

## ORIGINAL RESEARCH

# Clinical study of assessment of morbidity and mortality among patients with acute peritonitis

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### ABSTRACT

**Background:** The management of acute peritonitis is primarily surgical and is based on the treatment of the cause of peritonitis, decontamination of the abdominal cavity, lavage, drainage, and is then usually continued at an intensive care unit with targeted antibiotic therapy and comprehensive intensive care. Hence; the present study was conducted for evaluating the patients with acute peritonitis.

**Materials & methods:** The present study was a cross-sectional one involving 300 patients of more than 18 years of age and of either gender who were diagnosed with acute peritonitis. Diagnosis of peritonitis was made based on clinical and radiological findings. The aetiology of the peritonitis was determined through exploratory laparotomy. A self-structured questionnaire recorded operational findings such as duodenal perforation, ileal perforation, ileal stricture with perforation, and ruptured appendix. When surgery was necessary, the perforation's underlying cause was addressed. Following surgery, patients were watched for the emergence of problems.

**Results:** Duodenal perforation was the most common cause of acute peritonitis found to be present in 28 percent of the patients. Typhoid perforation and ruptured appendix were responsible for 25 percent and 21 percent of the cases respectively of acute peritonitis. Overall complications were seen in 29 percent of the patients. Among the 29 patients with complications, dehydration, septicemia, paralytic ileus and burst abdomen was seen in 15 percent, 10 percent, 3 percent and 1 percent of the patients respectively. Maximum Mortality was found more than 50 years of Male.

**Conclusion:** Numerous disorders can induce acute peritonitis, a dangerous surgical emergency. The most frequent causes include burst appendix, typhoid ileal perforation, and duodenal perforation. By living a hygienic lifestyle, they can be prevented.

**Key words:** Peritonitis, Acute, Peritoneum

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### INTRODUCTION

Despite improving diagnostic and treatment options, diffuse peritonitis is a disease with high morbidity and mortality. Patients admitted to hospital with diffuse peritonitis are often in a state of shock. The management is primarily surgical and is based on the treatment of the cause of peritonitis, decontamination of the abdominal cavity, lavage, drainage, and is then usually continued at an intensive care unit with targeted antibiotic therapy and comprehensive intensive care. Acute peritonitis is defined as an inflammation of the peritoneum—the serous membrane lining the abdominal cavity, both its wall—the parietal peritoneum—and the organs of the abdominal cavity—the visceral peritoneum.<sup>1, 2</sup> There are a variety of factors influencing the reduction in mortality from peritonitis over the last century. Safer anesthetic techniques, improved understanding of perioperative fluid management, the advent of blood

banking, improvements in critical care, more rapid and accurate diagnostic studies, and more effective antibiotics are some of the factors that have led to a reduction in mortality from peritonitis.<sup>3, 4</sup> On the other hand, a variety of challenges have arisen that threaten to offset these advances.<sup>5</sup> Patients with intraabdominal infection are older, more commonly have comorbid diseases, often have associated immune suppression due to chronic diseases or their treatment, and more frequently have decreased physiologic reserve with either sub-clinical or evident organ failure.<sup>6, 7</sup> Hence; the present study was conducted for evaluating the patients with acute peritonitis.

### MATERIALS & METHODS

The present study was conducted for evaluating the patients with acute peritonitis. The present study was a cross-sectional one involving 300 patients of more than 18 years of age and of either gender who were

diagnosed with acute peritonitis. Diagnosis of peritonitis was made based on clinical and radiological findings. Clinical signs included generalised abdominal tenderness, absent bowel sounds, vomiting, constipation, and abdominal pain. Air under the diaphragm was visible on an X-ray, which indicated peritonitis. The aetiology of the peritonitis was determined through exploratory laparotomy. A self-structured questionnaire recorded operational findings such as duodenal perforation, ileal perforation, ileal stricture with perforation, and ruptured appendix. When surgery was necessary, the perforation's underlying cause was addressed. Following surgery, patients were watched for the emergence of problems. All the results were summarized in Microsoft excel sheet followed by statistical analysis using SPSS software. Univariate

