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Perforative Peritonitis -An Overview, A Retrospective Study of 120 Cases

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Abstract

Perforative peritonitis is the most common surgical emergency in India. The spectrum of aetiology in Asian countries continues to be different from Western countries. The aim of the study was to highlight the spectrum of perforative peritonitis as encountered by us at medical college hospital, which is important primary referral government hospital in Hassan district . In this retrospective study, a total of 120 cases of perforative peritonitis were included, which constituted 25% of surgical abdominal emergency admissions. Duodenal perforation (45%) was the most common cause of perforative peritonitis. Abdominal pain was the commonest presenting symptom and free gas under diaphragm in chest radiogram was commonest important diagnostic finding especially in duodenal perforations. Appendicular perforation was the second most common condition which affects all the ages. Morbidity and mortality was directly related to time interval between occurrence and surgical intervention and amount of contamination in peritoneal cavity. Other predictors were co-morbid conditions, site of perforation, post operative complications and increasing age of the patient. Mortality overall was 15%, highest in duodenal perforation. This article presents a spectrum of aetiology, clinical presentations and outcomes in perforative peritonitis in 120 patients.

Introduction

Perforation occurs when the wall of a hollow viscus develops a hole through its entire thickness. Peritonitis is peritoneal inflammation due to reaction of peritoneal cavity to the contents of the perforated viscus.

Classically, peritonitis is divided into two distinct types. Acute, primary or spontaneous peritonitis is usually caused by an infection with a single organism (e.g., Streptococcus pneumoniae, Escherichia coli) in which no identifiable source or continuing contamination can be demonstrated[1]. Thus, surgical intervention has nothing to offer. It is not associated with hollow viscus perforation.

Secondary or surgical peritonitis arises from an injury or lesions of the gastrointestinal tract, the biliary system, pancreas, and genitourinary tract. It may therefore be amenable to surgical therapy.

Perforation can be caused by chronic inflammation due to H Pylori, NSAIDs, stress, life style factors like excessive smoking, alcohol, tea or coffee consumption, by trauma, illnesses as appendicitis, ulcer disease, enteric fever.

Death is due to septicaemia, myocardial failure, vascular collapse, anoxia, and cerebral oedema. Perforations need emergency surgical management which is a formidable problem. Old age, poor general status, Septic shock, delays in intervention in form of surgery, site and pathology of perforation, peritoneal contamination are factors predicting mortality and morbidity.

Aims and Objectives

The aim of study was to evaluate the current pattern of perforations, to study various aetiological factors, management and overall mortality and morbidity with contributing factors in 120 patients in primary referral government hospital.

Material and methods

This study comprised of 120 cases of perforations admitted in surgical ward of Sri Chamarajendra Hospital, which is a primary referral government Hospital for 3 districts.

All cases diagnosed as perforative peritonitis from 1 January 2014 to 31 December 2014.

In each case after resuscitation, a detailed clinical history and clinical examination was performed. Routine investigations done included the haemogram, renal and liver function tests. Radiogram of chest in erect position was done in all patients.

In a moribund patient, erect or even lateral decubitus radiogram was done. In some cases where, gas was not demonstrated, but clinically perforation was suspected, air was insufflated through Ryle's tube into the stomach which was followed by the chest radiogram which demonstrated free gas. This was followed by abdominal ultrasound.

In some cases where the diagnostic dilemma was persistent, a CT scan was done. Hence a CT was not done in all the patients. The patients were resuscitated till the clinical condition was deemed satisfactory to undergo surgery. The criteria for adequate resuscitation were adequate urine output and normal values of BUN, creatinine and electrolytes.

