



THE STUDY OF FACTORS THAT PREDICT THE MORTALITY & MORBIDITY IN PERFORATED GASTRODUODENAL ULCER DISEASE

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ABSTRACT **BACKGROUND:** With the introduction of H2 receptor antagonists and proton pump inhibitors, the incidence of elective surgery for peptic ulcer diseases have decreased, although complications of peptic ulcer such as perforation and bleeding have remained fairly constant.

METHOD: A prospective study consisting of 50 patients who underwent surgery (simple closure with omental patch) over a period of 2yrs (2018,2019) in tertiary care hospital

RESULTS: There were 47 male and 3 female patients. There were 47 duodenal and 3 gastric ulcer perforations. Laparotomy and XI Simple closure of perforation with omental patch was performed. A total of 51 postoperative complications were present in 27 (48.3%) patients.

CONCLUSION: Patient's age 65 years and more, associated medical illness, prolong use of drugs like NSAID's or Corticosteroid's, duration of perforation of more than 24 hours before surgery, presence of pre operative shock on admission, size of ulcer perforation and purulent peritoneal contamination are factors significantly associated with fatal outcomes in patients undergoing emergency surgery for perforated peptic ulcer. Therefore, proper resuscitation from shock and decreasing delay in surgery is needed to improve overall results.

KEYWORDS : Gastro duodenal ulcer perforation; Morbidity and Mortality; Duration of perforation; Pre operative Shock on admission

INTRODUCTION

Peptic ulcer disease (PUD) refers to the underlying tendency to develop mucosal ulcers at sites that are exposed to acid and pepsin. Most commonly, ulcers occur in the duodenum and stomach. Perforation of duodenal peptic ulcer is a common surgical emergency. Just closure of perforation may save life but chance of recurrence of ulcer is too high. In spite of better understanding of the disease, effective resuscitation and prompt surgery still there is high morbidity (36%) and mortality (6%). Hence, attempt has been made to analyze the various factors, which are affecting the morbidity/mortality of patients with peptic ulcer perforations.

AIMS AND OBJECTIVES OF THE STUDY

To study the factors that predicts the mortality & morbidity in perforated gastro duodenal ulcer disease.

1. The pre-operative factors like age, sex, pre-operative shock, delay in treatment and associated concurrent diseases like chronic obstructive pulmonary disease, cardiovascular disease, impaired liver function, renal diseases, diabetes mellitus and hypertension.
2. The operative findings like size of ulcer perforation and grades of peritoneal contamination.
3. The post operative complications like wound infection, wound dehiscence, paralytic ileus, residual abscess, pneumonia, pleural effusion, respiratory failure, renal failure, cardiac failure, septicemia and multi-organ failure

SOURCE OF DATA

A prospective study conducted over a period of 2 year (Jan 2018-Dec 2019) in all patients undergoing simple closure with omental patch at our tertiary care hospital.

Inclusion Criteria:

1. Patients with Gastroduodenal ulcer perforation of age > 15 years.
2. Patients with duodenal or gastric perforation of peptic ulcer origin.

Exclusion Criteria:

- 1) Traumatic gastroduodenal perforation.
- 2) Iatrogenic gastroduodenal perforation.
- 3) Malignant gastroduodenal perforation
- 4) Paediatric patients of age < 14 years presenting as peptic ulcer

perforation.

- 5) Patients presenting as recurrent perforation or stomal ulcer perforation

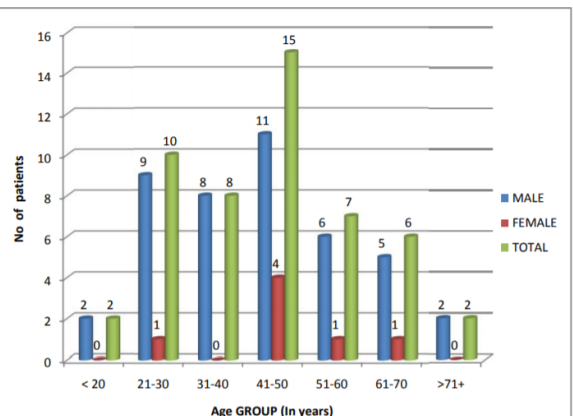
Clinical Features:

A detailed history of suspected patients of peptic ulcer perforation regarding age, sex, previous use of NSAIDs, smoking and other associated illnesses was taken. The diagnosis was made on clinical findings supported by investigations like plain xray erect abdomen. Relevant investigations were performed on the patient.

OBSERVATION AND RESULTS:

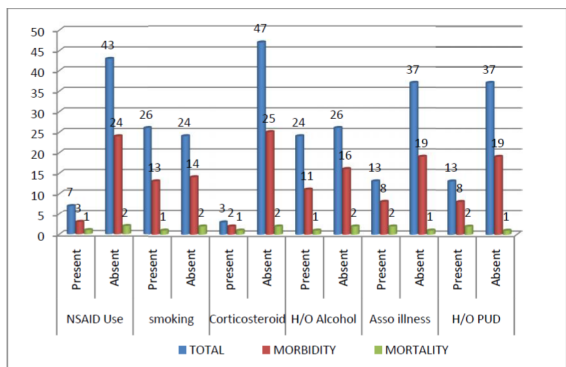
A prospective study was carried out in Department of General Surgery during the period from January 2018 to December 2019 in 50 patients undergoing simple closure with omental patch belong to various surgical units operated by different senior surgeons.

