

## A Retrospective Observational Study of Gender Differences in Clinical Presentation and Endoscopic Findings of Dyspepsia Patients

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### Abstract

**Introduction:** Dyspepsia is a common disorder affecting 23-45% population, globally. Dyspepsia presents with several clinical dilemmas. Clinically Dyspepsia is defined as one or more clinical symptoms of burning, early satiation, epigastric pain and postprandial fullness. Several studies refereed it to upper abdominal discomfort that specifically arises from upper gastrointestinal tract (GIT). In latest literature, bloating and nausea also coexist with dyspepsia, however, heart burn is excluded from dyspepsia diagnostic criteria due to primary initiation from esophagus leading towards gastro esophageal reflux disease (GERD). **Materials and Methods:** A retrospective study was conducted at single Gastroenterology center, Jammu from January 2016 to December 2020. A sample size of 200 patients was calculated to estimate the gender differences in clinical presentation and endoscopic findings of dyspepsia. Patients were selected using non probability consecutive sampling. Patients with age 16-75 years, both genders, epigastralgia/epigastric burning that last for minimum 3 months and occurrence of symptoms at least 6 months before were included in study. **Results:** Female predominance is more in endoscopic findings of dyspepsia patients. Erosive Antral Gastritis were observed in 50 females, 30 males. Erosive Gastritis were observed in 12 females and 9 male patients. Mild Antral Gastritis were observed in 18 male and 15 female patients. **Conclusion:** Thus, we conclude that dyspepsia is a common indication for endoscopy. The frequency of female subjects is higher and gastritis is the most common pathology followed by reflux esophagitis. These were associated with increasing age. GI malignancy was uncommon and higher in elderly patients. The upper GI endoscopy is the gold standard first line investigation for evaluating dyspepsia and is the investigation of choice for targeting therapy. Though it is an invasive procedure, dyspeptic patients with alarm symptoms must be evaluated with upper GI endoscopy.

**Keywords:** Dyspepsia, Erosive Antral Gastritis, GERD.

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### Introduction

Dyspepsia is a common disorder affecting 23-45% population, globally[1].Dyspepsia presents with several clinical dilemmas. Clinically Dyspepsia is defined as one or more clinical symptoms of burning, early satiation, epigastric pain and postprandial fullness[2]. Several studies refereed it to upper abdominal discomfort that specifically arises from upper gastrointestinal tract (GIT). In latest literature, bloating and nausea also coexist with dyspepsia, however, heart burn is excluded from dyspepsia diagnostic criteria due to primary initiation from esophagus leading towards gastro esophageal reflux disease (GERD)[3].Several risk factors for dyspepsia are identified including *Helicobacter pylori* infection, behavioral characteristics and psychiatric disorders. Dyspepsia diagnostic evaluation is associated with upper gastrointestinal endoscopy, gastric emptying test, abdominal ultrasonography, and gastric accommodation evaluation. Endoscopy is an absolute indication for patients with alarming features of dyspepsia. Endoscopy is associated with diagnosis of structural disorders. Negative endoscopy had

a significant advantage of reducing anxiety and increasing patient satisfaction in dyspeptic patients[9].Gender differences in clinical presentation and endoscopic findings of dyspepsia patients was studied previously, in Present study aims to determine frequency of general and specific endoscopic findings in patients diagnosed with dyspepsia the endoscopy helps to improve the quality of life and decrease the unnecessary expenditure on empirical therapy and it may help the clinician in making guidelines to manage dyspepsia due to different causes and help in early diagnosis and management of such patients which may not only improve the patient compliance to treatment but also help them to achieve long term cure. We can also find out the Gender differences in clinical presentation and endoscopic findings of dyspepsia patients.

### Materials and Methods

A cross sectional study was conducted at Department of Gastroenterology, Government Medical College Jammu, Jammu and Kashmir, India from January 2020 to December 2020. A sample size of 200 patients was calculated to estimate the gender differences in clinical presentation and endoscopic findings of dyspepsia. Patients were selected using non probability consecutive sampling. Patients with age 16-75 years, both genders, epigastralgia/epigastric burning that last for minimum 3 months and occurrence of symptoms at least 6 months before were included in study.

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**Inclusion criteria**

Patients with symptoms of dyspepsia, difficulty in swallowing, blood in vomiting, unexplained weight loss, loss of appetite, upper abdominal discomfort were included in the study. Who attended the gastroenterology outpatients section and also patients referred from other wards, screened by Gastroenterologist for upper GI endoscopy, were the subjects of this study. Informed consent was taken from the subjects.

