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RESEARCH ARTICLE

A RETROSPECTIVE STUDY ON PERFORATION PERITONITIS

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ABSTRACT

Perforative peritonitis is one of the most serious and most overwhelming catastrophic conditions that can befall a human being and hence they should be treated energetically. The objective of the study is to highlight the etiology, clinical presentation and management and outcomes of the patients diagnosed and treated asperforativeperitonitis. A retrospective study was done on 567 patients diagnosed and treated as perforative peritonitis at our institute for a period of 3 years from January 2013 to December 2015. Patients who are all above 15 years of age provisionally diagnosed as perforative peritonitis and thosesurgically managed were included in this study. In this study maximum incidence of perforative peritonitis was seen in age group of 41-50 years with mean age of 45 of which 88% were males. In this study, the over all most common site of perforation was 1st part of duodenum (76%). In 92% of patients abdominal pain was the most common clinical presentation. X ray abdomen erect revealed air under diaphragm in 64.6% of patients with perforation. In rest of the patients CT scan was taken and in which free fluid, pneumoperitoneum, fat stranding, localized air pockets were the positive findings in diagnosing perforation. 96%of the patients were managed primarily with surgery, 4%were initially managed with flank drain and later were taken up for surgery. The overall mortality was about 22.04%. Most common cause of death was septicemia. In this study the most common post-operative complications was wound infection.

Aim of the study

- To evaluate the incidence of perforative peritonitis in relation to age/sex.
- To evaluate the etiology of perforative peritonitis.
- To study the incidence of site of perforation in perforative peritonitis.
- To enlist the clinical presentation of patients of perforative peritonitis
- To know the significance of investigative procedures in diagnosing perforative peritonitis.
- To study the outcome of surgical management of perforative peritonitis

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INTRODUCTION

Perforation peritonitis is one of the most serious and overwhelming emergency that a surgeon encounters worldwide. Common causes of perforation are peptic ulcer disease, drug abuse, typhoid, tuberculosis, acute appendicitis, blunt trauma, penetrating trauma, malignancy. Perforation is said to occur once the pathology spreads through all the layers of hollow viscous which then leads to contamination of peritoneal cavity with the contents of hollow viscus. Perforation can occur anywhere in gastrointestinal tract.

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Recognition of signs, symptoms, immediate resuscitation, accurate diagnostic techniques, stabilizing of patient using iv fluids, electrolyte correction, antibiotics, and analgesics brings down the mortality and improves the outcome of the patient after surgery. Radiological investigations play a major role in diagnosis. Any delay in a management increases the mortality of the patient. This study was done to analyse the etiology, incidence, clinical presentation, treatment protocol and management of patients admitted in our hospital as a case of perforativeperitonitis.

MATERIALS AND METHODS

A retrospective study of 309 cases of perforation peritonitis admitted at Thanjavur medical college and hospital during the period of 3 years from January 2013 to December 2015

INCLUSION CRITERIA

Patients greater than 15 years admitted in our hospital provisionally diagnosed as perforation peritonitis of traumatic and non traumatic origin who underwent relavent investigation and managed surgically were included. All cases with primary peritonitis due to anastamotic dehiscence were excluded. Patients who were managed surgically were excluded. Patients below 15 years of age were excluded. Patients with comorbid conditions like diabetes, hypertension, COPD, CAHD were excluded.

RESULTS

In this study there were total of 567 cases of perforation peritonitis over a period of 3 years of which 498(87.8%) were males and 69(12.1%) were females. 41-50 years of age group are affected more common in this study, with the mean age of 45 years. The most common site of perforation was duodenal perforation (66.8%) and 2nd most common was ileal perforation (11.8%). 79% patients had non traumatic perforation, of which 62% had first part of duodenal ,perforation, 26% patients had appendicular perforation, 8% had gastric perforation, 4% rest of the bowel was involved. Abdomen pain was the most common presentation in 91.88%, followed by vomiting, distension.

X ray abdomen erect was taken for all the 567 cases of which 64.5% of patients had air under the diaphragm , rest of patients CT abdomen was done and showed (25.5%) pneumoperitoneum, 10% had no pneumoperitoneum . 410 cases were taken up for surgery in 6 hours of admission, 96 patients were taken within 3 hours of surgery. 61 patients were taken for surgery in 12-24 hours of admission.4%(23) of the cases were managed conservatively by flank drain, and later were taken up for surgery. Remaining (96%) were managed primarily with surgery. Most common post operative complications was wound infection followed by LRI, Urinary tract infection, wound gapping. About 125(22.04%) patients expired. The most common cause of death was septicemia.

DISCUSSION

Despite a better understanding of path physiology, advances in diagnosis, surgery, antimicrobial therapy and intensive care support, perforation peritonitis remains a potentially fatal affliction. Hence in this study, an attempt is made to analyse the various factors affecting the morbidity and mortality of patients with perforation peritonitis. In conservative cases, where flank drain is put, Aggressive prompt resuscitation, fluid management and surgical intervention helps in reducing morbidity and mortality of perforation peritonitis.

