

# Clinical Profile and Esophagogastroduodenoscopy Finding in Patients with Acid Peptic Disease at a Tertiary Health Care Centre

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## Abstract

**Background and Aims:** Acid Peptic Diseases (APD) is a common disorder. Population based survey revealed that 44% of the population reported monthly heartburn and 19.8% suffered from heartburn or acid regurgitation at least once a week. An approximate prevalence of 10-20 % was identified for GERD, in the Western world while in Asia this was lower, at less than 5%. In this study, we are going to study the clinical features and esophagogastroduodenoscopy (EGD) findings in patients presenting in our centre in order to come to a precise diagnosis and identify various risk factors contributing to it. **Methods and Methodology:** 80 patients (53 males, mean age 44 years) were evaluated in the present study after they satisfy the inclusion and exclusion criteria. Patients were posted for endoscopy and findings were tabulated. **Results:** This age distribution among the 80 patients subjected to EDG over a period of 2 years with maximum i.e., 28.75% was in the 41-50 age groups. The most common symptom at presentation was epigastric pain seen in 84% of patients (67 cases), followed by retrosternal burning sensation seen in 51% of patients (41 cases) and acid reflux seen in 49% of patients (39 cases). A few of the risk factors for APD were evaluated, 34% of study group consumed alcohol, 22.5% were smokers and 19% tobacco chewers. In patients who smoked (total 18) EGD findings were suggestive of severe disease in most of them (14 cases) cases had evidence of severe disease. The combination of smoking and alcohol consumption showed more severe form of disease. Most common finding in endoscopy in esophagus was erosions seen in 19% of patients, gastritis in stomach 22% and duodenitis seen in 2.5% of cases. Prevalence of GERD was 21% and peptic ulcers were found in 7.5% of study population. **Conclusion:** APD is more common in males. Smoking, alcohol and NSAIDS usage is associated with more severe form of APD.

**Keywords:** Acid Peptic disease, Alcoholism, Esophagogastroduodenoscopy, Gastroesophageal Reflux disease, Smoking

## 1. Introduction

Acid peptic disease is a collective term used to include many conditions such as Gastro Esophageal Reflux Disease (GERD), gastritis, duodenitis, esophageal ulcer, gastric ulcer, duodenal ulcer, Zollinger-Ellison syndrome and other hypersecretory states. Normally gastric acid and pepsin secretion is required for digestion of food. Excessive secretion of this acid and pepsin or a weakened stomach mucosal defence is responsible for damage to the delicate mucosa and the lining of the, esophagus, stomach and duodenum resulting in ulceration which is known as "Acid Peptic Disease"<sup>1</sup>.

The term Gastroesophageal Reflux Disease (GERD) is used to describe the symptoms and changes of the

esophageal mucosa that result from reflux of stomach contents into the oesophagus. GERD patients present with symptoms of epigastric pain, heartburn, pharyngeal burning, regurgitation of gastric contents, acidic taste and dysphagia<sup>1,2</sup>. The literature on prevalence of Gastroesophageal Reflux Disease (GERD)/ Gastroesophageal Reflux Symptoms (GERS), dyspepsia is large. It has to be considered though, that reported prevalence rates vary considerably between different surveys, at least partly reflecting use of different symptom definitions of the disorders, and also various retrospective time periods under surveillance. Thompson et al., reported that heartburn was experienced weekly by 10%, monthly by 21% and sometime during the last year by 34% of a study population among British volunteers<sup>3</sup>, and Dent et

al. reported prevalence's of 10-20 % of GERD in Western world and less than 5% in Asia during the preceding week<sup>4</sup>. Talley et al., found that 24% of a US population reported heartburn at least once a month during the preceding year and that 11% reported acid regurgitation<sup>5</sup> and Jones et al.,<sup>6</sup> found that 31% had experienced heartburn the preceding six months in a UK population.