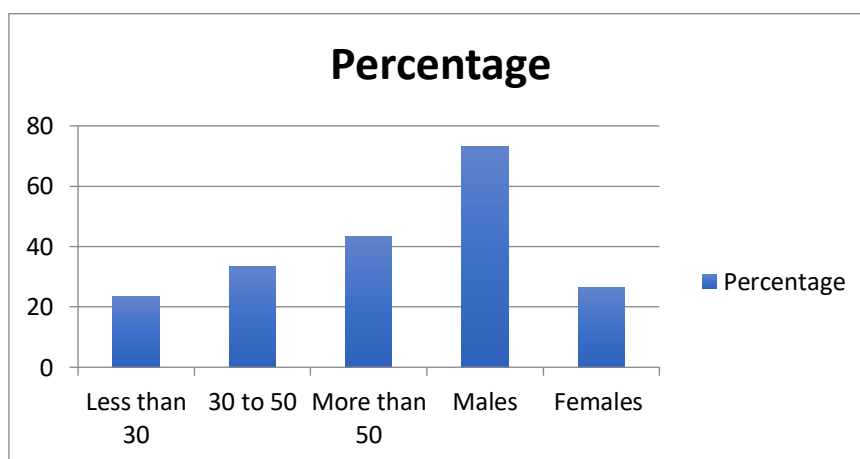
analysis was used for evaluation of level of significance.

**RESULTS**

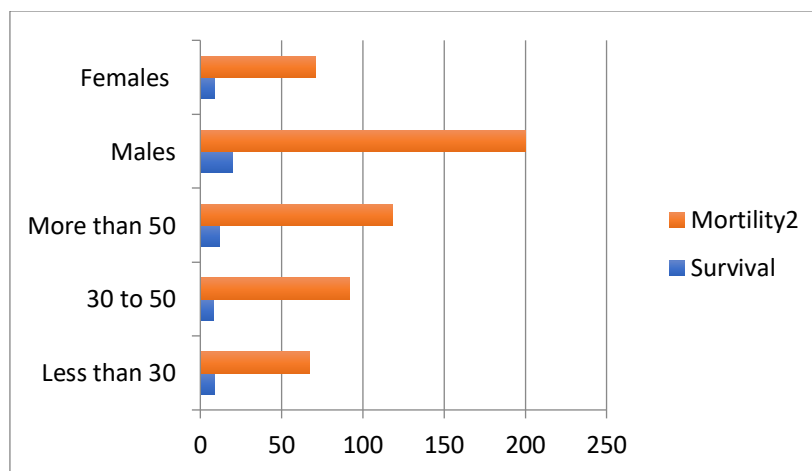
A total of 300 patients were analysed. Mean age of the patients was 48.3 years. 33.33 percent of the patients belonged to the age group of 30 to 50 years while 75.33 percent of the patients were males. Duodenal perforation was the most common cause of acute peritonitis found to be present in 28 percent of the patients. Typhoid perforation and ruptured appendix were responsible for 25 percent and 21 percent of the cases respectively of acute peritonitis. Overall complications were seen in 29 percent of the patients. Among the 29 patients with complications, dehydration, septicaemia, paralytic ileus and burst abdomen was seen in 15 percent, 10 percent, 3 percent and 1 percent of the patients respectively.

**Table 1: Demographic details**

Variable		Number	Percentage	Mortality	Survival
Age group	Less than 30	70	23.33	9	67
	30 to 50	100	33.33	8	92
	More than 50	130	43.33	12	118
Gender	Males	220	73.33	20	200
	Females	80	26.33	9	71



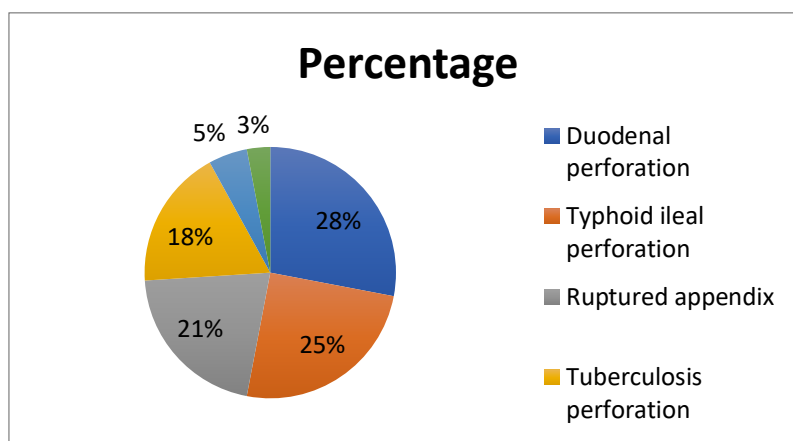
**Graph 1: Demographic details**



**Graph 2: Mortality and Survival**

**Table 2: Etiologic profile of patients with acute peritonitis**

Causes	Number	Percentage
Duodenal perforation	84	28
Typhoid ileal perforation	75	25
Ruptured appendix	63	21
Tuberculosis perforation	54	18
Liver cirrhosis	15	5
Others	9	3
Total	300	100