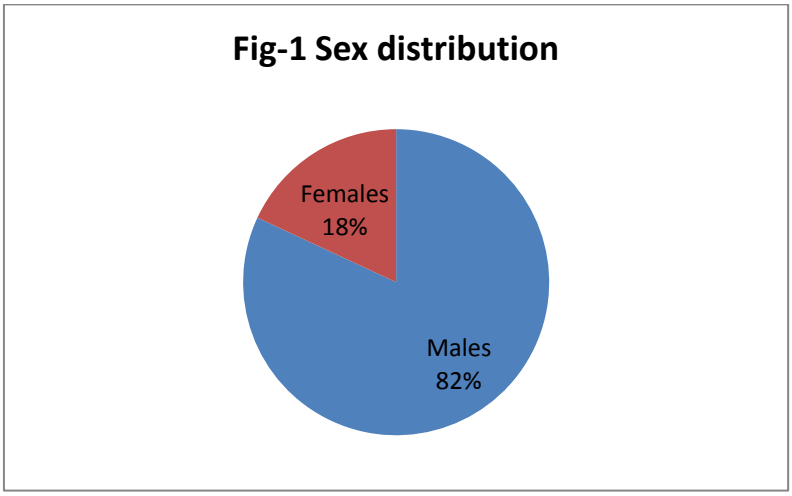
All the patients were subjected to emergency exploratory laparotomy after resuscitation. A standard midline incision was used and peritoneal cavity was serially explored in all quadrants. The surgical procedure was carried out depending on aetiology, site and pathology of perforation.

A thorough wash of peritoneal cavity was carried out and drain was left in peritoneal cavity depending on amount of contamination.

The patients who had presented with perforation peritonitis and admitted but not included in this study were those who underwent conservative management as they were not fit for surgical procedure, had improved clinically prior to surgery and those who died prior to surgical procedure due to sepsis.

Results

In the study, 98 (81.6%) were males. With male to female ratio of 5.5:1. The mean age was 45yrs. Majority of the patients were in age group 40-60yrs (45%) and the least number were found in the age group 0-20yrs(5%).



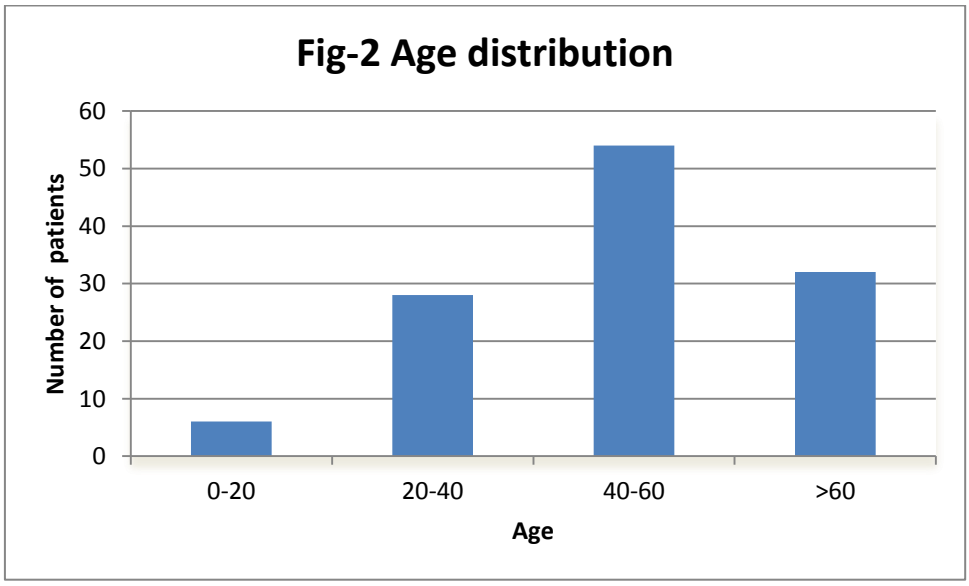
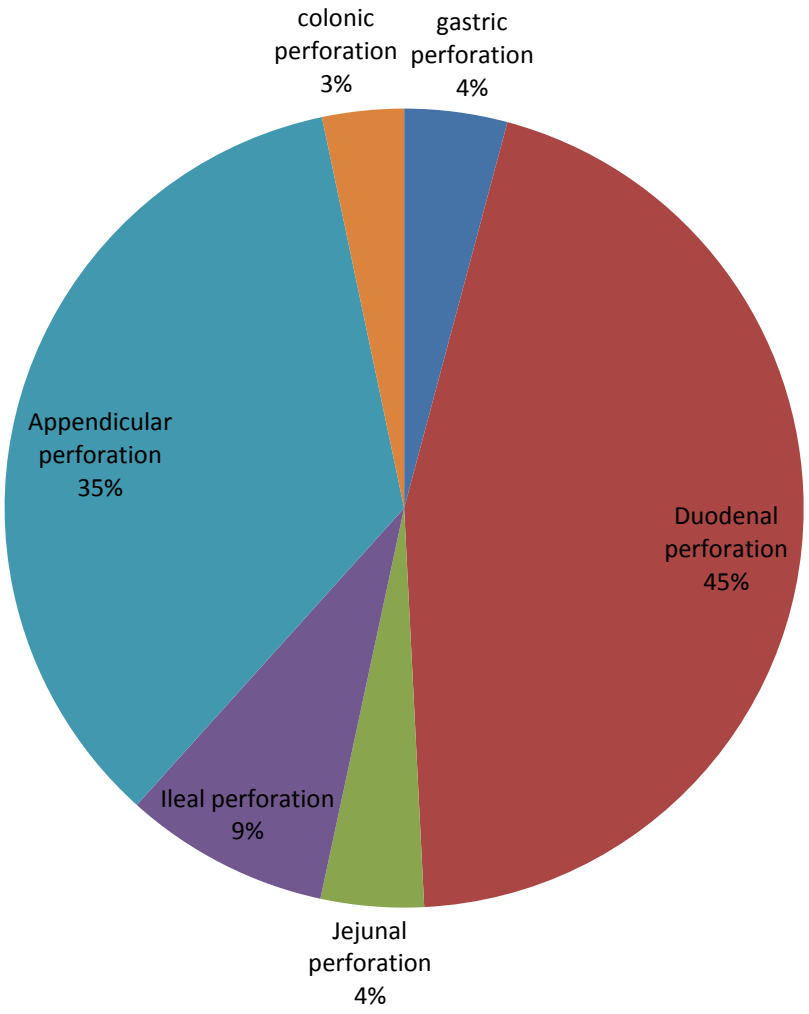


