

# Endoscopic Evaluation of Gastroesophageal Reflux Disease

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## ABSTRACT

### Introduction:

Gastroesophageal reflux disease is a common cause of upper esophageal complains. This study was conducted to find out clinical presentation and endoscopic finding in Gastroesophageal reflux disease patients and correlation of endoscopic finding with clinical severity.

**Material and methods:** It was cross sectional study. Total 75 patients were included in this study. Endoscopy was done in all cases with symptoms of GERD at least 2 symptoms greater than 1 month duration with flexible Fujinon fibreoptic endoscope and were graded according to severity and grade of esophagitis as per Los Angeles classification.

**Results:** Results of our study show that gastroesophageal reflux disease was more common in the age group 31-40years (24% cases). Mean age of patients in our study was 38.06yrs. The male to female ratio in cases was 1.08:1. Heartburn (93.33%) and regurgitation (82.66%) were the most frequent symptoms followed by water brash (33.3%) and dysphagia (28%) in GERD. In our study we found a positive correlation between gastroesophageal reflux disease and obesity. Erosive gastritis was found in 36 total patients (48%) and non erosive esophagitis was found in 31patients (41.33%). Gastroesophageal reflux disease showed a high prevalence of taking tea or coffee drinking (97.33%) and spicy diet (82.66%) while in males high percentage associated with smoking (92.3%).

**Conclusion:** The present study finds that erosive gastritis in patients with GERD is increasing in Indian population as compared to previous studies. So awareness with regards to symptoms as well a use of upper gastrointestinal endoscopy in suspected cases will detect esophagitis at an earlier stage and also prevent long term complication of GERD.

**Keywords:** Endoscopic, Gastroesophageal Reflux Disease

## INTRODUCTION

Gastroesophageal reflux disease is a symptoms complex comprising of a variety of symptoms. Prominent symptoms amongst them are heart-burn and regurgitation. The basic pathology lies at the lower esophageal sphincter and the most significant effect is inflammation of mucosa of lower end of esophagus; 'reflux esophagitis'.

Reflux symptoms are commonly experienced by many people. Studies conducted in USA<sup>1</sup> showed that 7% of people have heart-burn daily and 44% have experienced it at least once in a month.

As per Asian studies, the prevalence of gastroesophageal disease in the general population is 2.5-7.1%. This trend is however increasing due to changing lifestyles and westernized diet. Comparative studies amongst Asian<sup>2</sup> populations have found Indians more prone to gastroesophageal reflux disease.

Thus gastroesophageal reflux disease has a wide spectrum where at one it is purely symptomatic while at other end it consists of severe esophagitis and its complications.

Gastroesophageal reflux disease is a common cause of upper esophageal complains. However it suffers from a diagnostic difficulty as most clinical diagnostic criteria are based on symptoms and objective diagnostic methods are beyond the reach of the practicing clinician.

Endoscopy has often been used as a tool for diagnosis for GERD. There is a wide disparity in clinical practice where at one side there is overuse of endoscopy as a diagnostic tool causing discomfort as well as expense to the patient and burden on the health service, while at other end under utilization of endoscopy led to diagnosis of esophagitis at an advanced and often at complicated stage.

The present study was done to determine the incidence of esophagitis in patients presenting with symptoms of gastroesophageal reflux disease and thus the need of endoscopy as an overall diagnostic tool, as well as to determine those subsets of patients in whom endoscopy would be beneficial to determine the early diagnosis of esophagitis as well as its complications. The treatment of gastroesophageal reflux disease is initially by medical management. If this does not show any improvement then surgery in form of various methods of fundoplication is done.

## MATERIAL AND METHODS

It was Hospital based Cross sectional study conducted in the department of Medicine at N.S.C.B MCH, Jabalpur (M.P.)

A total 75 patients were included in this study. The study period extended from September 2012 to September 2013.

A case of GERD was defined according to symptoms like Heartburn, nausea, sore throat, regurgitation dysphagia, epigastric pain, watery brash, bloating sensation, hoarseness of voice and persistent cough. Patients with complains of upper abdominal pain were selected as symptomatically diagnosed cases of GRED if they have two or more of the above symptoms for more than one month duration.

Patients with history of drug known to cause esophageal motility disorders, age less than 14 years, Haematemesis and severe IHD, cervical spondylosis, trismus were excluded

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from the study.

