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Peptic Ulcer Disease among Patients Undergoing Upper Gastrointestinal Endoscopy in a Tertiary Care Centre: A Retrospective Study

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Abstract:
Introduction: Peptic Ulcer is one of the common disease in developing nations including Nepal. Upper Gastrointestinal Endoscopy is gold standard for establishing the diagnosis. There are limited studies providing epidemiological data of Peptic ulcer in our country. The aim of this study is to investigate the prevalence of peptic ulcer disease in patient who came for upper gastrointestinal endoscopy at Gorkha Public Hospital Ghorahai, Dang.

Materials and Methods: It is a retrospective observational study among adults presenting with Gastrointestinal symptoms and undergoing upper Gastrointestinal Endoscopy at Gorkha Public Hospital Pvt. Ltd, Ghorahi, Dang between May 2013-Dec 2022. Data were extracted from hospital computer records and analysed.
Results: A total of 2897 with age ranging from 8 years to 78 years patient undergoing Upper Gastrointestinal (UGI) endoscopy were evaluated. Among them, 168 had Peptic Ulcer (87 had Gastric ulcer (3%) and 81 had Duodenal Ulcer (2.79%)) and 1321 had non erosive gastritis/ duodenitis. Peptic ulcer was found to be more common in middle age ranging from 40-59 years of age, N=75 (44.64%0. There was male predominance in prevalence, N= 98 (58.33%)
Conclusions: Peptic Ulcer is fairly common in our part of the world with limited data available in our country. The overall incidence is high in middle age. Although, our study showed slight male predominance in prevalence, the disease is common in both gender. This is single center study and results cannot be generalized and needs further multicentric and community-based studies.

Keywords: Duodenal Ulcer; Gastric Ulcerincidence; Upper Gastrointestinal Endoscopy.

INTRODUCTION

Peptic ulcers, usually occurring in the stomach and proximal duodenum, may have acute severe abdominal pain or may have an insidious onset leading to chronic disease with symptomatic periods in between [1]. Increased acid and pepsin secretion, a reduced mucosal defense mechanism, or a combination of these two abnormalities lead to peptic ulcer formation. Environmental factors such as use of nonsteroidal and steroidal anti-inflammatory drugs, smoking, and emotional stress may play a role in the pathogenesis of ulcer disease in some patients, however, the exact mechanisms whereby these factors cause ulcers is unknown [2]. The estimated lifetime prevalence of peptic ulcer disease in western population accounts for 5–10% and an annual incidence of 0.1–0.3% [3]. It is considered 7th commonest cause of morbidity [4].

Although there are various causes of Peptic ulcer disease (PUD), Helicobacter pylori-associated PUD and NSAID-associated PUD account for the majority of the disease etiology [5]. Esophagogastroduodenoscopy (EGD) is a diagnostic endoscopic procedure used to visualize the oropharynx, esophagus, stomach, and proximal duodenum [6].

Upper Gastrointestinal (UGI) Endoscopy is the gold standard and most accurate diagnostic test with sensitivity and specificity up to 90% in diagnosing gastric and duodenal ulcers. The American Society of Gastrointestinal Endoscopy has published guidelines on the role of endoscopy in patients presenting with upper abdominal pain or dyspeptic symptoms suggestive of PUD [7]. Bleeding, perforation, penetration, and obstruction are the major complications of PUD. Complications can occur in patients with peptic ulcer of any etiology. Despite improvements in the medical management and the lower overall incidence of PUD, there are conflicting data about the incidence of potentially life-threatening ulcer complications [8]. There are limited studies in Nepal regarding prevalence of Peptic Ulcer disease and one article showed prevalence of peptic ulcer disease to be 10.62% and among which 10.25% had antral ulcer and only 0.36%had duodenal ulcer [9]. The aim of the study is to investigate the prevalence of peptic ulcer disease in patient who came for upper gastrointestinal endoscopy in Gorkha Public Hospital Ghorahai, Dang.

MATERIALS AND METHOD

Study design and setting

It is a retrospective study done among adults presenting with Gastrointestinal symptoms and undergoing upper gastrointestinal endoscopy at Gorkha Public Hospital Pvt. Ltd, Ghorahi, Dang between May 2013-Dec 2022.

Patients and procedure

Endoscopic record book of total duration of nine years were reviewed and all clinico-epidemiological data and endoscopic findings were analyzed. All 2897 patients were subjected for upper GI endoscopy after taking prior consent. Premedication was given with 4% lidocaine mouth spray. Standard protocol for Upper GI endoscopy was followed. Findings noted with relevant images and entered in computer system and reports will be handed to patient.

Statistical analysis and data management

Data obtained were entered into the computer using SPSS and MS Excel programs with their statistical analysis done using relevant statistical tests along with generation of tables.

Ethical Consideration

Ethical approval was taken from Institutional Review Committee-Rapti Academy of Health Sciences (Ref. No 653) for conducting research.

RESULTS

Among patients presenting with upper abdominal pain, UGI bleed and Melena, 2897 patient underwent UGI endoscopy during the period with age ranging from 8 years to 78 years. Out of total endoscopies,1279 had normal findings and 87 were found to have Gastric ulcer and 81had duodenal ulcer. The findings are tabulated in table 1.