Fig-3 Various types of perforation

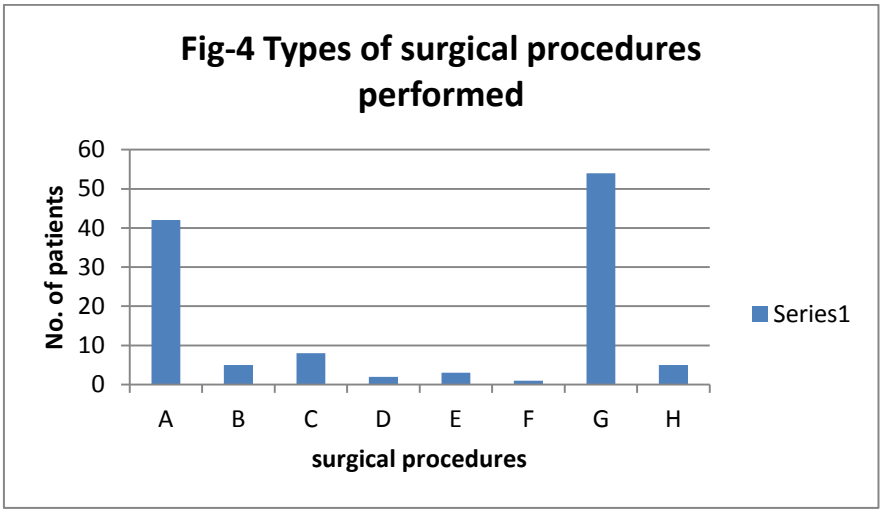


The most common suspected aetiology was duodenal perforation in 45% patients. The commonest cause was peptic ulcer perforation with first part of duodenum being the commonest site. 97% patients presented with abdominal pain as chief complaint associated with fever, vomiting, site of pain being epigastrium in 60%, right hypochondrium 27%, lower abdomen 7% and all over the abdomen in 6%.