**Exclusion criteria**

Exclusion criteria included patients with GERD, patients using Non steroidal anti-inflammatory drugs (NSAIDs) at least 1-week before study, chronic decompensated liver disease, decompensated chronic heart failure, other predominant dysmotility symptoms, presence of major psychiatric disorders and symptoms outside the epigastrium.

All patients had fasting of 06 hours. Endoscopy (upper digestive) was carried out by standard electronic video endoscope. (Olympus 150 CV) under sedation with single dose of Inj Midazolam 5mg iv 5minutes before the procedure and local anesthesia with lignocaine oral spray, with the patient lying in left lateral decubitus position with neck flexed forward keeping in view the age, BMI and

comorbid like chronic liver disease, chronic renal failure. After intubating the lumen the mucosa was visualized on LCD screen and examined and recorded for inflammation, reflux, narrowing, strictures, furrowing, erosions, ulcers, polyps and masses. Biopsies were taken from the suspicious and mass lesions and sent for histopathological examination. All the patients were sent back after 15 minutes of observation.

**Statistical Analysis**

Data was analyzed using SPSS-24. Descriptive statistics and normality tests were calculated for age and gender. Counts and percentages were calculated to summarize the data of each categorical variable. Pearson Chi-square test was selected to compare the frequencies of organic dyspepsia with age and gender. The  $p$ -value of  $\leq 0.05$  was considered significant.

**Results**

A cross sectional study was conducted at Department of Gastroenterology, Government Medical College Jammu, Jammu and Kashmir, India from January 2020 to December 2020. A sample size of 200 patients was calculated to estimate the gender differences in clinical presentation and endoscopic findings of dyspepsia.

**Table 1: Age distribution**

S.No	Age Group	No of patients	Percentage
1	16-20	22	11
2	21-30	11	5.5
3	31-40	48	24
4	41-50	44	22
5	51-60	38	19
6	61-70	31	15.5
7	>70	6	3

In this study, maximum patients were 31-40 year age group, less number patients were >70 years age group. Age distributions were observed as follows 16-20 years 22(11%), 21-30 years 11(5.5%), 31-

40 years 48(24%), 41-50 years 44(22%), 51-60 years 38(19%), 61-70 years 31(15.5%), greater than 70 years 6(3%).

**Table 2: Gender Distribution**

S.No	Gender	No of patients	Percentage
1	Male	93	46.5
2	Female	107	53.5

In this study, 107(53.55%) female patients predominance is more than male 93(46.5%) patients were observed.

**Table 3: Rapid Urease test**

S.No	Rapid Urease test	No of patients	Percentage
1	Positive	110	55%
2	Negative	90	45%

Rapid urease test positive was observed in 110 (55%), Negative was observed in 90 (45%) patients.

**Table 4: Endoscopic findings**

S.No	Endoscopic findings	No of patients	Percentage
1	Erosive Antral Gastritis Present	101	50.5
2	Erosive Antral Gastritis Granularity	3	1.5
3	Bx taken to R/o Eosinophilic Esophagitis	3	1.5
4	Erosive Antral Gastritis with multiple Prepyloric ulcers	4	2
5	Erosive Gastritis	21	10.5
6	Erosive nodular antral Gastritis	3	1.5
7	Esophageal Growth 29-32 cms	3	1.5
8	Grade 2 haemorrhoids. rest normal up to caecum	3	1.5
9	Mild Antral Gastritis	33	16.5
10	Mild Antral Gastritis + Granularity	4	2
11	Mild Antral Gastritis + Nodularity	3	1.5
12	Small Haemorrhoids , Visualised mucos normal up to Caecum	2	1
13	Small HH, Erosive Antral Gastritis	5	2.5
14	Small Hiatus Hernia, Submucosal Blebs, semicircular rings +	3	1.5

Endoscopic findings observed as follows Erosive Antral Gastritis Present 101 (50.5%), Erosive Antral Gastritis Granularity 3(1.5%), Bx taken to R/o Eosinophilic Esophagitis 3(1.5%), Erosive Antral Gastritis with multiple Prepyloric ulcers 4(2%), Erosive Gastritis

21(10.5%), Erosive nodular antral Gastritis 3(1.5%), Esophageal Growth 29-32 cms 3(1.5%), Grade 2 haemorrhoids. rest normal up to Caecum 3(1.5%), Mild Antral Gastritis 33(16.5%), Small HH, Erosive Antral Gastritis 5(2.5%) respectively.

