

A STUDY OF UPPER GASTROINTESTINAL ENDOSCOPY IN PATIENTS PRESENTING WITH DYSPEPSIA IN TERTIARY HEALTH CENTRE

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Abstract

Background: Dyspepsia is a typical gastrointestinal (GI) complaint that typically has trivial lesions or underlying normal findings, but it can also be a sign of significant morbidity. The most effective diagnostic test for upper gastrointestinal symptoms is upper gastrointestinal endoscopy. So, this study is an attempt to assess the endoscopy findings among Dyspepsia patients. **Materials and Methods:** A descriptive study was carried out among patients presenting with Dyspepsia for three months duration. The patients were selected using a convenient sampling method of a sample size of 150. The patients were subjected to clinical examination, and Upper GI endoscopy. The data were collected and analysed using SPSS software by descriptive statistics. **Result:** Among 150 participants the most frequent symptom was epigastric pain. About 13.3% of patients presented with dyspepsia were found to be normal in upper GI endoscopy. The most common finding was GERD (36.7%), gastritis (22%) followed by duodenitis (6.7%), gastric ulcer (6%), tumor (5.3%), esophagitis (4.7%), and duodenal ulcer (3.3%). **Conclusion:** In the present study, dyspepsia endoscopic diagnosis revealed a prevalence of functional disease (GERD and gastritis), but cancer was a rare finding despite 13.3% of patients exhibiting normal endoscopic findings.

INTRODUCTION

A poorly understood ailment known as dyspepsia is assumed to result from structural or functional issues with the upper gastrointestinal tract. The term "dyspepsia" refers to a group of symptoms affecting the upper digestive tract, including epigastric discomfort, bloating, indigestion, early satiety, belching or regurgitation, nausea, heartburn, and anorexia.^[1] Dyspepsia can be divided into organic and functional types. Organic dyspepsia happens when a structural or metabolic change underlies the symptoms, whereas functional dyspepsia occurs when none of these modifications is detected through clinical assessment and ancillary tests like endoscopy.^[2] According to the Rome IV criteria, dyspepsia is any combination of the following 4 symptoms: postprandial fullness, early satiety, epigastric pain, and epigastric burning. These symptoms must occur at least three days per week for the past three months and have started at least six months prior.^[3] The alarm symptoms of dyspepsia were vomiting, bleeding or anaemia, abdominal mass or unintended weight loss and dysphagia.^[4] The

prevalence of dyspepsia varies by gender and country of origin, and its exact prevalence is unknown.^[5] Depending on the terminology employed and the region, uninvestigated dyspepsia (UD) prevalence ranges from 7% to 45% worldwide.^[6] About one in five individuals experience dyspepsia at some stage in their lives. The illness is chronic and relapsing-remitting in nature. Although dyspepsia patients maintain a normal life expectancy, their symptoms reduce their quality of life and reduce their productivity.^[4]

A patient exhibiting dyspeptic symptoms should undergo endoscopy as the initial diagnostic procedure. The classification of the patient's illness as organic or functional dyspepsia depends on the results of the endoscopic examination.^[7] The development of flexible endoscopy and fiberoptic lenses has made upper GI endoscopy a safe, efficient procedure that requires no hospitalisation. The precision of biopsy procedures and diagnosis has substantially improved with subsequent developments in chromoendoscopy and narrow-band imaging.^[8] Gastric ulcer, duodenal ulcer, oesophagitis, and gastric malignancy are the most

frequently reported significant endoscopic abnormalities.

The significant number of improper referrals for endoscopy for dyspepsia results in unacceptably excessive use of healthcare resources and a harmful lengthening of the waiting period for patients who need the procedure.^[9] To choose an appropriate course of treatment for dyspeptic individuals, healthcare professionals still rely on upper GI endoscopy. Endoscopic procedures are anticipated by patients as a means of ruling out a cause for their symptoms. Although there is no long-term increase in health-related quality of life, the reassurance of a negative endoscopy may help some people's symptoms.^[10] So this study is an attempt to assess the endoscopic findings of Dyspepsia presenting to OPD.

