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Clinical study and management of acute peritonitis in Tertiary care center

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Abstract

Background: Acute peritonitis is one of the most common surgical emergencies we encountered in day today practise. Though the diagnosis of peritonitis is easy but finding the underline cause is the diagnostic challenge to every surgeons. This requires a thorough clinical evaluation and specific investigations to have an accurate diagnosis. The management of acute peritonitis is a surgical challenge with high morbidity and mortality. Therefore it is necessary to study and evaluate various factors to understand the underlying cause to reduce the morbidity and mortality.

AIM: Analysis of various causes of acute peritonitis with respect to morbidity and mortality and to assess Mannheim peritonitis index scoring system as a predictor of prognosis in acute peritonitis.

Materials and Methods: It is a prospective study of patients above 18 years of age, who presented with acute peritonitis during the period of August 2020 to Jan 2021 were admitted under the dept of general surgery in Sree mookambika institute of medical sciences, kulashekaram.

Results: Out of 52 patients included in this study, each patients were evaluated separately and each one is subjected to mannheim peritonitis index score. With the help of scoring system, outcome of the patients were predicted earlier and managed accordingly. In my study population, age group between 41-50 is found to be on higher side with 18 patients (34%) followed by 51-60 years with 15 patients (28.84%). Male gender is more predominant in this study group with 36 patients (69.23%) where female gender on lower scale with 16 patients (30.76%). On assessing the date of presentation, 27 patients of the study population presented to our emergency department with in the first day with 51.9%. Each patients were subjected to earlier investigation and cause of the peritonitis were identified, among the causes of peritonitis, acute intestinal obstruction were found to be on higher side in study population with 14 patients (26.92 %) followed by appendicular perforation with 11 patients (21.15%). 20 patients (38.46%) were presented with signs of shock where remaining 32 patients (61.51%) show no sign of shock. In this study group, patients with Mannheim peritonitis index score less than 26 were noted in 36 patients (69.23%) and score more than 26 in 16 patients (31.73%). During my study, mortality was noted in only one patients with 1.9%.

Conclusion: Mannheim peritonitis index score is found to be a useful stool in assessing the morbidity pre operatively. Patients with score less than 26 were found to have better prognosis with less hospital stay as well as post-operative complications while comparing the patients with score more than 26 were confirmed during my study. Score more than 26 were found to have lot of complications like burst abdomen, wound infection, prolonged hospital stay with significant mortality and morbidity.

Keywords: Mannheim peritonitis index score, acute peritonitis

Introduction

Acute peritonitis is the challenging and potential life threatening complication encountered all over the world. The initial evaluation and confirming the cause of the peritonitis is difficult to obtain. Therefore it is necessary to study and evaluate factors which prognosticate increased morbidity and mortality and the use of scoring system such as the Mannheim peritonitis index score, which help in assessing the prognosis prior to the operative period. Numerous studies were done to assess the mortality index which varies from 6- 27% [1].

Initial evaluation with scoring system along with the other clinical and bio-chemical parameters help in assessing the prognosis. Based on the risk assessment and grading system. Earlier identification of patients with severe peritonitis will help the surgeon to give vigorous surgical care till the day of discharge [2, 4].

Material and Methods

In the study, 52 patients were selected who visited our hospital with acute peritonitis during the