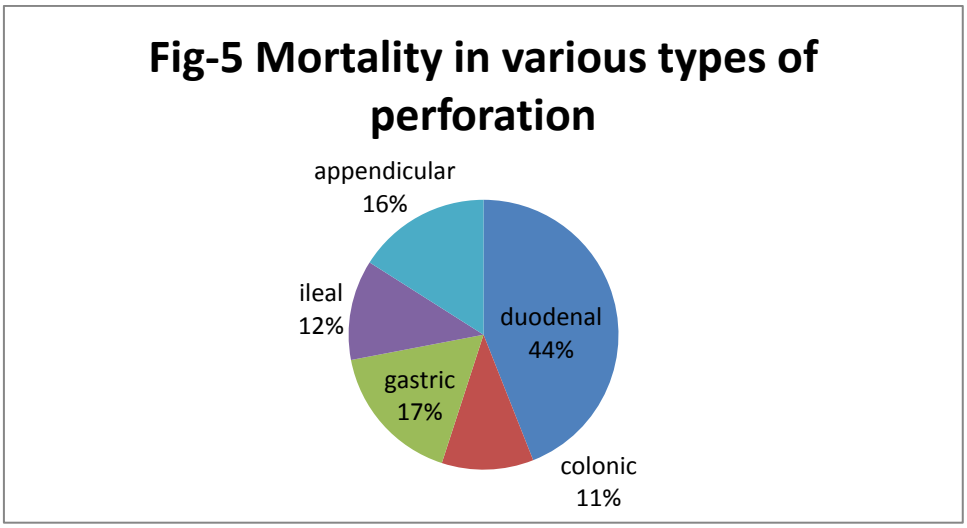
All the cases under went laparotomy and the following procedures were done:

A. Appendicectomy
B. Primary closure of gastric perforation
C. Primary closure of ileal perforation
D. Ileostomy with Primary closure of ileal perforation
E. Hemicolectomy
F. Transverse colostomy
G. Primary closure with omental patch for duodenal perforation
H. Primary closure of jejunal perforation

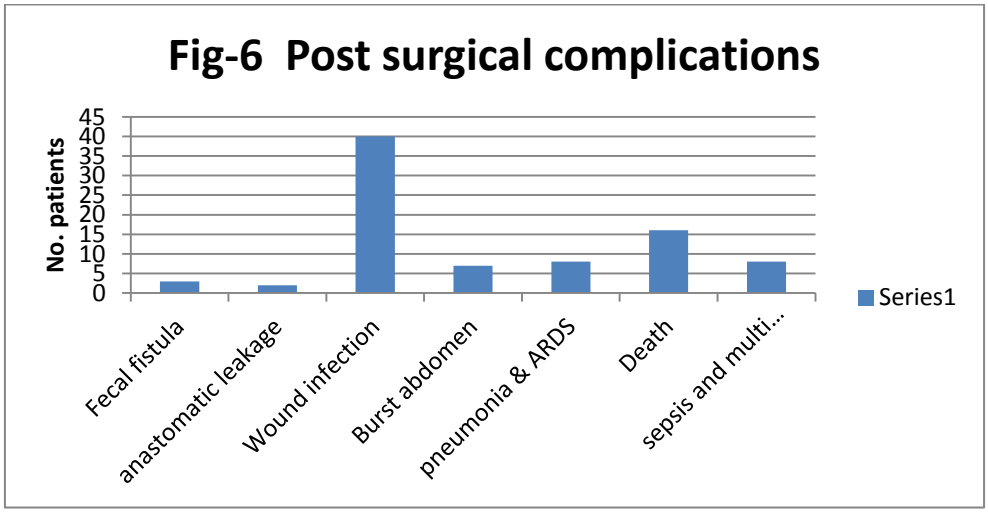
The commonest surgical procedure was Primary closure with omental patch for duodenal perforation.



Overall mortality was 15%. Duodenal perforation carried maximum mortality. This was due to co morbid conditions, severe contamination, more perforation-operation interval, and old age



The commonest complication was wound infection (33%) and the time interval for occurrence of complication was 7-10 days post surgery.



Discussion

Perforative peritonitis is a common surgical emergency. The relative incidence of various types of perforations is variable[2,3]. There definitely is a regional bias in the frequency and incidence of intestinal perforations, with enteric perforations being encountered more frequently in the developing countries of South East Asia, and colonic perforations in the Far East. In India, peptic ulcer perforation is the commonest followed by enteric, appendicular, traumatic and malignant perforations[2,3,4]. Enteric and upper intestinal pathology is common in developing nations as in Asia due to poor socio-economic conditions and stressful lifestyles. In western countries due to lifestyle and dietary habits, along with genetic predisposition, large bowel pathology is common.

