

# Clinical Presentation and Findings in Secondary Generalised Peritonitis among the Patients Admitted in a Tertiary Care Hospital in Northern Part of India

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## ABSTRACT

Peritonitis is defined as inflammation of the serosal membrane that lines the abdominal cavity and the organs contained therein. Secondary peritonitis is caused by the loss of integrity of the gastrointestinal tract or other visceral organ. The present study was aimed to study the clinical presentation of generalised secondary peritonitis at Department of Surgery, Dr RPGMC Kangra at Tanda. There were 153 patients with age ranging from 12 years to 90 years with a mean age of 42.75 years of which 87% were males. 13.76% patients had associated co-morbidities. All the patients presented with pain abdomen, whereas fever was the next most common presentation 33.99%. Secondary generalised peritonitis with early diagnosis and presentation within 24 hours may affect the treatment outcome.

**Key Words:** Secondary Peritonitis, North India, Tertiary Care Hospital

## INTRODUCTION

Peritonitis is defined as inflammation of the serosal membrane that lines the abdominal cavity and the organs contained therein. Secondary peritonitis is caused by the loss of integrity of the gastrointestinal tract or other visceral organ. It is a common clinical problem that affects a wide range of patients. Severe secondary peritonitis, or abdominal sepsis, even in modern days is still characterized by high mortality and morbidity rates due to multiple organ failure (MOF) from septic shock. Reported mortality rates have only decreased slightly over the last few decades, and range from 20 to 60%. Morbidity rates are as high as 50% with subsequent long hospital and intensive care unit (ICU) stays.<sup>1</sup> Even though the true incidence of abdominal sepsis is not known; it is

regarded as one of the most common causes of sepsis.<sup>2</sup>

Pain is the most common symptom and may be localized or diffuse; it is usually constant and of a sharp, pricking character. A visceral perforation causes a sudden, severe pain that is usually first appreciated in the area of the perforation, but may become more generalized as peritoneal contamination spreads. The pain will be referred to the ipsilateral shoulder tip if the diaphragmatic peritoneum is involved. Anorexia, malaise, nausea and vomiting are common associated features. Constipation is usually present, unless a pelvic abscess develops (which can cause diarrhoea).

After obtaining the detailed clinical history, there should be focus on clinical signs identifying generalized peritonitis like abdominal rigidity, rebound tenderness, or

guarding in all four abdominal quadrants. Of note, abdominal auscultation has no role in the evaluation of acute abdominal pain. Although some physicians question the reliability of the physical examination after patients have received narcotics, three small RCTs have shown that early pain relief does not alter the diagnostic accuracy of the physical examination or operative decision making. Particular care is needed when examining older or obese patients, as the physical examination may be unreliable.<sup>3-5</sup> The role of early detection of severe sepsis and prompt aggressive treatment of the underlying organ dysfunction to prevent global tissue hypoxia and multiorgan failure has been emphasized.

Mortality was more in patients with delayed presentation and older age group, this can be prevented by health awareness, better primary health facility, better recruitment of health staff who skilled in emergency management and timely referral, better transport facility, increased per person income.<sup>6</sup>

The present study was aimed to study the clinical presentation of generalised secondary peritonitis at Department of Surgery, Dr RPGMC Kangra at Tanda.

## METHODOLOGY

This descriptive observational study was conducted in the department of surgery Dr. Rajendra Prasad Government Medical College Kangra at Tanda consisting of 153 patients having acute generalised secondary peritonitis presented in emergency department or Surgery outdoor patient department over a period of one year from December 2016 through November 2017. All the patients having generalised secondary peritonitis diagnosed clinically and/or radiologically over the age of 10 years were included in the study period. Exclusion criteria included patients with terminal phase of malignant disease, pregnancy, children below 10 years of age.

The patients were offered explanations about the study and requested to provide a written informed consent before

being enrolled into the study. The enrolled patients were then subjected to detailed clinical history and examination as per the proforma.

## Statistical Analysis:

The data was collected, entered and cleaned using Microsoft Excel spreadsheet. The data was analysed using Epi Info version 7.2. The quantitative variables were expressed as means and standard deviation, whereas the categorical variables were presented as frequencies and proportions.

## RESULTS

The age of patient ranged from 12 years to 90 years with a mean age of 42.75 years. Minimum age of presentation was 12 years and maximum was 90 years. 17(11.11%) patients were in the age group of less than 20 years, 36(23.53%) patients in age-group of 21-30 years, 21(13.73%) patients in age-group of 31-40 years, 26(16.99%) patients in age group of 41-50 years, 27(17.65%) patients in age group of 51-60 years, 19(12.42%) patients in age group of 61-70 years, 3(1.96%) patients in age group of 71-80 years followed by 4(2.61%) patients in age group of 81-90 years. Majority of the patients 83(54.25%) were in age group of 21-50 years which are the most productive years of life.

Among 153 patients, 132(86.27%) patients were males and 21(13.73%) of the patients were females with male: female ratio of 6.29:1.

