**Objective**

To observe the results and complications of operated cases of perforated gastric and duodenal ulcer disease.

**Patients and Methods**

This observational study was carried out at Department of Surgery, Chandka Medical College, Hospital Larkana and GMMMC Sukkur, Pakistan from March 2006 to December 2010. A total of 150 patients of peritonitis due to perforated gastric and duodenal ulcer were included in the study. Traumatic perforations were excluded. Emergency laparotomy was done and perforation repaired. All pre-operative, operative and postoperative parameters and events were noted.

**Results**

Out of 150 patients, 127 were male with mean age of 51.76±11.49 year and 23 female with mean age of 53.2±12.25 year. Duration of symptoms of perforation was 48 hours in 72.5% patients and less than 48 hours in 27.5% patients. 45.35% patients have history of NSAID and anti ulcer drugs use. 45% were smokers. Complications after operation were seen in 32% of patients. 7% patients expired postoperatively.

**Conclusion**

Gastro duodenal ulcer perforation is dreadful situation. Smoking, prolonged use of NSAIDS and H. pylori infection are common risk factors leading to ulceration and perforation. Increased morbidity and mortality is associated with late presentation. Educating people to avoid smoking & H. pylori treatment can prevent the ulcer disease and ultimately the perforation. (Rawal Med J 2012;37:316-318).

**Key words**

Gastro duodenal perforation, peptic ulcer, NSAID, peritonitis.

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**INTRODUCTION**

Peptic ulcer perforation is one of the common emergencies with peritonitis and perforation is one of the commonest and potentially fatal complication. The incidence of peptic ulcer perforation rose from 1.6% in 1998 to 5.3% in 2002 and established at 5% and overall accounted for 4.6% of acute abdomen. Common site of perforation is first part of duodenum and prepyloric region of stomach anteriorly. Peptic ulcer can be treated with proton pump inhibitors (PPI) and H. pylori eradication with antibiotics. Modified Graham's patch technique involves the closure of perforation placing the omentum over repair. Margins of gastric perforation are refreshedened.

Laparoscopic surgery has become popular recently mainly because it is associated with less post operative complications than conventional open approach, and affording all the advantages of minimal invasive surgery. Improving the surgical skill, wound care, good hospital environment and equipment, are needed to reduce the high rate of complications. Risk factors for morbidity after peptic ulcer perforation are age, severe concomitant diseases and post-operative complications. Shock at the time of presentation, presence of co-morbid illness and renal failure are identified as independent predictor of morbidity and mortality. The aim of this study was to assess the outcome of operated cases of perforated peptic ulcer disease at our institution.

**PATIENTS AND METHODS**

This observational study was carried out at Department of Surgery, Chandka Medical College, Hospital Larkana and GMMMC Sukkur, Pakistan from March 2006 to December 2010. Patients diagnosed as perforated gastric and duodenal ulcer were included. Traumatic perforation were excluded from the study. Patients admitted through emergency were optimised by intravenous fluids. Nasogatric tube for suction and Foley's catheter was
passed to monitor urinary output. Analgesics, parenteral PPI/H₂ Blockers, antibiotics and fluid electrolyte replacement therapy were started. CBC, blood sugar, blood urea, serum creatinine, serum electrolytes and H. pylori antibodies and X-ray chest were done. Cardiac opinion was taken in elderly patients. Help from nephrologist, general physician and pulmonologist was taken for uraemia, diabetes and patients with pulmonary problems. After optimization, laparotomy was done. Abdominal cavity washed with normal saline after sucking out the contaminated fluid and perforation was closed with vicryl 2/0 using modified Graham patch technique. Before closure of gastric perforation, edges were refreshed and tissue sent for histopathology. Abdomen was closed after putting drains. On 4th postoperative day nasogastric tube was removed and sips were allowed. H. pylori eradication treatment given to those patients with high titer of H. pylori antibodies. Patients usually discharged between 7th to 12th postoperative day. Some of the patients remained hospitalized up to 3 weeks, who developed major complications e.g. burst abdomen. A proforma was filled regarding symptoms, smoking and use of non steroidal antiinflammatory and anti ulcer drugs. Size of perforation, post operative complications i.e. wound infection, pneumonia, leakage, and residual abscess were also recorded. Data was analysed by using SPSS version 17.