**Table 5: Clinical findings**

S.No	Clinical findings	No of patients	Percentage
1	CH.Dyspepsia	54	27
2	CH. Dyspepsia Reflex	2	1
3	CH. Dyspepsia Reflex Heart Burn	1	0.5
4	CH.Dyspepsia GERD	1	0.5
5	CH.Dyspepsia Headache	1	0.5
6	CH.Dyspepsia LOA	10	5
7	CH.Dyspepsia PP Vomiting	5	2.5
8	Diffuse ABD Pain	1	0.5
9	Dyspepsia PP Vomiting	5	2.5
10	Epigestic Pain	52	26
11	Epigestic Pain PP Vomiting	9	4.5
12	Epigestic Pain RHQ	2	1
13	GERD	10	5
14	LOA	1	0.5
15	Loose Stool LOA	1	0.5
16	NASH	1	0.5
17	Pain ABD	3	1.5
18	Pain LHQ	5	2.5
19	Pain RHQ	1	0.5
20	PP Vomiting	6	3
21	Upper ABD Pain	8	4

Clinical findings observed as follows CH.Dyspepsia 54 (27%), CH. Dyspepsia Reflex 2(1%), CH. Dyspepsia Reflex Heart Burn 1(0.5%), CH.Dyspepsia GERD 1(0.5%), CH.Dyspepsia Headache (0.5%), CH.Dyspepsia LOA 10(5%), CH.Dyspepsia PP Vomiting 5(2.5%), Epigestic Pain RHQ 2(1%), CH.Dyspepsia GERD 10(5%), PP Vomiting 6(3%), Upper ABD Pain 8(4%).

**Table 6: Association between gender and endoscopic findings**

S.No	Endoscopic findings	Male	Female
1	Erosive Antral Gastritis	39	50
2	Erosive Gastritis	9	12
3	Erosive Gastritis and Duodenal Ulcers Present	3	0
4	Erosive Gastritis with Erosive Duodenitis	3	14
5	Erosivenodularantral Gastritis	3	0
6	Esophageal Growth 29-32 cms	3	0
7	Grade 2 haemorrhoids. rest normal up to caecum	3	0
8	Mild Antral Gastritis.	18	15
9	Mild Antral Gastritis + Granularity	1	3
10	Mild Antral Gastritis + Granularity	0	1
11	Small Haemorrhoids , Visualisedmucos normal up to Caecum	2	0
12	Small HH, Erosive Antral Gastritis	5	0
13	Small Hiatus Hernia, Submucosal Blebs, semisircular rings +	3	0

Female predominance is more in endoscopic findings of dyspepsia patients. Mild Antral Gastritis were observed in 18 male and 15 female patients. Erosive Antral Gastritis were observed in 50 females, 30 males. Erosive Gastritis were observed in 12 females and 9 male patients.

**Table 7: Association between gender and clinical findings**

S.No	Clinical findings	Male	Female
1	CH. Dyspepsia	26	27
2	CH.Dyspepsia LOA	1	8
3	CH.Dyspepsia PP Vomiting	2	3
4	Dyspepsia	9	9
5	Dyspepsia LOA	1	8
6	CH.Dyspepsia PP Vomiting	2	3
7	Diffuse ABD Pain	0	1
8	Dyspepsia	9	9
9	Dyspepsia LOA	1	0
10	Dyspepsia PP Vomiting	4	1
11	Dysphagia	1	3
12	Epigestic Pain PP Vomiting	4	5
13	Epigestic Pain RHQ	2	0
14	Diffuse ABD Pain	0	1
15	Dyspepsia	9	9
16	Dyspepsia PP Vomiting	0	1
17	Dysphagia	0	3
18	Epigestic Pain	24	27

19	Epigestic Pain PP Vomiting	5	4
20	Epigestic Pain RHQ	2	0
21	GERD	6	3
22	LOA	0	1
23	Loose Stool LOA	0	1
24	NASH	1	0
25	Pain ABD	0	3
26	Pain LHQ	1	4
27	Pain RHQ	1	0
28	PP Vomiting	3	3
29	Upper ABD Pain	6	2

Female predominance is more in clinical findings of dyspepsia patients. CH. Dyspepsia was observed in 26 male and 27 female patients. CH. Dyspepsia LOA was observed in 1 male and 8 female patients. Dyspepsia was observed in 9 male and 9 female patients. Epigestic Pain was observed in 24 male and 27 female patients. PP Vomiting was observed in 3 male and 3 female patients. Upper ABD Pain was observed in 6 male and 3 female patients.