A peptic ulcer is a discontinuity in the gastric or duodenal wall that extends through the muscularis mucosa into the deeper layers of the wall (sub mucosa or the muscularis propria). Signs and symptoms of Peptic Ulcer Disease include epigastric pain, dyspepsia, Upper GI bleeding, anemia, and gastric outlet obstruction. PUD is found in 5% to 15% of dyspeptic patients. The lifetime prevalence of peptic ulcer disease is approximately 5% to 10%<sup>6</sup>.

Common sites for peptic ulcers are the first part of the duodenum and the lesser curve of the stomach, but they also occur on the stoma following gastric surgery and the esophagus. Peptic ulceration also occurs in the presence of very high acid levels, such as those found in patients with a gastrinoma (Zollinger–Ellison syndrome).

Careful history taking allows accurate differential diagnosis of acid peptic disease in only about half of patients. In the remainder endoscopy can be a useful diagnostic tool, especially in those patients whose symptoms are not resolved by an empirical trial of symptomatic treatment. Most commonly in these patients, EGD reveals evidence of gastritis.

Endoscopy done to evaluate the mucosa in patients with symptoms of GERD usually reveals erosions or ulcerations at the squamocolumnar junction, or Barrett's oesophagus which is diagnostic of GERD. Endoscopy is the most sensitive diagnostic test for peptic ulcers. The main role of endoscopy in patients with uncomplicated Peptic Ulcer disease is to confirm the diagnosis, identify lesions too small to be detected by radiographic examination and to rule out malignancy by performing endoscopic biopsy<sup>7</sup>.

In this study, we evaluated clinical features and EGD findings in patients in our centre in order to come to a precise diagnosis and identify various risk factors contributing to it.

## 2. Materials and Methods

We carried out an Observational study in Department of Surgery of a Medical College and Tertiary Health Care Centre from August 2013 to December 2015 in which 80 patients were evaluated.

The following Inclusion Criteria was used - patients

above 18 years of age, male/female, having symptoms 1 or more of the following: Heartburn, Acid reflux, Pain in abdomen persisting more than 2 weeks, any form of upper gastrointestinal bleed suspected clinically to be due to peptic ulcers. In patients with recurrent symptoms of dysphagia.

We Excluded patients with acute abdominal conditions requiring immediate surgery, medically unstable patients, unwilling patients, patients with bleeding disorders and on anticoagulation therapy.

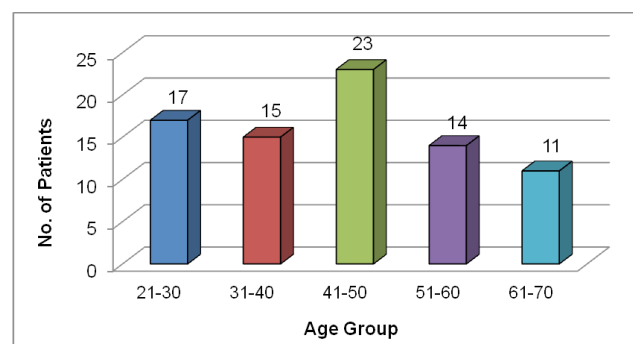
Written and Informed Consent was taken from all the participants EGD was performed in all study subjects as a primary diagnostic investigation and interpretation of the EGD findings as observed by a single observer was noted.

**Table 1.** Age distribution

Age Group	No. of Patients	Percentage
21-30	17	21.25%
31-40	15	18.75%
41-50	23	28.75%
51-60	14	17.50%
61-70	11	13.75%
<b>Total</b>	<b>80</b>	<b>100.00%</b>

## 3. Results and Observations

This table shows age distribution among the 80 patients subjected to EDG over a period of 2 years with maximum i.e., 28.75% were in the 41-50 age group.



**Graph 1.**

Graph showing sex distribution where in 27 (34%) were female and 53 (66%) were male.