Objective

To determine the endoscopic evaluation of patients presenting with dyspepsia.

MATERIALS AND METHODS

A Descriptive Hospital based Descriptive study was conducted among patients presenting with dyspepsia for three months duration (February 2023 – May 2023) at the Outpatients Department of Surgery, Trichy SRM Medical College Hospital. Patient with dyspeptic symptoms and Patients with previously diagnosed and treated cases of gastric ulcer, duodenal ulcer, and complicated peptic ulcer was included in this study. Patients with coagulopathy, severe thrombocytopenia or impaired platelet function, Increased risk of perforation including connective tissue disorders, recent bowel surgery, or bowel obstruction were excluded from this study. Patients not willing for Upper GI scopy and Patients unfit for GI endoscopy were also excluded from this study. Sample size was calculated using formula $4pq/d^2$ (p = prevalence, q = $(1 - p)$, d = absolute precision). According to a study by Rajendran K et al,^[11] considering the common endoscopic finding gastritis as 40% and absolute precision of 8 % with a 95% confidence interval the sample size was calculated as 150 and the patients were recruited by convenient sampling method.

Data was collected in the Outpatient department, Department of Surgery using semi-structured questionnaire among patients with dyspepsia by interview method after getting their consent. A persistent or recurrent pain or discomfort in the upper abdomen that is accompanied by nausea, vomiting, bloating, and early satiety that is typically made worse by eating is known as dyspepsia.^[12] Each patient underwent a thorough medical examination, a full medical history review, and laboratory tests such as CBC and coagulation profile. Patients were maintained at Nil per oral for six hours before the procedure. Endoscopy was used to view the oesophagus, gastroesophageal junction, stomach, and second half of the duodenum while the patient was in the left lateral position. Additionally, a biopsy was

obtained and sent for histopathological analysis. Every patient received care in accordance with accepted standards. Clinical presentation was expressed as epigastric pain, heartburn, nausea/vomiting, food intolerance, indigestion and loss of weight. Endoscopic findings were categorised as esophagitis, gastritis, duodenitis, gastric ulcer, duodenal ulcer, hernia and growth. Data were entered in Microsoft Excel 2019 and analysed using the software SPSS (Statistical Package of Social Sciences) version 21. Continuous variables and categorical variables were interpreted using frequencies (mean±SD) and proportions (%). Participants were informed about the study and informed consent was obtained. This study was presented to the Institutional Ethical Committee of Trichy SRM Institute of Medical Sciences and Research Centre.

RESULTS

This study was conducted among 150 patients presented with dyspepsia and the mean age of participants was 43.3 ± 15.034 years ranging from 16 – 80 years. In this study, 85 (56.7%) male participants and 65 (43.3%) female participants were included. [Figure 1] shows the gender distribution of Dyspepsia patients.

