Research Article

Clinical profile of patients with peritonitis due to hollow viscous perforation

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ABSTRACT

Background: Peritonitis due to hollow viscous perforation has been documented by many historians. Previously the disease was inevitably fatal due to lack of knowledge of surgical procedures, lack of availability of good quality post-operative care.

Methods: After obtaining detailed history, complete general physical examination and systemic examination, the 52 patients will be subjected to relevant investigations. The complete data is collected in a specially designed case recording form. The data collected will be transferred into a master chart which is then subjected for statistical analysis.

Results: 52 patients with diagnosis of secondary peritonitis were included. The mean age of patients was 45.72 (SD 14.26) years ranging from 15 to 75 and majority of patients (44%) belonged to age group of 46-60 years. There was male preponderance (70%).

Conclusions: majority of patients presented to the hospital after 24 hrs of onset of symptoms and the mortality of those patients who presented within 2 to 5 days and after 5 days was higher than as compared to mortality in patients who presented on the first day of onset of symptoms.

Keywords: Peritonitis, Hollow viscous perforation, Clinical profile

INTRODUCTION

Peritonitis due to hollow viscous perforation has been documented by many historians. Previously the disease was inevitably fatal due to lack of knowledge of surgical procedures, lack of availability of good quality post operative care. With ages, management of this condition has undergone various changes in surgical procedures for the specific conditions and also the level of post op care increasing the survival rates to a significant level.¹⁻³

The virulence of contaminating bacteria is influenced by a number of factors. Several organisms are well recognized for their innate ability to produce intra-abdominal infection in humans. Despite the massive contamination and complexity of the microbial spectrum that occurs with caecal perforation, within 24 to 48 hours,

only a few isolates are recovered in peritoneal fluid culture. This indicates that only a few pathogenic bacteria survive, to predominate infection.⁴ Weinstein demonstrated that *E. coli* and enterococcus were the predominant organisms during the peritonitis phase, while *B. fragilis* predominated during the abscess phase.⁵ Another unique pathogenicity is the remarkable ability of encapsulated anaerobic bacteria to produce abscess formation, a characteristic attributed to the capsular polysaccharide components. The ability to adhere to the mesothelial surface may also enhance the virulence of some organisms such as the enterobacteraceae and *B. fragilis*. Aerobic bacteria may benefit anaerobic species by lowering the redox potential of the micro environment and producing essential nutrients while anaerobic bacteria may provide the ability to inhibit neutrophil function and to develop antibiotic resistance by inactivation.^{6,7}

METHODS

Cases admitted with peritonitis due to hollow viscous Perforation to Dept. of surgery, Navodaya Medical College Hospital and Research Centre, Raichur during the period about 52 cases. After obtaining detailed history, complete general physical examination and systemic examination, the patients will be subjected to relevant investigations. The complete data is collected in a specially designed case recording form. The data collected will be transferred into a master chart which is then subjected for statistical analysis.

Inclusion criteria

Patients with clinical suspicion and investigatory support for the diagnosis of peritonitis due to hollow viscous perforation who are later confirmed by intra- operative findings.

Various aetiologies causing such features include,

1. Acid peptic disease
2. Typhoid
3. Tuberculosis
4. Appendicitis
5. Malignancy

Exclusion criteria

1. Patients with hollow viscous perforation due to trauma
2. Patients with associated vascular diseases
3. Patients with any other significant illness which is likely to affect the outcome more than the disease in study.

RESULTS

In this study 52 cases of secondary and tertiary peritonitis who attended surgical emergency unit were selected over a period of one year from June 2013 to June 2015.

Table 1: Age - sex distribution.

Age	Sex		Total
	Male	Female	
Less than 15			
16-30	4	3	7 (13%)
31-45	12	4	16 (31%)
46-60	15	8	23 (44%)
Above 60	5	1	6 (12%)
Total	36	16	52 (100%)

In the study, 52 patients with diagnosis of secondary peritonitis were included. The mean age of patients was 45.72 (SD 14.26) years ranging from 15 to 75 and majority of patients (44%) belonged to age group of 46-60 years. There was male preponderance (70%).

Table 2: Time of presentation of study subjects.

Duration of pain	Patients	Percentage (%)
<24 hrs	11	21
1-5 days	36	69
>5 days	5	10
Total	52	100

In the study group of 52 patients, majority of patients presented to the hospital after 24 hrs of onset of symptoms and the mortality of those patients who presented within 2 to 5 days and after 5days was higher than as compared to mortality in patients who presented on the first day of onset of symptoms.

Figure 1: Etiological distribution.

Figure 2: Peritonitis.

Table 3: Exudates.

Exudates	Frequency	Percent
Clear	26	50%
Purulent	16	31%
Feculent	10	19%
Total	52	100%

Presence of feculent or purulent exudates was reflected in higher eventual scores. Feculent and purulent exudates were associated with significantly increased post op complications requiring increased hospital stay. Up to 80% of the patients with clear exudates had no post op

complications. However there was no statistically significant difference between feculent and purulent exudates, both having similar complication profiles.

70% of the study population presented with diffuse peritonitis and 30% with localized.

DISCUSSION

Peritonitis remains a hot spot for the surgeons despite advancements in surgical technique and intensive care treatment. Various factors like age, sex, duration, site of perforation, extent of peritonitis and delay in surgical intervention are associated with morbidity and mortality. A successful outcome depends upon early surgical intervention, source control and exclusive intraoperative peritoneal lavage. Also various methods and scoring systems are used to identify the risks and to morbidity and mortality in those patients.

In the present study 52 cases of peritonitis those attended Navodaya Medical College emergency from June 2013 to June 2015 were included with age ranging from 15 to 75 years. The mean age of the patients was 45.72 (SD 14.26) years. There was male preponderance (70%) with male to female ratio of 1.9:1. In our study the most common etiology of peritonitis was duodenal perforation was seen in 61% of patients, followed by ileal (19%), gastric (5%) and appendicular perforation (15%).

Ohmann et al reported duodenal ulcer perforation as the commonest cause for peritonitis in his series while Kachroo et al found appendicular perforation as the commonest cause. The overall diagnostic accuracy for peritonitis was 97.3%.^{6,7}

In the study, majority of patients (79%) presented to the hospital after 24 hrs (between 2 to 5 days and more than 5 days) of the onset of symptoms and the mortality of those patients were 59% and 17% respectively as compared in patients who presented on the first day of onset of symptoms.

CONCLUSION

Some scoring systems provide a prediction that approximates to the observed mortality rate for a cohort, but none is sufficiently accurate to rely upon when considering an individual patient.

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Ethical approval: The study was approved by the institutional ethics committee

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