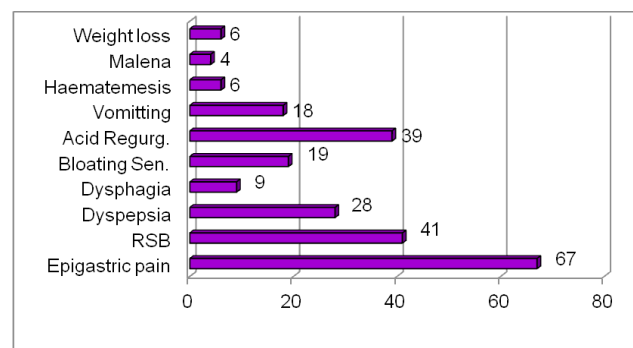
**Table 2.** Sex distribution

Sex	No. of Patients	Percentage
Female	27	33.75%
Male	53	66.25%
<b>Total</b>	<b>80</b>	<b>100.00%</b>

**Table 3.** Symptoms at time of presentation

Symptoms	No. of Patients	Percentage
Epigastric pain	67	83.75%
RSB	41	51.25%
Dyspepsia	28	35.00%
Dysphagia	9	11.25%
Bloating Sen.	19	23.75%
Acid Regurg.	39	48.75%
Vomitting	18	22.50%
Haematemesis	6	7.50%
Malena	4	5.00%
Weight loss	6	7.50%

The most common symptom at presentation was epigastric pain seen in 84% of patients (67 cases), followed by retrosternal burning sensation seen in 51% of patients (41 cases) and acid reflux seen in 49% of patients (39 cases). Dyspepsia, vomiting and bloating sensation was seen in 35%, 22.5% and 11% of patients respectively.



**Figure 1.**

**Table 4.** Duration of symptoms

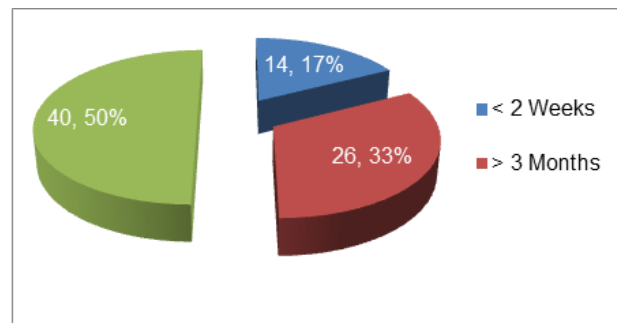
Duration	No. of Patients	Percentage
< 2 Weeks	14	17.50%
> 3 Months	26	32.50%
2 Weeks-3 months	40	50.00%
<b>Total</b>	<b>80</b>	<b>100.00%</b>

Maximum patients had symptoms for duration of 3 months.

35% (28 cases) of patients in the study were already on PPI therapy. 34% (27 cases) were consuming NSAIDS which was evaluated as a risk factor for PUD.

**Table 5.** Drug intake chart

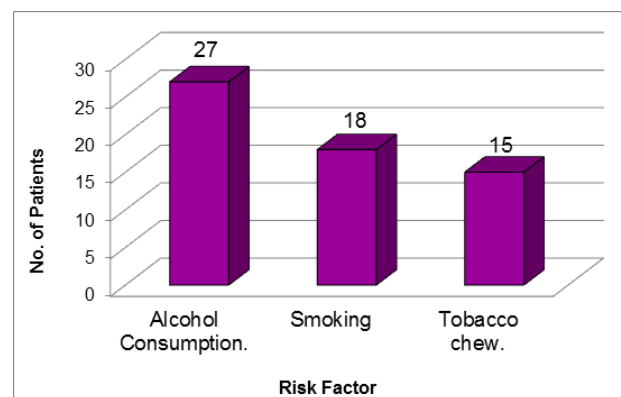
Drug History	No. of Patients	Percentage
PPI therapy	28	35.00%
NSAIDS	27	33.75%



**Figure 2.**

**Table 6.** Risk factors

Risk factors	No. of Patients	Percentage
Alcohol Consumption.	27	33.75%
Smoking	18	22.50%
Tobacco chew.	15	18.75%



**Figure 3.**

The above chart demonstrates a few of the risk factors for APD, were 34% of study group consumed alcohol, 22.5% were smokers and 19% tobacco chewers.

