profile have not been done in this area. Hence, this study was conducted.

## MATERIALS AND METHODS

The present hospital based observational study was carried out in the department of Surgery, Katihar Medical College, Katihar. All the patients

admitted in the department and found to be suffering from peritonitis secondary to perforation were included in the present study. The cases of spontaneous bacterial peritonitis, peritonitis due to pancreatitis and due to gynaecological causes were excluded. A total of 55 patients fulfilling inclusion criteria were included in the present study.

The clinical history was taken from the patients. They were carefully examined for abdominal tenderness, rigidity and guarding, absence of bowel sounds and other signs of peritonitis. Radiological investigations were done to look for pneumoperitonium and multiple fluid levels. Provisional diagnosis of peritonitis was made and patient was resuscitated and prepared for emergency laparotomy. The source of contamination was found and repaired.

The standardized proforma was used for data collection. Background profile of patients, their clinical details, site of perforation, the treatment given and the complications were recorded. Data entry was done in Microsoft Excel and data analysis using SPSS v 16.0. Appropriate statistical calculations were done. All the records were kept confidentially.

## RESULTS

A total of 55 patients of bacterial peritonitis were included in the present study. Most of the patients were below 50 years of age (81.8%). 85.5% of them were males. 14.5% suffered from respiratory diseases, 7.3% from renal conditions, 5.5% from malignancy, 3.6% from hypertension and 1.8% from diabetes.

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**Table 1: Background profile of peritonitis cases**

Factor	Values	Frequency	%	95% CI
Age (In years)	<50	45	81.8	69.7-89.8
	>50	10	18.2	10.2-30.3
Sex	Male	47	85.5	73.8-92.4
	Female	8	14.5	7.6-26.2
Co-morbidity	Respiratory disease	8	14.5	7.6-26.2
	Renal Disease	4	7.3	2.9-17.3
	Malignancy	3	5.5	1.9-14.9
	Hypertension	2	3.6	1-12.3
	Diabetes mellitus	1	1.8	0.3-9.6

Pain abdomen was the most common complain (96.4%) followed by tachypnea (61.8%), nausea and vomiting (54.5%), abdominal distension (49.1%) and constipation (43.6%). Hypotension was seen in 12.7% and decreased urine output in 10.9%.

**Table 2: Clinical features**

Clinical features*	Frequency	%	95% CI
Pain abdomen	53	96.4	87.7-99
Nauseas & vomiting	30	54.5	41.5-67
Abdominal distension	27	49.1	36.4-61.9
Constipation	24	43.6	31.4-56.7
Fever	13	23.6	14.4-36.3
Diarrhoea	5	9.1	3.9-19.6
Tachycardia	14	25.5	15.8-38.3
Hypotension	7	12.7	6.3-24
Decreased urine output	6	10.9	5.1-21.8
Tachypnea	34	61.8	48.6-73.5

\*- Multiple response

Most of the patients had perforation in duodenum (58.2%). Small bowel perforation was seen in 20% and gastric perforation in 10.9%. Perforation of appendix (7.3%) and colon (3.6%) constituted a small percentage.

**Table 3: Site of perforation**

Site	Frequency	%	95% CI
Duodenal	32	58.2	45-70.3
Gastric	6	10.9	5.1-21.8
Jejunal	4	7.3	1.9-14.9
Ileal	7	12.7	6.3-24
Appendicular	4	7.3	2.9-17.3
Colonic	2	3.6	1-12.3
Total	55	100	-

Primary closure was done in 70.9%, appendectomy in 16.4%, resection & anastomosis in 7.3% and resection without anastomosis in 5.5%.

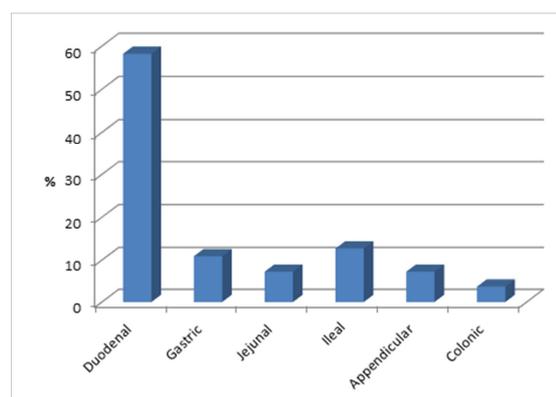
**Table 4: Surgical procedure done**

Surgery	Frequency	%	95% CI
Primary closure	39	70.9	59.8-82.7
Appendectomy	9	16.4	8.9-28.3
Resection and anastomosis	4	7.3	2.9-17.3
Resection without anastomosis	3	5.5	1.9-14.9
Total	55	100	-

In this condition, post-operative complications were common. Wound infection was seen in 23.6%, pneumonia in 27.3% and abdominal collection in 18.2%. 7.3% suffered from septicemia while 3.6% had acute renal failure.