Table 1| Endoscopy finding in patients undergoing upper gastrointestinal endoscopy (n= 2897)

Endoscopic Finding	Number (%)
Normal Study	1279(44.14)
Oesophagitis	20(0.69)
OesophagealVarices	38(1.31)
Gastritis/Duodenitis	1321(45.55)
Gastric Ulcer	87(3.00)
Duodenal Ulcer	81(2.79)
Others	71(2.45)

Findings mentioned as others include foreign body oesophagus, benign polyps, cardial incompetence, hiatal hernia, oesohageal tumor and pyloric stenosis. The age and sex distribution of Peptic ulcer patients are depicted in table 2 and 3 respectively. Most common age group of gastric ulcers was in age more than 6o years which comprises of 29.88 % of total gastric ulcer cases detected.

Table 2|Age wise distribution of patients diagnosed with peptic ulcer in upper gastrointestinal endoscopy

Age (Yrs)	Gastric Ulcer (N=87) (%)	Duodenal Ulcer (N=81) (%)	Total (N=168) (%)
Less than 20	1(1.14)	7(8.64)	8(4,76)
20-29	14(16.09)	12(14.81)	26 (15.47)
30-39	11(12.64)	12(14.81)	23(13.69)
40-49	19(21.83)	18(22.22)	37 (22.02)
50-59	16(18.39)	22(27.16)	38 (22.61)
More than 60	26(29.88)	10 (12.34)	36 (21.42)

Table 3| Sex wise distribution of patients diagnosed with peptic ulcer in upper gastrointestinal endoscopy

Sex	Gastric Ulcer (N=87) (%)	Duodenal Ulcer (N=81) (%)	Total (N=168) (%)
Male	50 (57.47)	48 (59.25)	98(58.33)
Female	37 (42.52)	33 (40.74)	70 (41.66)

Similarly, it was more common among males than female. Duodenal ulcer was found to be more common in 50 to 59 years of age group and more common in male patients. Among all peptic ulcer patients, it was found to be more common among 50-59 years of age group with close proximity with 40-49 years group and more than 60 years age group. Overall incidence was common among males, consisting of 58.33%.

DISCUSSION

H. pylori infections are much more prevalent in developing countries than in developed nations according to different epidemiological studies. Several studies showed the prevalence of H. pylori infections is influenced by several factors including: living conditions, income, ethnicity, socio-economic status especially in childhood [10-12], availability of public water supplies and sewers, the number of family support organizations, and the number of rooms in the home [10]. Peptic ulcer disease is common in Nepal but few reliable studies showing the prevalence and other epidemiological data. In our present study, among 2987 endoscopies performed, 168 (5.62%) patients were found to have peptic ulcer, gastric ulcer being 3.00 % and duodenal ulcer 2.79 % respectively and was more common in males (58.33%). In one large population-based study conducted in Iran, the rate was found to be 3.3% for gastric ulcer and 4.9 % for duodenal ulcer respectively which was substantially higher than our study and also higher than European reports [11]. Another study conducted in Philippines including 15,341endoscopies identified overall gastric ulcer to be 16.95% and 10.27% duodenal ulcer. The prevalence was compared to previous reports which showed a declining trend in incidence of peptic ulcer [12]. The study conducted in India, Chandigarh, the point prevalence of active peptic ulcer was 3.4% and the lifetime prevalence was 8.8%. The duodenal-to-gastric ulcer ratio was 12:1. Helicobacter pylori was present in 11/13 (84.6%) subjects with peptic ulcer. Peptic ulcer was more common in elderly and dyspeptic individuals and with no effect of sex or socioeconomic status [13]. In a study conducted at Kathmandu Medical College, Nepal,among 273 patients, peptic ulcer disease was found in 29 (10.62%) of patients among which 28 (10.25%) had antral ulcer and only 1 (0.36%) had duodenal ulcer.9 The incidence of duodenal ulcer was far lower and gastric ulcer being higher compared to our study. In another study done at Kathmandu Medical College, peptic ulcer was more common in this age group 0f 20-49 including duodenal ulcer (2.5%) and gastric ulcer (1.8%) with nostatically significant difference. Similarly, prevalence of duodenal ulcer is more common in male (4.5 %) than in female (3.05 %). The prevalence of gastric ulcer in both the sex were same with no significant statistical difference in both the group [14]. Our study showed overall peptic ulcer prevalence more in age more than 40 years of age, gastric ulcer more common among age more than 60 years. The overall incidence was more in male both in gastric ulcer and duodenal ulcer. Busy schedules, work pressure, inappropriate dietary habits, more alcohol consumption and smoking habits may have contributed in high prevalence in middle aged male population.

CONCLUSION

Peptic ulcer is fairly common in our part of world with limited data available in our country. The overall incidence is high in middle age. Although, our study showed slight male predominance in prevalence, the disease is common in both gender. This is single center retrospective study and results cannot be generalized and needs further metacentric and community-based studies.

ADDITIONAL INFORMATION AND DECLARATIONS

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Data Availability: Data will be available upon request to corresponding authors after valid reason.

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