**Table 7.** Duration of risk factors

Risk factor	Duration of Risk factors		Total
	< 5 yrs.	> 5 yrs.	
Alcohol Consm.	9	18	27
Smoking	7	11	18
Tobacco chew.	9	6	15
<b>Total</b>	<b>25</b>	<b>35</b>	<b>60</b>

Table showing duration of each risk factor with 35 cases had the above habits for more than 5 years duration and 25 cases less than 5 years.

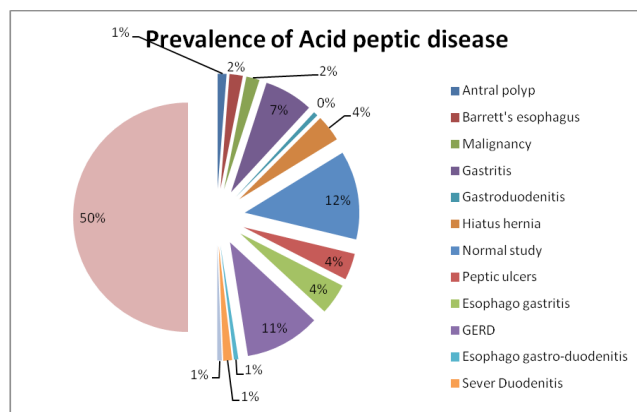
**Table 8.** Comparison of presence of risk factors on severity of disease

Risk factor	Malignancy	Mild	Moderate	Severe	Total
Alcohol Consm.	2	4	8	13	27
Alcohol Consm. and Smoking	0	1	1	10	15
Alcohol Consm., Smoking and Tobacco chew.	0	0	0	2	2
Alcohol Consm. and Tobacco chew.	1	1	2	1	6
Smoking	1	1	1	14	18
Smoking and Tobacco chew.	0	0	0	1	1
Tobacco chew.	1	2	6	6	15

The risk factors individually and in combination were analysed with severity of disease. 13 out of 27 patients who consumed alcohol had severe APD. 14 out of 18 patients who smoked had severe form of APD.

**Table 9.** Summary of endoscopy findings

Impression	Frequency	Percentage
Antral polyp	2	2.50%
Barrett's esophagus	3	3.75%
Malignancy	3	3.75%
Gastritis	11	13.75%
Esophago-gastritis	7	9.00%
Hiatus hernia	6	7.50%
Normal study	20	25.00%
GERD	17	21.25%
Peptic ulcers	6	7.50%
Gastro-duodenitis	1	1.25%
Esophago- gastro-duodenitis	1	1.25%
Duodenitis	2	2.50%
Varices	1	1.25%
<b>Total</b>	<b>80</b>	<b>100.00%</b>



**Figure 4.**

## 4. Discussion

In our study group, mean age of the study population is 44

years with minimum age being 21 years and maximum 70 years (Table 1). Out of the total 80 patients examined 69% of patients were between 21-50 yrs of age with maximum 29% of patients between 4-50 years of age.

In a similar study conducted by Sanjeev K et al., in 2014 prevalence of GERD was common in the age group of 31-40 yrs. In another study conducted in Minnesota by G. Richard et al.,<sup>8</sup> all the prevalence of reflux was common in the age groups 25-75 years (1997).

The sex prevalence in acid peptic disease varies among different studies with no specific predilection toward either sex. In our study (Table 2) we found 53 (66%) males and 27 (34%) female patients.

