

Silent Peptic Ulcer Disease Perforation

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ABSTRACT

Objective To determine the frequency of asymptomatic (silent) peptic ulcer disease (PUD) perforation and risk factors associated with it.

Study design Descriptive case series.

Place & Duration of study Surgical Unit 1, Ward-3 Jinnah Postgraduate Medical Centre (JPMC) Karachi, from January 2014 to December 2016.

Methodology All patients above twelve year of age operated due to peptic ulcer perforation with history of known case of PUD and asymptomatic patients with spontaneous perforation were included. Risk factors like H-pylori infection, use of NSAIDs, smoking, alcohol consumption, betel nut consumption and socioeconomic status were noted. Frequencies of asymptomatic and symptomatic PUD patients with perforations were determined and risk factors for both the groups were analyzed.

Results Total of 198 patients of acute peritonitis due to peptic ulcer perforation were operated in three year period. Among these 171 (86.34%) patients were male and 27 (13.64%) female. One hundred and fifty three (77.27%) patients had no previous history of PUD and 45 (22.73%) were known cases of PUD and partially treated. H-pylori was detected in 35/45 (77.77%) in symptomatic group and 115/153 (75.16%) in asymptomatic group. Smokers were 9/45(20%) in symptomatic group and 54/153 (35.29%) in asymptomatic group. NSAID and steroid users were 9/45 (20%) in symptomatic and 54/153 (35.29%) in asymptomatic group. Alcoholics were 18/45 (40%) in symptomatic and 27/153 (17.64%) in asymptomatic group. Betel nut was rare risk factor. All patients belonged to low socioeconomic group.

Conclusions Frequency of silent perforation was 77.27%. Major risk factors were H-pylori infection and NSAID use. Screening for H-pylori and use of antiulcer drugs can decrease the perforation of PUD.

Key words Peptic ulcer perforation, H-pylori, NSAID.

INTRODUCTION:

Asymptomatic peptic ulcer are common in patients who take non-steroidal anti inflammatory drugs (NSAIDs) however prevalence of asymptomatic peptic ulcer disease (PUD) in general public is not known.¹ Helicobacter pylori infection is reported in 78% patients. Overall 10.9% of patients had endoscopic

evidence of PUD. In 70% patients of PUD no symptoms were present. Multivariate analysis indicated that asymptomatic ulcers were common in patients with higher body mass index (BMI), in tea drinkers, alcohol consumers, coffee consumers and smokers.¹

Prevalence of PUD in asymptomatic subjects from Taiwan is reported as 9.4%.² Some patients with PUD are asymptomatic until life threatening complications occur (hemorrhage and perforation).³ Previous studies found that majority of patients who died from PUD had no ulcer symptoms until final illness.⁴ Ulcers that remain asymptomatic are real challenge. The objective of study was to find out frequency of peptic ulcer perforation in asymptomatic PUD patients and to find out risk factors responsible for it.

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METHODOLOGY:

This case series was conducted in Surgical Unit 1, ward 3 Jinnah Postgraduate Medical Centre Karachi, from January 2014 to December 2016. Patients above 12 year of age with acute peritonitis due to peptic ulcer perforation were included. Detailed history regarding causes of peptic ulcer like Helicobacter pylori infection, use of NSAIDs, alcoholics, current / past significant illnesses, radiation treatment etc, was recorded. Patients already diagnosed with peptic disease were also included. Past history of epigastric burning pain, bloating, heartburn, nausea, vomiting, black colored stool, weight loss and severe pain in mid to upper abdomen were recorded. All patients were operated and direct Graham's omentopexy was done. Part of the duodenum and stomach involved was noted. Postoperatively amoxicillin, metronidazole and omeprazole were given for 10-14 days and omeprazole continued for six weeks. H-pylori serological test was sent after diagnosis of peptic ulcer perforation in immediate postoperative period. Silent perforations of peptic ulcers of patient and previous cases whether taking medication or not, were recorded. Co-morbid like cardiovascular disease, arthritis, asthma or any other disease for which patients were taking medicines was recorded. Data were entered and analyzed by using SPSS version 22. Descriptive statistics were applied for data presentation.