1. The age and sex incidence in patients with gastro duodenal ulcer perforation



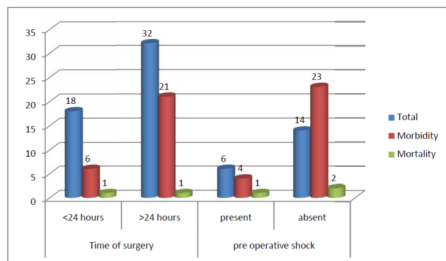
- The highest incidence was observed in Fifth decade of life. The youngest patient was 18 years old and oldest was 80 years old. Perforation was more common in males compared to females, the ratio being 7:1.

2. History Of Use Of NSAIDs, Smoking, Alcohol, Associated Illnesses And GDUP



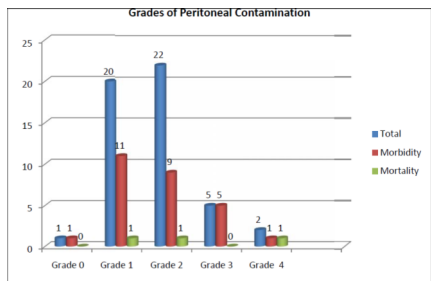
- In this study 7 (14%) patients had history of regular ingestion of NSAIDs and 3(6%) patients had history of ingestion of corticosteroid. History of regular smoking was present in 26 (52%) patients, 20 patients developed postoperative complications and 2 patients expired in postoperative period.
- History of regular alcohol consumption was present in 24 (48%) patients, 11 patients developed postoperative complications and 1 patient expired in postoperative period.
- A previous history of dyspepsia or peptic ulcer symptoms was present in 13(15%) out of 50 patients.
- 13 (26%) patients had associated co-morbid conditions, Hypertension was present in 6 patients, COPD was present in 3 patients, 2 patients were known asthmatic, 1 patient was diabetic, 1 patient had Ischemic Heart Disease (IHD), and 8(16.5%) patients developed postoperative complications and 2 patient expired in postoperative period.

3. Time Of Surgery, Shock On Admission, Predicting The Morbidity And Mortality In Patients With GDUP



- 32 (64%) patients underwent surgery after 24 hours of perforation, the rest were seen before 24 hours. 21 (65.6%) patients who underwent surgery after 24 hours developed postoperative complications and 2 (6.6%) patients expired.
- At the time of admission, shock (systolic BP less than 100) was present in 6 (12%) patients. 4 (66.6%) patients developed postoperative complications and 1 (16.6%) patients expired in postoperative period

4. Type Of Peritoneal Contamination Affecting Morbidity And Mortality In Patients With GDUP

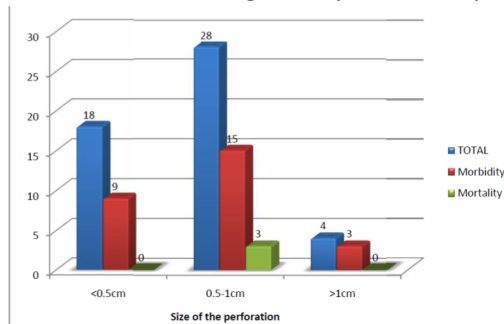


Graph no: 6: Showing Grades of peritoneal contamination predicting the mortality and morbidity

- On exploration, 20 (40%) of the patients had grade 1 peritoneal contamination, 22(44%) had grade 2 peritoneal contamination, 5(10%) had grade3 peritoneal contamination 2(4%) had grade 4 peritoneal contamination.

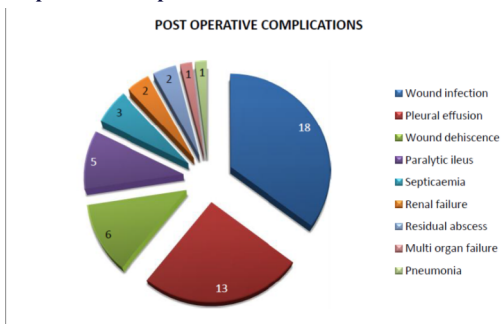
- In our study grade 3 and grade 4 peritoneal contamination shows 100% and 50% morbidity. This concludes patient with purulent peritoneal contamination morbidity will be increased.

5. Size Of Perforation Predicting Mortality And Morbidity



- In 18(36%) patients the size of perforation was < 0.5 cm in which 9(50%) patients developed post operative complications.
- In 28 patients the size of perforation was 0.6-1 cm in which 15(54%) patients developed post operative complications and 3 died.
- In 4(8%) patients the size of perforation was >1 cm in which 3(75%) patients developed post operative complications

6. Postoperative Complications



27(54%) patients had postoperative complications. Most common postoperative complication was wound infection in about 18(36%) patients followed by pleural effusion in 13 patients (26%), 6 patients had wound dehiscence in which tension suturing was done, 5 patients had prolonged paralytic ileus, 3 patients had septicemia, 2 had renal failure, 2 had residual abscess in which USG guided aspiration was performed, one developed pneumonia and 1 developed multi organ failure.

CONCLUSION

Perforated gastro duodenal ulcer disease is emerging as a frequent cause of acute abdomen in south India. The perforation is common in the age group of 30-50 years. It is more common in males. Age more than 65 years, associated medical illness, prolonged use of drugs like NSAIDs or corticosteroids, the duration of perforation more than 24 hours and presence of shock on admission, size of perforation, patients with purulent peritoneal contamination (grade III or grade IV) and type of surgery is associated with increased morbidity and mortality in patients with gastro duodenal ulcer perforation. Early diagnosis and prompt management of shock, septicemia and decreasing delay in surgery is important for better prognosis of patients

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