In an endoscopic survey by Andrea Sbrozzi- Vanni et al.<sup>10</sup>. There were 179 males out of 300 patients which accounted to 60% males in the study and 40% female patients.

In this study majority of patients presented (Table 3) with epigastric pain 83%, followed by retrosternal burning 51% and acid reflux 49%.

Rest of the symptoms were present in less than 50% of the patients. Each patient presented with an average of 3-4 symptoms.

In a study by G. Richard Locke et al.<sup>8</sup> the prevalence for heart burn and acid regurgitation was 42.2% and 45% respectively. Heartburn and acid regurgitation are both considered to be specific symptoms for the diagnosis of GERD. Dysphagia was reported in 13.5% of population in this study which is almost similar to our study in which it was present in 11% of cases.

In a series by Roar Johenson et al.,<sup>9</sup> of the 309 subjects with dyspepsia, 125 (40.5%) reported having epigastric pain, of whom 64 (51.2%) reported having no simultaneous heartburn, 142 (58%) had heartburn without abdominal pain, and 61 (24.9%) had both heartburn and epigastric pain.

**Table 10.**

Symptom	Pertti Aro et al.	Roar johnson et al.	G. Richard Locke et al.	Our study
RBS	33.30%	58%	43%	83.00%
Epigastric pain	-	40.50%	-	51.00%
Bloating sens.	17.60%	-	-	24.00%
Dysphagia	6.80%	-	11%	11.00%
acid reflux	26.80%	-	45%	49.00%
Vomiting	3.30%	-	-	22.50%

Majority of patients in our study had symptoms (Table 4) for a period of 2 weeks to 3 months 50%, 32.5% of cases had symptoms for more than 3 months and 15% had symptoms for less than 2 weeks.

In our study already 35% (28) of the patients were on acid suppressing medication that is proton pump inhibitors or H2 blockers. Usage of NSAIDs has been considered as an independent risk factor for peptic ulcer disease, In our study 34% (2 cases) out of 80 patients gave positive history for NSAID usage. Endoscopic evidence of peptic ulcer disease was found to more in this group.

Other similar studies done by J Q Huang et al.<sup>11</sup> also show that peptic-ulcer disease was significantly more common in NSAID takers (138/385 [35.8%]) than in controls (23/276 [8.3%]), irrespective of *H pylori* infection. Also ulcer disease with NSAID usage increases risk of ulcer bleeding by 5 folds.

In a similar Italian endoscopy survey by Andrea Sbrozzi- Vanni et al.<sup>10</sup> NSAIDs/aspirin associated PUD was seen in 22% (66) of study population. The presence of *H. pylori* infection is also which significantly increases the risk for peptic ulcer disease which has not been evaluated in this study.

In our study we evaluated a few of the risk factors for APD. (Table 5) 34% of patients consumed alcohol, 22.5% were smokers, 19% had habit of chewing tobacco.

These factors were analysed independently and in combination against the finding in

EGD (Table 6) 60 out of the total 80 cases were positive for the risk factors and few individuals were positive for more than one risk factor. Out of the 27 patients who consumed alcohol on EGD 13 cases had severe, 8 had moderate and 4 had mild form of disease. Similarly for patients who smoked (total 18) EGD findings was suggestive of severe disease in most of them (14 cases) cases had evidence of severe disease. The combination of smoking and alcohol consumption showed more severe form of disease.

In our study (Table 7) 35 patients have had either one of these risk factor for more than 5 years duration and 25

of them for less than 5 years.

In a Kalixanda study by Pertti Aro et al.,<sup>14</sup> Smoking (17%) overall aspirin

intake, and *H. pylori* infection were proved to be independent risk factors for peptic ulcer disease ulcer. In a Danish study evaluating the risk factors for PUD by S Rosenstock et al.,<sup>12</sup> it was stated that in patients with increased antibodies to *H pylori*, tobacco smoking (12.7 (2.8; 56.8)) and intake of spirits (2.4 (1.1; 5.4)) increased the risk of PUD.