AGE

In our study patients above 15 years who were provisionally diagnosed as perforative peritonitis were included. The least age was 16 and eldest was 80. Peak incidence was found to be between 41-50 years and the mean age was 45.

Table

AGE	NO. OF PATIENTS	PERCENTAGE
<30years	104	18.34%
31-40years	106	18.7%
41-50years	153	26.98%
51-60years	112	19.75%
>60years	92	16.22%

Gender

In our study, of the total 567 patients 87.8% were males and only 12% were females. Thus there was a male predominance for perforation in the study. This very low incidence of perforation in females compared to males may be due difference in diet habits, living style, stress, economical burden, cultural habits.

Table

GENDER	NO.OF PATIENTS	PERCENTAGE
Male	498	87.8%
Female	69	12.1%

Etiological factors

There are several etiological factors, that can cause hollow vicus perforation. Common etiological factors for perforation peritonitis are peptic ulcer, NSAIDs abuse, appendicitis, trauma, typhoid, tuberculosis, and malignancy. In our study most common is peptic ulcerdisease .

SITE OF PERFORATION

Perforation of proximal gastrointestinal tract is more common than distal gastrointestinal tract. In our study duodenal perforation (379) was most common site followed by ileum (67). But ileal perforation (45.68%) is most common in the setting of trauma followed by jejunum (22.41%). In non-traumatic patients, Duodenal perforation(81.81%) was the commonest followed by ileum, appendix, gastric, jejunum, rectum, caecum.

Table. Both Trauma and Non Traumatic Perforations

Site of perforation	Frequency	Percentage
Duodenum	379	66.84%
Ileum	71	12.52%
Appendix	51	8.99%
Gastric	45	7.91%
Large bowel	21	3.7%

Table. Traumatic Perforation

Site of perforation	Frequency	Percentage
Ileum	53	45.66%
Jejunum	26	22.41%
Gastric	15	12.9%
Duodenum	10	8.6%

Clinical presentation

Symptoms

Most common symptoms in patients presenting with perforation is abdominal pain. The site of pain may be diffuse or localized according to perforation site. Other common symptoms are abdominal distension, vomiting, fever. In this study, 91.88 % (521) of patients presented with abdominal pain as the most common symptom. 65.07% (369) patients had abdominal distension, 55.31 %(312) patients had vomiting and 58 %(329) of patients had fever as the other common symptoms.

Table

Symptoms	Frequency	Percentage
Abdominal pain	521	91.88%
Abdominal distension	369	65.07%
Fever	329	58.02%
Vomiting	312	55.02%

Signs

Out of 567 patients, 82.89% had abdominal guarding and rigidity, 78% of patients had absent bowel sounds, and 53% of patientshad obliterated liver dullness. 7% of patients came with features of shock.

Table

Signs	Frequency	Percentage
Guarding and Rigidity	470	82.89%
Absent bowel sounds	442	77.95%
Obliterated liver dullness	298	52.55%
Shock	39	6.87%

Investigations

All the patients were dealt with basic investigations along with X ray abdomen erect. In X-ray air under the diaphragm was seen in almost all the patients. Those who had no finding in the X ray, CT abdomen was taken.

In CT, pneumoperitoneum was the most common finding, other findings are free fluid, fat stranding, air pockets in the localized area of perforation. All patients were managed with aggressive fluid resuscitation and higher antibiotics and analgesics. Most of the patients were taken up for surgery within 6 hours of admission.

Table

Complications	No of patients	Percentage
No complications	298	52.5%
Wound infection	129	22.7%
Pneumonia	51	8.98%
Sepsis	33	5.8%
Burst abdomen	25	4.4%
ARDS	20	3.52%
Anastamotic leak	11	1.9%

Outcome of surgery

Patient with more contaminated fluid in the abdomen, had increased mortality. Patients who presented late to the hospital had higher incidence of mortality due to established peritonitis and sepsis. Inpost operative period, most common complication was wound infection, others were LRI, ARDS, sepsis, anastamotic leak and wound gapping. Cases who were managed conservatively had higher mortality than who were managed surgically. In this study 125 patients expired (22.04%), 442 patients survived. Common cause of death in perforation peritonitis is septicemia followed by ARDS.

Table. Mortality in different sites of perforation

Site of perforation	No. of patients expired	Percentage
Duodenal	56	44.8%
Appendicular	13	10.4%
Gastric	19	15.2%
Ileal	22	17.6%
Jejunal	11	8.8%
Large bowel	4	3.2%

In this study, of the 125 deaths, highest percentage occurred in duodenal perforation (44.8%) followed by ileum (17.6%), gastric perforation (15.2%). But in trauma, death is highest in jejunal perforation.

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