RESULTS:

Total of 198 patients of acute peritonitis due to peptic ulcer perforation were included in this study. Age range was 25-65 years. Majority (n=135) of patients were between 28-35 year of age. There were 171 (86.34%) males and 27 (13.64%) females. Among the symptomatic patients 25/45 (77.27%) were taking proton pump inhibitors (PPI) but not regularly and remaining patients had mild symptoms of burning pain in epigastrium. H-pylori were present in both

symptomatic and asymptomatic patients. It was nearly the same in both groups. Smokers were more common in asymptomatic group as compared to symptomatic patients.

History of aspirin and steroid intake was present in 63/198 (31.81%) patients, for cardiovascular diseases (n=49) and steroids for asthma (n=14). Forty five out of 198 (22.72%) patients were alcoholics. Majority of patients belonged to low socioeconomic group. Silent perforation was common in low socioeconomic group and H-pylori infection was present in majority of patients. Duodenum was perforated in majority of patients (180/198 -90.90%). All patients had perforation of anterior wall of duodenum (table I).

DISCUSSION:

Perforated peptic ulcer is a common emergency condition worldwide with significant mortality more so in elderly patients.^{5,6} Early surgical repair and proper sepsis management are essential for good outcome. In this study 77.27% patients had no previous history of PUD and came with acute peritonitis due to peptic ulcer perforation. Another study has reported that 70% patients of PUD with no symptoms were diagnosed on screening endoscopy.⁷ They also concluded that peptic ulcers which are asymptomatic are small.

In this study 22.73% patients had history of PUD and were partly treated. They were not investigated for H-Pylori. In this study H-pylori was present both in asymptomatic and symptomatic patients almost equal in number. It is not known how H-pylori is transmitted or why some patients become symptomatic while others do not. In this study majority of patients belonged to low socioeconomic group. Unhygienic conditions predispose to H-pylori infection. Treatment for asymptomatic carrier is still controversial. The results of this study showed that

Table I: Frequency of Perforation in Asymptomatic, Symptomatic PUD & Its Risk Factors

Risk Factors for PUD	No. of Symptomatic Peptic Ulcer Perforations (n)	Percentage (%)	No. of Asymptomatic Peptic Ulcer Perforations (n)	Percentage (%)
	45/198	22.73	153/198	77.27
H-pylori infection	35/45	77.77	115/153	75.16
Smoking	9/45	20	54/153	35.29
Drugs (Steroids, Aspirin)	9/45	20	54/153	35.29
Alcohol	18/45	40	27/153	17.64
Betel Nut & Pan Chewing	3/45	6.6	2/153	1.30
Low Socioeconomic Group	45/45	100	153/153	100

H-pylori was major cause of PUD. H-pylori therefore should be eradicated in carriers or asymptomatic patients to prevent the life threatening complications. We treated all patients with triple therapy combination which has reported eradication rate of 75-90%.⁸

NSAID can alter mucosal defense by allowing back diffusion of hydrogen ions and subsequent epithelial cell injury. H-pylori and NSAIDs are synergistic with respect to development of peptic ulcer disease.⁹ Corticosteroids alone do not increase the risk for PUD, however they can potentiate ulcer risk in patients who use NSAID concurrently. Discontinuation of NSAID in cases of symptomatic ulcer is mandatory. PPI maintenance is recommended to prevent the recurrence even after eradication of H-pylori.¹⁰ In this study 35.29% of the symptomatic ulcer patients and 20% of asymptomatic PUD were taking NSAID.

In this study 20% smokers in symptomatic and 35.29% in asymptomatic PUD developed peptic ulcer perforation. Tobacco use as a risk factor for duodenal ulcer is controversial. Smoking may accelerate the gastric emptying and decreases pancreatic bicarbonate production. Smoking is harmful to gastroduodenal mucosa and H-pylori is noted in gastric antrum of smokers.¹¹ In this study 40% alcoholic patients in symptomatic and 17.64% asymptomatic developed peptic ulcer perforation. This may be, an incidental finding.

CONCLUSIONS:

Majority of patients of acute peritonitis due to peptic ulcer disease were previously asymptomatic. Use of unnecessary NSAID must be avoided and if necessary then PPI should be used.

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