In a nord- Trondelag health study (the HUNT study) b E N Jensen et al.<sup>13</sup> conducted from 1995-1997 to 2006-2009, showed cessation of smoking with use of at least weekly antireflux medication was associated with improvement in GERS status from severe to no or minor complaints compared with persistent daily smoking.

**Table 11.**

Risk factor	Pertti Aro et al.	Andrea Sbrozzi-Vannia et al. <sup>10</sup>	A B R Thompson at al. <sup>15</sup>	Our Study
Alcohol	-	35.80%	57%	34%
Smoking	17%	26%	29%	22.50%
Tobacco chew.	9.70%	-	1%	19.00%

The EGD findings were variable among subjects. The findings were graded as mild, moderate and severe based on the appearance of edema, erythema, and erosions ulcers and Barrett's esophagus which was evaluated based on various classification systems such as Los Angles, Savary Miller, MUSE etc.

Most common finding in endoscopy in esophagus was erosions in 19% (15) of cases which varied from mild, moderate to severe erosions. This was followed by erythema, ulcers and hiatus hernia 7.5% of cases (6 each) Lax OG junction was found to be in 45% (36) of the patients. Duodenitis, erythema and erosions in duodenum was seen in 13 patients. In the stomach the most common finding was erosion 10% (15 cases) followed by severe circumferential erosions 9% (7 cases). Gastric Ulcers were seen in 6.25% (5 cases) of the study population.

In our study the Prevalence of various findings in endoscopy was evaluated. GERD was seen in 21.25%, peptic ulcer 7.5%, Gastritis 14%, Hiatus hernia 7.5%, Esophago-gastritis 9%, Barrett's esophagus 3.75%, malignancy 3.75%, Polyp 2.5%. No findings in endoscopy were seen in 25%. Table below demonstrates the comparison of our study with various others.

Table 12.

Endoscopy Findings	Roar Johnsen et al.	R.J.L.F. Loffeld et al. <sup>16</sup>	Rose Ashinedu et al.	Our Study
GERD	12%	16%	13.70%	21%
Malignancy	-	2.40%	1.00%	3.75%
Gastritis	20%	6%	45.60%	14%
Oesophago-gastritis	-	-	-	9%
Hiatus hernia	3.30%	39.00%	-	7.50%
Duodenitis	-	-	-	5%
Peptic ulcers	8.40%	4.00%	10.20%	7.50%
Polyp	-	-	0.70%	2.50%
Barrett's esophagus	-	3.90%	-	3.75%
Normal study	53.50%	27.00%	15.40%	25%

## 5. Conclusion

- Based upon the observation and analysis of this study, most of our patients who opted for EGD had symptoms for around 3 months duration and mean age of presentation was 44 yrs.
- In this study APD is more common in males.
- Majority of APD patients present with epigastric pain, followed by retro-sternal burning sensation and acid reflux. At an average, each patient presented with 4 symptoms of varying duration of time.
- PUD is more common in patients who consume NSAIDS/aspirin as in our study 34% of our patients had history of taking NSAIDS and all of these patients had evidence of erosions or ulcers in EGD.
- Less than half of our patients were already on acid suppressing medications such as PPI/H2 blockers.
- Among the 60 patients who either smoked, consumed alcohol/ smokeless tobacco all of them were found to have positive findings in EGD and more than half the patients (33 cases) had severe form of disease. The combination of alcohol and smoking together was associated with more severe form of disease. This study supports that NSAIDS, smoking and alcohol consumption for risk factors for APD (198,201).
- Significant no of patients with APD are anaemic.
- Patients with clinical profile of APD on EGD commonly showed findings of Gastritis and Lax OG junction. The prevalence of Peptic ulcers was 7.5% which was similar to other studies. 21% of our patients had GERD which was slightly higher than other studies. 25% of our study population in spite of having symptoms of APD had not findings on EGD.

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