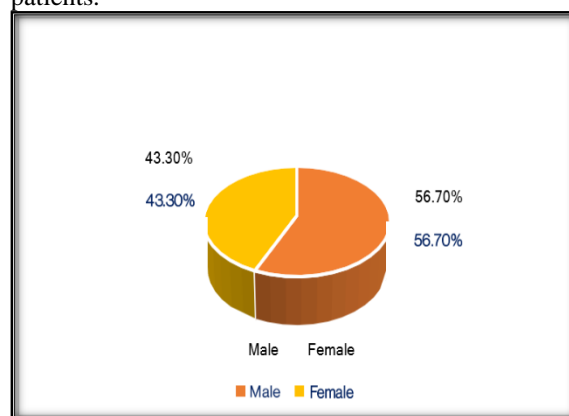


Figure 1: Gender distribution of Dyspepsia participants

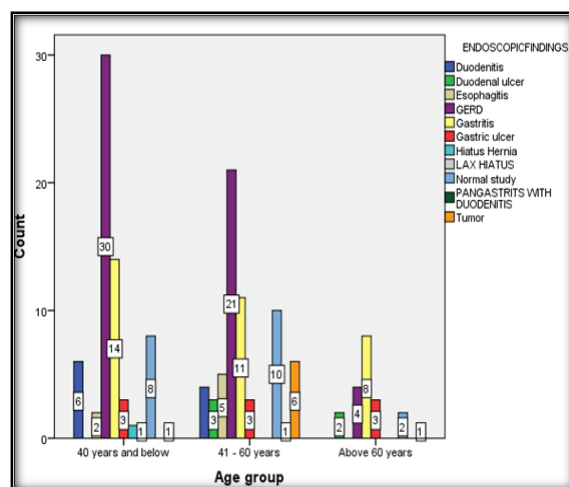


Figure 2: Bar chart showing age distribution of endoscopic findings among dyspepsia patients

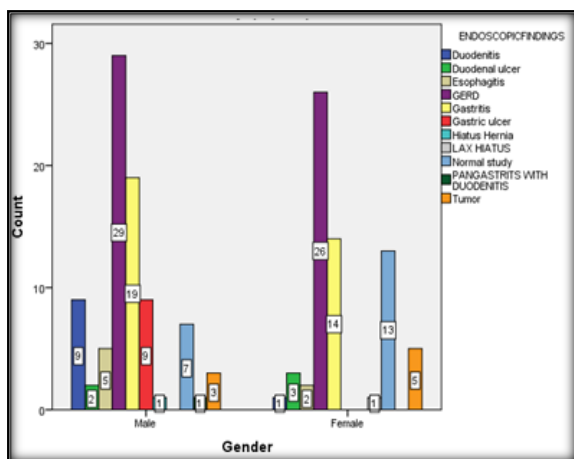


Figure 3: Bar chart showing gender distribution of endoscopy findings among dyspepsia patients

[Table 1] describes the clinical presentation of Dyspepsia. The most common presentation was epigastric pain (79.3%) followed by nausea/vomiting

Table 1: Clinical presentation of Dyspepsia patients (n = 150)

S No	Symptoms	Frequency	Proportion
1	Epigastric pain	119	79.3%
2	Nausea/Vomiting	108	72%
3	Heartburn	88	58.7%
4	Food intolerance	73	48.7%
5	Indigestion	69	46%
6	Loss of weight	48	32%

Table 2: Endoscopy findings of Dyspepsia patients (n = 150)

S No	Endoscopy findings	Frequency	Proportion
1	Lower gastro esophageal reflux disease	55	36.7%
2	Gastritis	33	22%
3	Normal study	20	13.3%
4	Duodenitis	10	6.7%
5	Gastric ulcer	9	6%
6	Tumour	8	5.3%
7	Esophagitis	7	4.7%
8	Duodenal ulcer	5	3.3%
9	Pangastritis with duodenitis	1	0.7%
10	Lax hiatus	1	0.7%
11	Hiatus hernia	1	0.7%

Table 3: Association of Gender with endoscopic findings (n = 150)

S No	Endoscopy findings	Male	Female	Total
1	GERD	29 (52.7%)	26 (47.3%)	55
2	Esophagitis	5 (71.4%)	2 (28.6%)	7
3	Duodenitis	9 (90%)	1 (10%)	10
4	Gastritis	19 (57.6%)	14 (42.4%)	33
5	Duodenal ulcer	2 (40%)	3 (60%)	5
6	Gastric ulcer	9 (100%)	0	9
7	Pangastritis with duodenitis	1 (100%)	0	1
8	Hiatus hernia	1 (100%)	0	1
9	Lax hiatus	0	1 (100%)	1
10	Tumor	3 (37.5%)	5 (62.5%)	8
11	Normal study	7 (35%)	13 (65%)	20

DISCUSSION

For both general practitioners and gastroenterologists, dyspepsia is a frequent presenting complaint. Many illnesses, including GERD, peptic ulcer disease (PUD), irritable bowel syndrome (IBS), adverse drug reactions (including

(72%), heartburn (58.7%), food intolerance (48.7%), indigestion (46%) and loss of weight (32%).