All the subjects were subjected to medical examination as per a fixed proforma. Patients were asked not to take any food or drink from night prior to endoscopy and asked to swallow viscous xylocaine solution 5min prior to endoscopy. Endoscopy was done in all cases with flexible Fujinon fiberoptic endoscope and were graded as according to severity and grade of esophagitis was decided as per Los Angeles classification.

#### Los Angeles Classification<sup>7</sup>

##### Grade I

One or more mucosal break which are less than or equal to 5mm in length.

##### Grade II

One or more mucosal break longer than 5 mm.

BMI	No of Patients	%
Less than or equal to 20	1	1.33
20.01-25	30	40
25.01-30	42	56
More than 30	2	2.66

**Table-1:** Body mass index of patients with gerd

Patients	No of Patients	%
Patients With Erosive Esophagitis	36	48
Patients With Non Erosive Reflux Disease	31	41.33

**Table-2:** Incidence of reflux esophagitis in a patient of symptomatic gerd

Symptoms	No of Patients	%
Heart burn	34	94.44
Regurgitation	29	80.55
Dysphagia	19	52.77
Water brash	17	47.22
Epigastric pain	8	22.22
Vomiting	5	13.80
Odynophagia	1	2.77

**Table-3:** Symptoms strongly correlating with esophagitis

Habits	No of Patients	%	Male	%	Female	%
Smoking	36	48	36	92.30	00	00
Tobacco Chewing	35	46.66	33	84.61	2	5.55
Alcohol	24	32	24	61.53	00	00
Tea/Coffee	73	97.33	37	94.87	36	100
Spicy Food	62	82.66	36	92.30	26	92.22

**Table-4:** Habits of patients in the present study

Endoscopic Finding	No of Cases	%
Erosive Esophagitis (Grade 1 – 4)	32	42.66
Barrett's Esophagus	1	1.33
Gastric Ulcer And Antral Gastritis	4	5.33
Growth	3	4
Hiatus Hernia And Erosive Esophagitis	3	4
Growth And Erosive Esophagitis	1	1.33
WNL	31	41.33

**Table-5:** Endoscopic finding in patients with gerd

##### Grade III

One or more mucosal breaks which bridges the top of mucosal folds, but involve <75% of esophageal luminal circumference.

##### Grade IV

One or more mucosal breaks which bridges the top of folds and involving more than 75% of mucosal folds and involving more than 75% of luminal circumference.

Endoscopy Barrett's esophagus is suspected when there is difficulty in visualizing the squamo-columnar junction at its normal location. It is identified as more luxuriant growth appearing more reddish than the surrounding esophagus.

#### STATISTICAL ANALYSIS

The data was fed into an excel spreadsheet and then tabulated. Data was statistically analyzed using t-test, chi-square test, Fisher's exact test using SPSS and Microsoft excel.  $p < 0.05$  was considered to be statistically significant.

#### RESULTS

Total 75 patients were included in this study. 39 patients were male (52%) and 36 (48%) were female and male to female ratio was 1.08:1.

Maximum patients the BMI was found in range 25.01-30kg/sqm. The average BMI was 25.03kg/sqm. (TABLE 1)

Heartburn (93.33%) and regurgitation (82.66%) were the most frequent symptoms followed by water brash (33.3%) and dysphagia (28%) in GERD (FIGURE 1).

Incidence of erosive gastritis in patients with symptoms of GERD was 48% (TABLE 2).

Gastroesophageal reflux disease showed a high prevalence with drinking tea or coffee (97.33%) and with spicy diet (82.66%) while in males it also occur with smoking (92.3%) (TABLE 4).

Erosive gastritis were found in 36 total patients (48%) and non erosive esophagitis were found in 31 patients (41.33%) (TABLE 5).