RESULTS
Out of 150 patients, 127 were male and 23 female. Age ranged from 25 to 72 years (mean 51.76±11.49 for males and 53.32±12.25 for females). 72.5% patients were admitted after 48 hours of onset of symptoms of peritonitis and 27.5% were admitted within 48 hours. Almost all patients presented with abdominal pain. Other features were abdominal distention in 79.56% patients, vomiting in 20%, dehydration in 73.5%, constipation in 80% and 20% of patients were received in the condition of shock. Past history of NSAID and taking anti ulcer drugs was present in 45.35% patients. 45% of patients were smokers, 15.37% were diabetic and 13% of patients were jaundiced and uremic. Perforation was present near pylorus and 1st part of duodenum in most of the cases. Size varied from 0.5 to 2 cm (mean 0.875±0.257 cm). Mean operative time was 55.75±11.63 minutes. Over all, 32% patients developed postoperative complications. Wound infection was observed in 23% of patients and pneumonia in 11%, leakage in 6% and subdiaphragmatic abscess in 3% patients. Ultrasound guided aspiration was performed for subdiaphragmatic abscesses. Re-laparotomy was performed in 6% patients who developed postoperative leakage. Hospital stay ranged from 7 to 20 days (mean 9.76±1.93 days). 7% patients expired postoperatively.

DISCUSSION
Gastro duodenal ulcer perforation incidence among males is 9/1000 patients and in females 1/1000 patients. Other studies show M:F ratio as 12.3:1, 4.25:1, 4.38:1, 8.1² respectively. In our study, male to female ratio was 5.5:1. In our study, age ranged from 25 to 82 years, (highest were in 4th to 5th decade, 79.25% patients). Some of the patients had jaundice and uremic. Perforation was also observed in diabetes. Other studies show mean age was 43.4, 35.3, 39.08, 37.53, and 45.49, while Mehboob described mean age 31.4 years with peak incidence in 3rd decade.

Majority of patients were admitted after 48 hours, while 27.5% were admitted within 48 hours of onset of symptoms of perforation. In study by Mehboob, 82.5% had come within 48 hours while in Qamaruddin’s study 71.48% patients came within 48 hours. In another study, mean time of presentation was 16.5 hours. In Arven and Dakubo studies 52.6% and 46.2% reached within 24 hours, respectively.

History of use of NSAIDS was present in 45.35% and 45% had history of smoking. Smoking, history of peptic ulcer and use of NSAIDs are common risk factors for perforation. In other studies, NSAIDS, steroids and smoking were described as most common risk factors.

20% patients in our study were in state of shock. Septic shock at the time of admission has been described as an important factor in the prognosis. Co-morbid conditions (DM,
uraemia, COPD and ischemic heart disease) were present in 21% of patients in this study. In other studies comorbid conditions were in 18.2%³ and 7.31%¹⁰ patients. Size of perforation varied from 0.5 to 2 cm in size. In other studies mean size of perforation was 0.45 cm⁷ and 0.5 cm.¹⁴

Mean operative time was 55.75 minutes in our study; while mean operative time in other studies was 63.57 min¹⁰ and 55 min¹⁶ respectively. Postoperative complication rate in other studies was 19%,² 41%,⁸ 25.91%,¹⁰ 17.2%,¹¹ 8.6%¹⁶ and 30%¹⁷. Postoperative complications were observed in 32% of patients in this study, which is quite high. Mean hospital stay was 9.76 days while mortality rate was 7%. In other studies, mean hospital stay was 10,² 14.5,⁸ 8,¹⁰ 10.9,¹⁰ and 7.8¹⁶ days, while mortality rate was 4.76%,³ 7.5%,⁴ 3.9%,⁸ 8.5%,¹⁰ 17.11%,¹⁴ 27%,¹⁵ and 9%.¹⁷

CONCLUSION
Gastro-duodenal ulcer perforation is a life threatening condition. Smoking, prolonged use of NSAIDS and H. pylori infection are common risk factors. Delayed arrival and comorbid conditions increase the morbidity and mortality. Educating people to avoid smoking and H. pylori treatment can prevent the perforation.

REFERENCES