[Table 2] describes the endoscopic findings among Dyspepsia patients. The most common finding was Lower gastro esophageal reflux disease (36.7%), gastritis (22%) followed by duodenitis (6.7%), gastric ulcer (6%), growth (5.3%), esophagitis (4.7%), and duodenal ulcer (3.3%).

[Figure 2] shows the distribution of age groups based on endoscopic findings. GERD was the common finding among age group 41 – 50 years and 50 – 60 years.

[Figure 3] shows the distribution of gender based on endoscopic findings. [Table 3] describes the association of gender with endoscopic findings. There was a significant association between gender and endoscopic findings, and the p value was found to be statistically significant (0.026). The proportion of GERD, gastritis, esophagitis, duodenitis and gastric ulcer was higher among males compared with female patients who presented with dyspepsia.

NSAIDs and steroids), pancreatitis, biliary tract disease, motility disorders, unstable angina, and cancer, share symptoms with dyspepsia.^[1] Endoscopy is carried out worldwide for unjustified reasons in the case of dyspepsia. A few tactics should be taken into account to reduce this large volume of recommended patients.^[13]

Our study described among 150 patients who underwent Upper GI endoscopy with Dyspepsia symptoms, 50% of them showed normal and 50% of them had pathological findings. The most frequent presentation reported in our study was epigastric pain followed by nausea/vomiting and heartburn. Dhungana D et al,^[14] in Nepal also described in a study that Abdominal pain (65.2%) and heartburn (18.8%) were the two most frequent reasons for upper G.I. endoscopy. Al-Abachi KT et al,^[13] research at Iraq also stated 61.6% of participants presented with epigastric pain. Mao L et al,^[15] stated that there were 579 (57.0%) cases of epigastric discomfort, 353 (34.7%) cases of heartburn, 672 (66.1%) cases of bloating, 445 (43.8%) cases of belching, 221 (21.8%) cases of early satiety, and 230 (22.6%) cases of nausea among 1016 dyspeptic patients in China. Abdeljawad K et al,^[16] research in United States also found the most frequent clinical presentation among dyspepsia patients for UGI scopy was epigastric pain (76.6%) followed by nausea and vomiting (26.2%). The studies from Brazil by Faintuch JJ et al,^[17] and Iran by Heidarloo AJ et al,^[18] reported similar findings of epigastric pain as the most frequent clinical presentation (68% and 67% respectively). Basavaraja C et al,^[19] research also reported 80% of heartburn and 48.3% of epigastric pain among Dyspepsia patients.

Our study found that 13.3% of normal and 86.7% of abnormal findings in Upper GI endoscopy. The most common finding was GERD (36.7%), followed by gastritis (22%) duodenitis (6.7%), gastric ulcer (6%), growth (5.3%), esophagitis (4.7%), and duodenal ulcer (3.3%).

Al-Abachi KT et al,^[13] study in Iraq revealed that among dyspepsia patients 70.2% of the results were normal and non-significant. Gastric polyps (0.5%), esophagitis (15.1%), peptic ulcers (7.3%), gastric cancer (0.8%), and gastroduodenitis (GD) (47.6%) were the endoscopic findings. Dhungana D et al,^[14] in Nepal described in a study that Nearly half (50.8%) of the patients exhibited results consistent with gastritis. Endoscopy revealed 175 cases of gastroduodenal ulcers (19.7%). In 130 cases, the endoscopy was normal. A Chinese population study by Mao L et al,^[15] stated that the endoscopic findings among dyspeptic participants were chronic superficial gastritis (47.1%), chronic atrophic gastritis (22.9%), oesophageal lesions (17.7%), peptic ulcer (11.3%), reflux esophagitis (16.2%), gastric ulcer (4.8%), duodenal ulcer (4.3%), and malignancy (0.9%). Of the 650 patients included in Abdeljawad K et al,^[16] research, 51% had a normal endoscopy. The most prevalent endoscopic abnormality was nonerosive gastritis (29.7%), followed by nonerosive duodenitis (7.2%), LA-class A esophagitis (5.4%), and malignancy (0.8%). 20% of the 366 dyspepsia patients had normal endoscopic results, while 46% had gastritis by Faintuch JJ et al,^[17] research. The endoscopy showed insignificant and significant findings among Dyspepsia patients compared with our study results. The proportion of