**Table 5: Complications of surgery**

Complications	Frequency	%	95% CI
Wound infection	13	23.6	14.4-36.3
Anastomotic leak	2	3.6	1-12.3
Burst abdomen	7	12.7	6.3-24
Abdominal collection	10	18.2	10.2-30.3
Pneumonia	15	27.3	17.3-40.2
Septicemia	4	7.3	2.9-17.3
Acute renal failure	2	3.6	1-12.3



**Chart 1: showing the site of perforation**

## DISCUSSION

A total of 55 patients of bacterial peritonitis were included in the present study. Most of the patients were below 50 years of age (81.8%). 85.5% of them were males. Jhobta et al observed that mean age was 36.8 years and 84% of patients were males.<sup>[4]</sup> Vyas et al found that 52 % patients were more than 50 years of age and 78% were males.<sup>[5]</sup> Prasad et al found that patient's age ranged from 10-82 years with a mean age of 39.57 years. There were 83% males.<sup>[6]</sup> Vani et al found that mean age was 35 years with male : female ratio of 2.2 : 1.<sup>[7]</sup>

In the present study, 14.5% suffered from respiratory diseases, 7.3% from renal conditions, 5.5% from malignancy, 3.6% from hypertension and 1.8% from diabetes. Higher rates of premorbidity was seen by Jhobta et al who observed that 24% of the patients had atleast one pre-existing medical illness.<sup>[4]</sup> Vyas et al also found that 32 % patients were having one or more pre-existing medical illness like respiratory disease, diabetes, hypertension etc.<sup>[5]</sup>

Pain abdomen was the most common complain (96.4%) in the present study followed by tachypnea (61.8%), nausea and vomiting (54.5%), abdominal distension (49.1%) and constipation (43.6%). Hypotension was seen in 12.7% and decreased urine output in 10.9%. Vyas et al found that abdominal pain was the most common symptom (100%), followed by abdominal distension (88%),

constipation (84%), vomiting (64%), and fever (34%).<sup>[5]</sup> Vani et al observed that 98% patients presented with the history of abdominal pain, 64% with altered bowel habit, 42% with nausea and vomiting, and 36% with abdominal distension.<sup>[7]</sup>

Most of the patients had perforation in duodenum (58.2%). Small bowel perforation was seen in 20% and gastric perforation in 10.9%. Perforation of appendix (7.3%) and colon (3.6%) constituted a small percentage. Vyas et al found that most common site of perforation was duodenum (45%), followed by small bowel, appendix, pre-pyloric and colon.<sup>[5]</sup>

Primary closure was done in 70.9% appendectomy in 16.4%, resection & anastomosis in 7.3% and resection without anastomosis in 5.5%. Vyas et al found that 69% cases were managed by simple closure of the perforation, while resection and anastomosis of bowel was required in 8% patients. In 5% cases, resection was done without anastomosis, and ileostomy, colostomy or Hartman's procedure were performed.<sup>[5]</sup> Vani et al observed that omental pedicle closure of peptic ulcer perforation was the most commonly performed procedure (43.5%), followed by exteriorization of the gut in the form of ileostomy or colostomy (22.5%). Appendectomy was the third most common procedure (16.5%).<sup>[7]</sup>

In this condition, post-operative complications were common. Wound infection was seen in 23.6%, pneumonia in 27.3% and abdominal collection in 18.2%. 7.3% suffered from septicemia while 3.6% had acute renal failure. Vyas et al found that 48% patients experienced some major or minor complications which were more commonly seen in patients with intestinal perforation (66 %) than in patients of gastroduodenal perforation (52 %).<sup>[5]</sup> Kappikeri et al found that pulmonary complication was commonest (55%), followed by renal (30%), septicaemia (24%) and Cardiac (3%). Local complications included Surgical Site Infection (SSI) in 35%, Entero cutaneous fistula (ECF) in 4 %, fecal fistula (FF) in 5%, Intra Abdominal Abscess (IAA) in 2% and Burst Abdomen (BA) in 4 % of cases.<sup>[8]</sup>

## CONCLUSION

Most of the patients were below 50 years of age (81.8%) and 85.5% of them were males. Most of the patients had perforation in duodenum (58.2%). Pain abdomen was the most common complain (96.4%). Wound infection was seen in 23.6%, pneumonia in 27.3% and abdominal collection in 18.2%. Timely diagnosis of perforation peritonitis is vital.

## REFERENCES

1. Dorairajan LN, Gupta S, Deo SVS, Chumber S, Sharma L: Peritonitis in India- A decades experience. Tropical Gastroenterology 1995,16(1):33-38.

2. Malangoni MA. Current concepts in peritonitis. Curr Gastroenterol Rep. 2003;5:295-30.
3. Sawyer RG, Rosenlof LK, Adams RB, May AK, Spengler MD, Pruett TL. Peritonitis into the 1990s: changing pathogens and changing strategies in the critically ill. American Surgeon. 1992;58:82-7.
4. Jhobta RS, Attri AK, Kaushik R, Sharma R, Jhobta A. Spectrum of perforation peritonitis in India-review of 504 consecutive cases. World Journal of Emergency Surgery 2006, 1:26.
5. Vyas AK, Tanwani R, Raghuvanshi RS, Khantal N. A Prospective Study of Perforation Peritonitis in a Tertiary Health Care Centre of Central India. Ann. Int. Med. Den. Res. 2017; 3(2):SG67-SG69.
6. Prasad NBG, Reddy KVB. A study of acute peritonitis: evaluation of its mortality and morbidity. Int Surg J 2016;3:663-8.
7. Vani K, Prasad DR. A Clinical Study of Perforation Peritonitis. IJSR 2015; 4(8):684-5.
8. Kappikeri V, Jagarlamudi AB. Study of clinical features, management and prognostic factors in peritonitis in adults at BTGH, Gulbarga. SAS J. Surg., 2016; 2(2):71-83.

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