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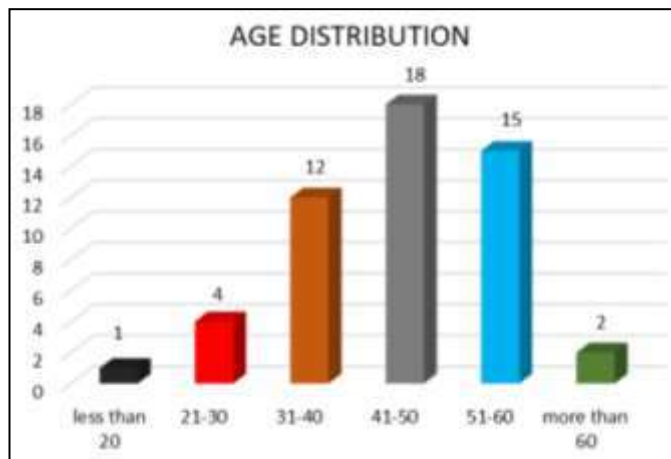
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period of august 2020-jan 2021.a prospective study analysis is made for all 52 cases on the basis of age, gender, etiology of peritonitis, day of presentation, features of shock and mannheim peritonitis score.all patients who were diagnosed with acute peritonitis were subjected to initial evaluation after confirming the cause of diagnosis. Patients underwent emergency laparotomy. Broad spectrum antibiotics covering both gram positive and gram negative were given along with anaerobic coverage,30 minutes prior to the surgery. The same protocol was followed for all the patients and their response was analysed by stastical analysis using spss 23.0

Results

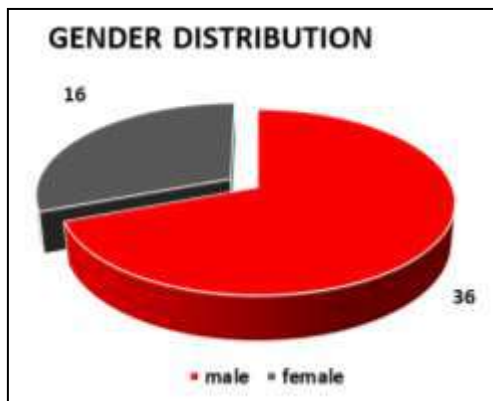
Out of 52 patients in the study population, majority of the patients were noted in the group of 41-50 years with 18 patients (34%) followed by 51-60 years group with 15 patients (28.84%), 31-40 age group with 12 patients (23%), 21-30 age group with 4 patients (7.6%), age group more than 60 years with 2 patients (3.84%) and age group less than 20 years with 1 patient (1.9%).



Graph 1: Age distribution

Gender distribution

In the study population, male gender is more predominant with 36 patients (69.23%) while comparing the female gender on the lower side with population of 16 patients (30.76%).

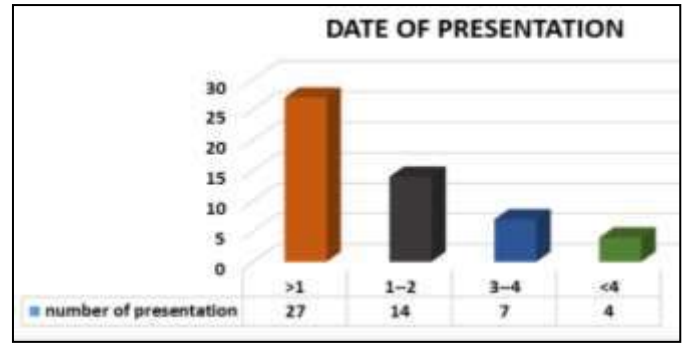


Graph 2: Gender distribution

Day of Initial Presentation

During the study period majority of the patinets presented to the emergency deparment with one day of abdominal pain which is noted in 27 patients with 51.9% followed by patients presented on the 1st -2nd with population of 14 patients (26.92%). 7 patienths presented on the 3rd - 4th day with 13.46% and 4

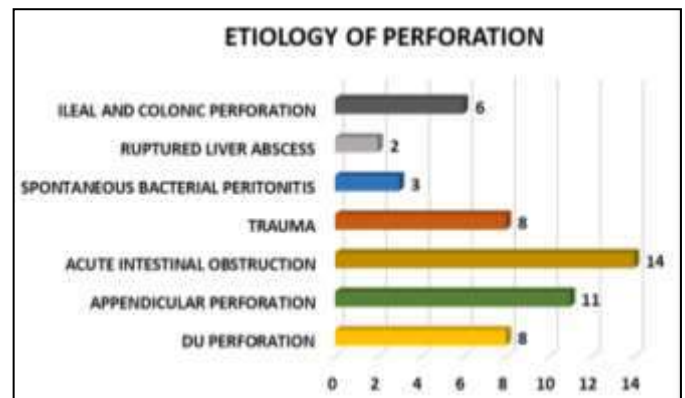
patients presented with pain for more than 4 days with 7.69%.