Los Angeles grade A esophagitis were the most common finding found in 15 cases (41.66%) followed by grade B in

La Grading	Heart Burn	Regurgitation	Dysphagia	Water Brash	Epigastric Pain	Vomiting	Odynophagia
A	14 38.88%	13 36.11%	6 16.66%	9 25%	2 5.55%	1 2.77%	0 0%
B	13 36.11%	9 25%	8 22.22%	5 13.88%	1 2.77%	3 8.33%	0 0%
C	6 16.66%	6 16.66%	5 13.88%	3 8.33%	4 11.11%	1 2.77%	1 2.77%
D	1 2.77%	1 2.77%	0 0%	0 0%	1 2.77%	0 0%	0 0%

**Table-6:** To correlate endoscopic finding with clinical presentation

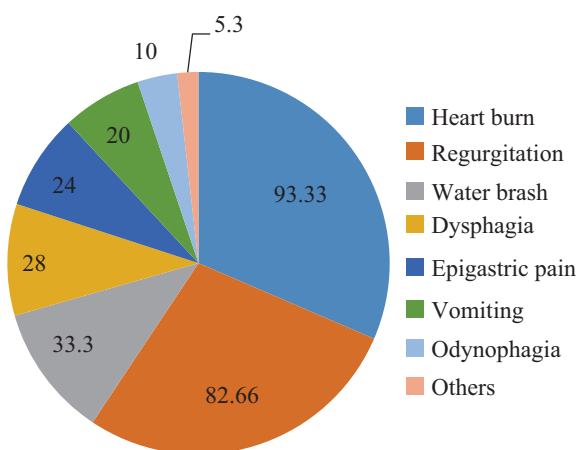


Figure-1: Symptom profile in GERD

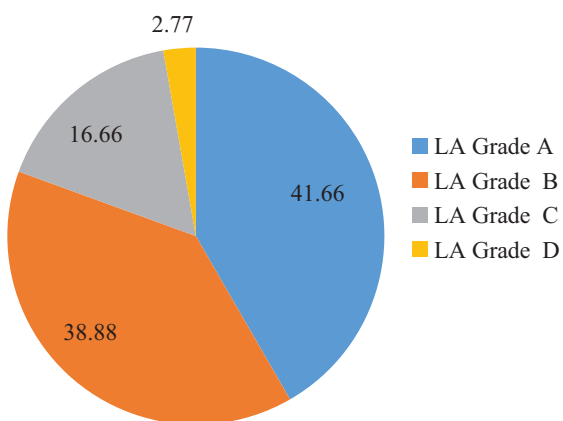


Figure-2: Endoscopic grading of GERD cases

14 cases (Figure 2).

We found that heartburn and regurgitation were most common symptoms associated with all grades of esophagitis and most common with grade A (Table 6).

**DISCUSSION**

In our study we found that gastroesophageal reflux disease were more common in the age group 31-40years(24% cases) followed by 41-50 years (22%) and 21-30 years(22%) age groups.

Mean age of patients in our study was 38.06years. Our results similar to study of Chang et al<sup>3</sup> in which mean age of study population was 38 yrs.

In our study we found that gastroesophageal reflux disease was more common in male as compared to female our results are similar to study of Johansen et al<sup>4</sup> and Chang et al<sup>3</sup> in which gastroesophageal reflux disease was more common in

male as compared to female.

In our study we found a positive correlation between gastroesophageal reflux disease and obesity<sup>13</sup> same as Fisher BL and Pennathur et al.<sup>5</sup>

Maximum patients the BMI was found in range 25.01-30kg/sqm. The average BMI was 25.03kg/sqm.

Our results are similar to Nandurkar et al<sup>6</sup> study in which they found average BMI<sup>12</sup> of patients with GERD was 26.6kg/sqm.

Heartburn (93.33%) and regurgitation (82.66%) were the most frequent symptoms followed by water brash (33.3%) and dysphagia (28%) in GERD.

Gastroesophageal reflux disease showed a high prevalence with drinking tea or coffee (97.33%) and with spicy diet (82.66%) while in males it also occur with smoking (92.3%). Incidence of erosive gastritis<sup>8,10,11</sup> in patients with symptoms of GERD was 48% and non erosive esophagitis was found in (41.33%). Howard et al<sup>8</sup> were found similar result.

We found that heartburn and regurgitation were most common symptoms associated with all grades of esophagitis and most common with grade A. Zuberi et al<sup>9</sup> found most common symptoms were epigastric pain and heartburn with all grade of esophagitis.

Los Angeles grade A esophagitis was the most common finding found in 15 cases (41.66%) followed by grade B in 14 cases (38.88%).

**CONCLUSIONS**

The present study finds that erosive gastritis in patients with GERD is increasing in Indian population as compared to previous studies. So awareness with regards to symptoms as well a use of upper gastrointestinal endoscopy in suspected cases will detect esophagitis at an earlier stage and also prevent long term complication of GERD.

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