All the patients presented with pain abdomen. Apart from pain abdomen, fever was present in 52(33.99%) of the patients, constipation in 25(16.34%) patients, and diarrhoea in 20(13.07%) patients. 37(24.18%) of the patients had signs of dehydration. Abdominal distension was present in 132(86.27%) of the patients and there were 148(96.73%) of the patients who were having abdominal guarding and/or rigidity. 14(9.15%) patients presented with secondary generalised peritonitis had hypovolemic shock. It was observed that the pain abdomen, fever, abdominal distension, abdominal guarding and/or rigidity were

major signs and symptoms in patients with generalised secondary peritonitis.(Table 1)

Table 1: Description of the age group and clinical features of the patients		
Age group (Years)	Number of patients	%
<20	17	11.11
21-30	36	23.53
31-40	21	13.73
41-50	26	16.99
51-60	27	17.65
61-70	19	12.42
71-80	3	1.96
81-90	4	2.61
GENDER		
Male	132	86.27%
Female	21	13.73%
CLINICAL PRESENTATION		
Pain Abdomen	153	100%
Fever	52	33.99%
Constipation	25	16.34%
Diarrhea	20	13.07%
Dehydration	37	24.18%
Abdominal distension	132	86.27%
Guarding and/ or Rigidity	148	96.73%
Hypovolemic Shock	14	9.15%

53(36.64%) out of 153 patients presented within first 24 hours of onset of symptoms and 100(65.36%) patients presented after 24 hours. (Table 2)

Table 2: Timing of presentation		
Timing of presentation	Number of patients	%
<24 hour	53	36.64%
>24 hour	100	65.36%

21(13.76%) patients had associated co-morbidities. Respiratory disease was the most common co-morbidity in 15(9.80%) patients followed by hypertension in 4(2.61%) patients. One patient had both hypertension and diabetes mellitus while there was another patient who had diabetes mellitus associated with chronic kidney disease.(Table 3)

Table 3: Co-Morbidity Among The Patients Admitted With Peritonitis		
Co-morbidity	Number of patients	%
Hypertension	4	2.61%
Diabetes mellitus	2	1.31%
Respiratory Disease (COPD, Asthma)	15	9.80%
Renal Disease (CKD, Nephropathy)	2	1.31%

## DISCUSSION

Secondary peritonitis is common surgical emergency which presents as life threatening condition associated with a high

mortality and morbidity. Secondary peritonitis is due to spread of infection from intra-abdominal organs or as a result of spillage from gastrointestinal or genitourinary tract. Despite the great progress in intensive care support, antimicrobial therapy and surgical techniques, the management of peritonitis is still highly complex and represents a challenge for clinicians.<sup>7</sup>

The mean age of patients was 42.75 years which is comparable to study conducted by Arveen et al with the mean age of 43.4 years.<sup>8</sup> Majority of the patients 83(54.25%) were in age group of 21-50 years which are the most productive years of life. Jhobta et al also reported in their study that perforation peritonitis affected young men in the prime of life as compared to the studies in the west.<sup>9</sup> Ghosh et al in their study also found that most of the patients with secondary peritonitis were in the age group of 31-50 years.<sup>10</sup> Ugochukwu et al reported a mean age of 39.5 years while in a study by Dinesh et al, most of the patients 33(54.9%) were in age group of 21-50 years.<sup>11-12</sup> In another study by Jeetender et al the mean age of patients was 45.5±4.2 yrs with most patients in 21-50 age group 34 (56.6%).<sup>13</sup>

In our study the ratio of male to female patients was 6.29:1. This observation is consistent with results of available literature. Most of the series from India have reported male preponderance over females in secondary peritonitis. The ratio of male to female was 5.25:1 in a study by Malik et al while Yadav et al in their study at Delhi reported a male to female ratio of 4.9:1.<sup>14,15</sup>

Pain abdomen was the predominant symptom in our study. Pain abdomen was seen in all cases 153(100%). In a study conducted by Sivaram et al pain abdomen was present in 100% of their patients.<sup>16</sup> In a study by Yadav et al, pain abdomen was present in 96.6% of their patients while Mabewa et al reported pain abdomen in 97.94% of their patients with secondary peritonitis.<sup>15,17</sup> Apart from pain abdomen, fever was the next common symptom

present in 33.99% of the patients which was comparable to the study done by Jhobta et al in which it was present in 25% of cases.<sup>9</sup> In a study by Shankar et al the fever was present in 72% of cases while Malhotra et al reported fever in 37(40%) of cases.<sup>18,19</sup> Other symptoms in our study included constipation in 25(16.34%) patients, and diarrhoea in 20(13.07%) patients.

In the present study, 53(36.64%) out of 153 patients presented within first 24 hours of onset of symptoms and 100(65.36%) patients presented after 24 hours. According to the observations by Jhobta et al. in Chandigarh and Gupta et al. in Jammu and Kashmir, 47% and 60% of their patients presented within 24 hours respectively.<sup>9,20</sup> Timing of presentation after 24 hours was found to be a significant factor in development of post operative morbidity and mortality.<sup>14</sup> Patients who present within 24 hours of onset of symptoms had uneventful recovery whereas those presenting after 24 hours had significant post operative morbidity which is similar to the study conducted by Shanker et al.<sup>18</sup>

21(13.76%) patients in our study had associated co-morbidities. Respiratory disease was the most common co-morbidity in 15(9.80%) patients followed by hypertension in 4(2.61%) patients, diabetes mellitus in 2(1.31%) patients and chronic kidney disease in 2(1.31%) patients. However, Ghosh et al from India have reported hypertension the most common comorbidity followed by chronic obstructive pulmonary disease.<sup>10</sup> It was observed that comorbid illness was significantly associated with post operative morbidity which was also reported by Jhobta et al.<sup>9</sup>

## CONCLUSION

Secondary generalised peritonitis with early diagnosis and presentation within 24 hours may affect the treatment outcome. Mass education, skilled health care providers and better health care facility may be the life saving factors for the patients with secondary generalised peritonitis.

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