**Chart 1: Etiologic profile of patients with acute peritonitis****Table 3: Complications**

Complications		Number	Percentage
Present	Dehydration	45	15
	Septicaemia	30	10
	Paralytic ileus	9	3
	Burst abdomen	3	1
Absent		213	71
Total		1300	100

## DISCUSSION

Peritonitis is defined as inflammation of the peritoneal cavity and may be classified according to the underlying etiology (primary or secondary), extent (localized or generalized), or the presence of infectious agents (septic or nonseptic). Primary peritonitis refers to a spontaneous inflammatory condition in the absence of underlying intraabdominal pathology. Secondary peritonitis occurs more commonly and is the consequence of a preexisting aseptic or septic pathologic, intraabdominal condition. Secondary septic peritonitis is the more common form in the dog and cat, most commonly resulting from leakage of gastrointestinal (GI) contents from a compromised GI tract. Because of the multitude of conditions that may lead to peritonitis, the types of clinical signs and their severity are varied. Due to etiological heterogeneity, acute generalized peritonitis (AGP) remains a frequent abdominal emergency with high lethality. Several factors including patient's conditions, onset, cause, and quality/promptness of treatment significantly affect the outcome.<sup>8, 9</sup> Hence; the present study was conducted for evaluating the patients with acute peritonitis. A total of 300 patients

were analysed. Mean age of the patients was 48.3 years. 33.33 percent of the patients belonged to the age group of 30 to 50 years while 73.33 percent of the patients were males. Duodenal perforation was the most common cause of acute peritonitis found to be present in 28 percent of the patients. Typhoid perforation and ruptured appendix were responsible for 25 percent and 21 percent of the cases respectively of acute peritonitis. Our results were in concordance with the results obtained by previous authors who also reported similar findings. In a previous study conducted by Kumar D et al, authors analyzed various etiologies that cause peritonitis and shed light on the factors responsible for unsatisfactory results. Their longitudinal study included 309 patients above 12 years of age, of either gender, with confirmed diagnosis of peritonitis. Exploratory laparotomy was done to identify the cause of peritonitis. Patients were monitored postoperatively till their discharge or death for the development of complications. Their results showed that the most common cause of acute peritonitis was duodenal perforation (26.2%), followed by typhoid ileal perforation (24.2%) and ruptured appendix (16.8%). At least one complication

was observed in 31% of the participants. The most common complication was dehydration (18.8%), followed by septicemia (11.3%) and paralytic ileus (6.4%). Ten (3.2%) patients died in the hospital.<sup>10</sup>In the present study, overall complications were seen in 29 percent of the patients. Among the 29 patients with complications, dehydration, septicaemia, paralytic ileus and burst abdomen was seen in 15 percent, 10 percent, 3 percent and 1 percent of the patients respectively. In another similar study conducted by Mabewa, Amri et al, authors evaluated patients with secondary peritonitis. The study enrolled 97 patients with the female to male ratio of 1:1.8 and approximately 41.2 % (40/97) were in their third and fourth decades of life. Only 3 (3.09 %) patients arrived to the hospital within 24 hours of onset of illness, 26 (26.80 %) patients presented with shock and HIV seropositivity among all patients was 13.40 % (13/97). The common etiologies of secondary peritonitis were perforated appendicitis 23 (23.71 %), peptic ulcer disease 18 (18.56 %), ischemia 18 (18.56 %) and typhoidal perforation 15 (15.46 %). Of the 97 patients, 35 (36.08 %) had complications and 15 (15.46 %) died. Presence of pre-morbid illness and post-operative complication were found to be associated with death.<sup>11</sup>In a similar study conducted by Choua et al, authors assessed the etiological, clinical, and therapeutic aspects of acute generalized peritonitis. Acute generalized peritonitis accounted for 35.2 % of all visceral surgical emergencies. The leading cause was traumatic visceral perforation by stabbing or a firearm in 226 cases (46 %), followed by diffuse appendiceal peritonitis. Primary peritonitis was rare. The principal procedure was surgical excision and suture. The mean time to consultation was 3 days and the mean hospital stay 8.5 days. The morbidity rate was 16.8 %, dominated by wound infection. The mortality rate was 6.8 %. Abdominal trauma is the major cause of acute generalized peritonitis.<sup>12</sup>

## CONCLUSION

Numerous disorders can induce acute peritonitis, a dangerous surgical emergency. The most frequent causes include burst appendix, typhoid ileal perforation, and duodenal perforation. By living a hygienic lifestyle, they can be prevented.

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