Average age of incidence is 45yrs[1,6,7]. Highest incidence seen in 40-60yrs. DU perforation was the commonest perforation[8]. Majority of the patients with DU perforation were not taken treatment with PPI or received irregular treatment. None of the patients receive H pylori eradication therapy. This is the main reason for DU perforation, even in the era of PPI's. Other contributing factors were consumption of NSAID's[10], alchohl and spicy food.

Appendicular perforation was the second most common cause[2,5]. Reasons for increased appendicular perforation are mainly misdiagnosis. About 20% of the appendicular perforation admitted in the medical wards had history of vomiting and loose stools. Loose stools was because of pelvic collection. Second common reason for delayed diagnosis was inadequate treatment received without proper diagnosis.

Jejunal perforation mainly found in cases of traumatic perforation, both blunt and penetrating injury. Ileal perforation mainly found in post typhoid cases[9]. There are two iatrogenic injury secondery to vaginal hysterectomy and abdominal hysterectomy.

Gastric perforation has got highest mortality rate. Most of the gastric perforation were secondary to malignant ulcer. One case was secondary to blunt abdominal injury. High mortality in gastric perforation was because of increased age and malignancy.

Colonic perforation were mainly because of carcinoma of colon[7,11,12]. Blunt abdominal injury was the other cause. High mortality rate was also found in colonic perforation group. Reason for high mortality were increased age, fecal contamination and sepsis.

Conclusion

Duodenal perforation is commonest followed by appendicular, terminal ileal and gastric as noted by us in our study. Even the involvement of working young economically productive population is more as noted in the studies. High rate of appendicular perforation was mainly due to delayed diagnosis and inadequate treatment taken at peripheral places. Treatment options vary from surgeon to surgeon but for commoner perforations of duodenum, ileum and stomach, primary closure with omental re-inforcement is the preferred option. Finally the outcome depends on the time of occurrence of the perforation and presentation

to the hospital. Mortality and morbidity increases as the perforation site is distal. So, a better understanding of aetiological factors, early and prompt diagnosis, good post operative care needs to be carried out to further improve the outcome in gastrointestinal perforations.

References

1. Bailey and love's short practice of surgery, Norman S Williams, 26th edition, page no 971-976.
2. Gopal Singh, RK Sharma, Arun Gupta- Gastrointestinal perforations- a prospective study of 342 cases. Gastroenterology today Oct -Dec 2006, Vol-10, 4,167-170.
3. Banerjee JC, Bhattacharya PB- A Handbook of Tropical Diseases with treatment and prescription, 6th ed.Sec 3,Ch.1 p 220- 229,Academic publishers, Calcutta, 1960.
4. Dandapatt MC, Mukherjee LM, Mishra SB, Are view of 340 cases. Ind J Surg 1991; 53(5):189-93
5. Gupta Sanjay, Kaushik Robin. Peritonitis- The Eastern Experience World. J Emergency Surgery 2006; 1:1-13.
6. OP Murthy, LY Fan, TL Siang - Fatal gastrointestinal perforations in sudden death cases in last 10 years at UMMC MalaysiaInternet Journal of Medical Update, Jan-Jun 2007, Vol. 2, No.1.
7. RS Jhobta, R Kaushik, - Spectrum of perforation peritonitis in India- review of 504 consecutive cases- World Journal of Emergency Surgery Dec 2006, 1:26
8. Prajakt V Patil, Manmohan M Kamath, Milan M Hindalekar- Spectrum of perforative peritonitis- A prospective study of 150 cases, vol. 54, No.1, 2012.
9. Khanna AK, Mishra MK - Typhoid perforation of the gut - Postgraduate Medical Journal 1984, 60:523.
10. Ofman JJ, Maclean CH et al-Analysis of severe upper gastrointestinal tract. Assesment of conventional radiology. Radiol Clin North Am 1992;30:405
11. Shinkawa H, Yasuhara H, Naka S- Factors affecting the early mortality of patients with nontraumatic colorectal perforation. Surg Today 2003, 33:13-7.
12. Chen HS, Sheen-Chen SM: Obstruction and perforation in colorectal adenoca-rcinoma: an analysis of prognosis and current trends. Surgery 2000, 127:370-6.