Graph 3: Day of initial presentation

Etiology of peritonitis

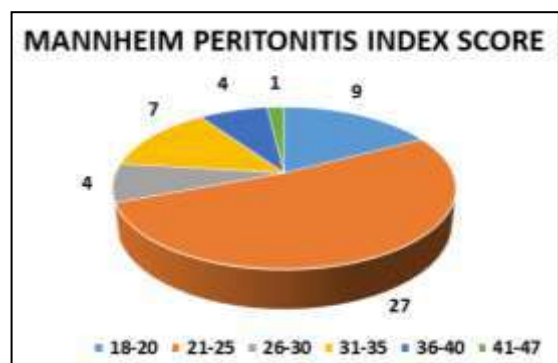
Among the study population, acute intestinal obstruction was found to be the cause of majority of peritonitis with 14 patients (26.92%) followed by appendicular perforation in 11 patients (21.15%), Duodenal perforation and trauma were noted in 8 patients with 15.38%, illeal and colonic perforation were noted in the 6 patients with 11.53%, spontaneous batcerila peritonitis in 3 patients with 5.76%, Ruptured liver abcess producing spontaneous peritonitis were noted in 2 patients with 3.84%.



Graph 4: Etiology of Perforation

Mannheim peritonitis index score

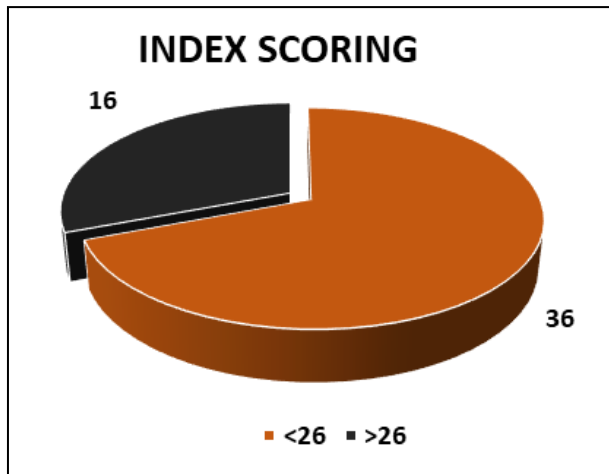
During the study population, all the patients with acute peritonitis were initially vealuated with prognostic scoring system, majority of the patients belong to the grading score between 21-25with 51% of study population, where 9 patients belong to the scoring system of 18-20 with 17.3%, 7 patients with scoring grade between 31-35 with 13.46%, 4 patients belong to the gradig of 36-40 with 7.96% followed by 1 patient belonging to the grade of 41-47 with 1.92%.



Graph 5: Mannheim peritonitis index score

Prognostic index scoring

Of all the patients with the grading score less than 26 were having good prognosis, Earlier Hospital discharge, less postop complications which is noted in the 36 patients with 69.23%. where patients with grading system more than 26 where have post operative complications and their hospital stay were prolonged while comparing the other group.



Graph 6: Index Scoring

Mortality

During the entire study period, out of 52 patients only one patient has expired while remaining 51 patients discharged without any complications.

Discussion

Peritonitis following the gastro intestinal obstruction and perforation is the most common etiology of acute peritonitis. Various other factors like age, etiology, time of presentation, Mannheim peritonitis index more than 26 have more change of mortality and morbidity.

Kusumoto *et al.* [5] in his study, he evaluated the reliability of MPI in the outcome of peritonitis. As a comparison of scoring system it provides the better diagnostic tool in assessing the postoperative period. In my study, patients belonging to scoring system below 26 have zero mortality while scoring system above 26 had one mortality.

Conclusion

MPI is disease specific, easy scoring system for predicting the mortality in patients with secondary peritonitis. Increasing scores are associated with poorer prognosis, needs intensive management and hence it should be used routinely in clinical practice.

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