#### Discussion

Dyspepsia is a common presenting complaint for both primary care physicians and gastroenterologists. The symptoms of dyspepsia overlap with many conditions such as GERD, peptic ulcer disease (PUD), irritable bowel syndrome (IBS), side effects of medications (such as NSAIDs, steroids), pancreatitis, biliary tract disease, motility disorders, unstable angina and malignancy. The prevalence of GERD and irritable bowel syndrome is higher in patients with dyspepsia compared with patients without dyspepsia. Dyspeptic patients younger than 50 years of age and without alarm features are commonly evaluated by 1 of 3 methods. (1) non-invasive testing for *Helicobacter pylori* (the "test and treat" approach), (2) an empiric trial of acid suppression, or (3) initial upper GI endoscopy. Alarm features for dyspeptic patients include age > 50 years, unexplained weight loss, upper GI bleeding or iron deficiency anaemia, persistent vomiting, dysphagia, odynophagia and family history of upper GI malignancy in a first-degree relative. Dyspeptic patients older than 50 years of age or those with alarm features should undergo upper GI endoscopy immediately. Endoscopy should also be considered for patients in whom there is a strong suspicion of malignancy even in the absence of alarm features. Upper GI endoscopy is the gold standard first line investigation in the work up of a patient with dyspeptic symptoms and is also useful for differentiating organic dyspepsia from functional dyspepsia. The present study was undertaken to evaluate the spectrum of upper gastrointestinal (GI) endoscopy findings in dyspeptic patients with or without alarm features and their correlation with gender difference. In our study, female preponderance was higher which was similar to other studies [10,11]. The mean age was  $43.8 \pm 14.2$  years which is similar to other studies [12,13] with very few presenting before the age of 20 years, peaking in the fourth and fifth decade. The endoscopic findings (Table 3) were Erosive Antral Gastritis 101 (50.5%), Erosive Gastritis 21 (10.5%), Mild Antral Gastritis 33 (16.5%), Small HH, Erosive Antral Gastritis of patients. The most common endoscopic finding in our study was gastritis followed by reflux esophagitis which is similar to study conducted by Rajendran et al. In our study, gastric ulcer was more common than duodenal ulcer which is in contrast to study done by Shrestha et al in which they found duodenal ulcer was more common. Gastric cancer was identified in 2.4% of patients which is closely similar to study done by Khan N et al. In our study, most of the dyspeptic patients (93.7%) had organic causes which were diagnosed with endoscopy which is consistent with the findings of the previous studies. Endoscopy findings were normal in 13 (6.3%) patients which is in contrast to 20-50% in another study. Dyspepsia without evidence of organic disease is termed non-ulcer or functional dyspepsia.

Peptic ulcer, esophagitis and erosive gastroduodenitis were associated with increasing age is similar to study done by Gado et

al [10]. UGI malignancy was not found in dyspeptic patients younger than 30 years old. UGI malignancy was an uncommon finding and its incidence increases as the age advances. Previous studies showed that the incidence and risk of gastric malignancy was high after 50 years of age with its highest peak in the seventh decade. The prevalence of significant lesions in young patients is low and is consistent with previous studies. The number of patients with other lesions such as oesophageal candidiasis, gastric polyp, oesophageal stricture is too small to compare with prior published data. Some patients with dyspepsia had post cricoid web, gastric polyp, hook worm infestation and oesophageal varices as incidental findings, which may not be attributed to their symptomatology.

#### Conclusion

Thus, we conclude that dyspepsia is a common indication for endoscopy. The frequency of female subjects is higher and gastritis is the most common pathology followed by reflux esophagitis. These were associated with increasing age. GI malignancy was uncommon and higher in elderly patients. The upper GI endoscopy is the gold standard first line investigation for evaluating dyspepsia and is the investigation of choice for targeting therapy. Though it is an invasive procedure, dyspeptic patients with alarm symptoms must be evaluated with upper GI endoscopy. Even in endoscopy negative patients, the advantage of a negative endoscopy is reduction in patient's anxiety and provides sufficient patient reassurance. Endoscopy can be avoided in most young patients with dyspepsia without alarm features because the benefits of endoscopy in these patients are less as evidenced by our study. However, well designed, prospective studies with large sample size are needed for better conclusions.

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