pathology varies based on region and demographic variables.

Kumari P et al,^[20] in Shimla described that among 294 patients less than sixty years with Dyspepsia symptoms, 34.7% of them had normal findings in which 15.6% of them reported to be malignancy. Vanlalhlua C et al,^[8] research at Mizoram among patients referred for GI endoscopy described that the endoscopy findings were Erosive or Erythematous gastritis (58.97%), Gastro oesophageal reflux esophagitis (17.96%), erosive or erythematous duodenitis (10.25%), ulcer or growths (6.8%), oesophageal varices (2.33%) and no abnormal findings (3.69%). A study by Yellapu R et al,^[11] reported among 207 patients, the common endoscopic finding was gastritis (52.6%), gastritis GERD (15.4%), erosive esophagitis (11.1%), hiatus hernia (10.2%), gastric ulcer (6.7%), duodenal ulcer (4.8%), duodenitis (3.3%), and mixed findings in 37.1% of patients were found during the endoscopy. Gastric cancer was found in 2.4% of patients, and endoscopic findings were normal in 13 (6.3%) patients. Basavaraja C et al research,^[19] among dyspepsia patients found that 19.17% of them were showed normal results in endoscopy, 49.1% of them had gastritis, 9.17% of them had peptic ulcer, 5% of them had malignancy and 3.33% of them had esophageal candidiasis. No endoscopic lesion was observed in 37.41% of Dyspepsia patients, followed by gastro- duodenitis (25.01%), as per a study by Rajendar A et al,^[21] carried out in Rajasthan. Among Dyspepsia patients in Assam without alarm symptoms, a study by Desai SB et al,^[22] indicated that gastro-duodenitis was the most common condition (24.8%), whereas 43.67% of patients had no endoscopic lesions. According to a study by Andrabi et al,^[23] at Kashmir, 73.1% of dyspepsia patients had normal endoscopic findings, while significant endoscopic findings included peptic ulcers in 493 patients (5.1%), esophagitis in 560 patients (5.9%), erosive Gastroduodenitis in 1069 patients (11.2%), varices in 40 patients (0.4%), and UGI malignancy in 279 patients (2.9%). Kannan RR et al,^[24] from Tamil Nadu reported the common endoscopic finding among Dyspepsia patient was gastritis (85%) followed by duodenitis (42%). There were variations in proportion of cases reported based on region and demographic population.

CONCLUSION

The upper gastro intestinal evaluation of patients with dyspepsia revealed epigastric pain as the major complain and the most common presentation was functional dyspepsia (GERD and gastritis). Endoscopy is carried out worldwide for unjustified reasons in the case of dyspepsia. A few tactics should be taken into account to reduce this large volume of recommended patients. In dyspeptic patients, a proper history and physical examination should be the rule, followed by targeted investigations to

confirm or rule out serious disease. The preferred diagnostic method for assessing upper gastrointestinal symptoms is endoscopy, which is still the "gold standard". By performing a scopy on every instance of dyspepsia, the early conclusive diagnosis in every case may be made, preventing the early detection of major pathology like malignancy and lowering the risk of death and morbidity.

Limitations

The larger sample size might be considered for generalising results.

This was a single centric study, multi centric studies might be useful to analyse significant presentation.

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