

# Early Endoscopy of Oesophagus, Stomach and Duodenal Bulb in Patients Presenting with Dyspepsia

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**Abstract:** *Uninvestigated dyspepsia is common in surgical out patient department. The prevalence of clinically significant upper gastrointestinal findings in adult uninvestigated dyspepsia patients and their predictability based on history is unknown. So a study was undertaken in SMIMER Hospital, Surat to study the endoscopic findings in dyspeptic patients, prevalence of H.pylori infection in dyspeptic patients and to detect the esophagogastroduodenal carcinoma in early stages. After informed consent 120 patients aged more than 13 years presenting with uninvestigated, untreated and uncomplicated dyspepsia were enrolled and evaluated in the study. Patients aged less than 13 years, pregnant and Lactating women, patients on chronic Proton pump inhibitors (>8weeks), patients who are known cases of chronic pancreatitis and liver disease, patients on NSAID's for more than one month duration, patients who had received Anti-Helicobacter pylori treatment and unwilling or unfit patients for endoscopy were excluded from the study. All patients underwent upper gastro-intestinal endoscopy to document the various findings. Biopsies were taken in every patient from the gastric antrum and pathological site. The biopsy specimen was subjected to histopathological examination for confirmation and to detect the prevalence of H.pylori infection by using rapid urease test and by Giemsa staining. The findings were documented and analyzed. Clinically significant endoscopic findings were observed in 84.5% of patients with uninvestigated dyspepsia. Most patients presented with a complex of three or more dyspeptic symptoms and the symptom profile was not predictive of the endoscopic findings. A larger number of inflammatory lesions as a result of increased acid production, a remarkable prevalence of H.Pylori infection and low incidence of malignancy in the study group. It is suggested that the uninvestigated patients with dyspepsia may be initially managed medically with acid suppressive therapy or H.Pylori eradication in cases suspected to be infected endoscopy may be undertaken in patients with recurrent symptoms or in whom drug therapy fails.*

**Keywords:** Dyspepsia, Early oesophago-gastro-duodenoscopy, Gastro-esophageal reflux disease, H Pylori infection, Ulcer

## 1. Introduction

Dyspepsia (also called uninvestigated dyspepsia) had been defined by the Rome working teams as pain or discomfort centered in the upper abdomen. Pain in the central portion of the abdomen is a key symptom, pain located in other areas or related to defecation is excluded. Discomfort is considered to be distinct from pain; however, both often coexist and the distinction may in part be culturally driven. Discomfort has been defined as a subjective negative feeling that may include a variety of symptoms such as fullness in the upper abdomen, early satiety, bloating or nausea. The definition of dyspepsia includes patients who have intermittent or continuous symptoms and does not specify the duration of symptoms. Thus dyspepsia may be of short or long duration, but acute self-limited dyspepsia does not usually require investigation and will not be considered further here.

The majority of patients who present with chronic dyspepsia have no obvious underlying explanation despite appropriate investigation; these cases are currently labelled as having non-ulcer (or functional) dyspepsia, although this is likely to be a heterogeneous condition. The pathophysiology of functional dyspepsia remains relatively poorly defined, but sensory and motor disorders of the stomach and duodenum appear to play a central role in at least a subset of cases. The

main objective of this study: To study the endoscopic presentation of dyspepsia, to study the prevalence of *H. pylori* infection in patients with dyspepsia undergoing upper gastrointestinal endoscopy in SMIMER Hospital, Surat and early detection of life threatening gastrointestinal disease (esophagogastroduodenal carcinoma) and reduces rate of its complications.



**Figure 1:** Esophago-Gastric Junction Z Line

## 2. Materials and Methods

A prospective clinical study was undertaken at SMIMER Hospital, Surat to know the various upper gastro-intestinal endoscopic findings in patients presenting with dyspepsia at SMIMER Hospital, Surat. The study was conducted over a period of 18 months (March 2018 to August 2019). The patient selection was by convenience sampling. Dyspeptic patients were included in this study with their informed consent. A detailed clinical history was elucidated, followed by careful clinical examination, which were recorded as per the proforma. All the patients included in the study underwent upper gastrointestinal endoscopy and the findings were noted.

The inclusion were: patients above 13 years of age, patients showing symptoms of dyspepsia for 4 or more than 4 weeks, patients with uncomplicated and uninvestigated dyspepsia, patients fit for elective upper GI scopy, patients willing for upper GI scopy.

Exclusion criteria were: patients below 13 years of age, pregnant and lactating women, high anaesthetic risk, patients on chronic proton pump inhibitors (>8 weeks), patients who are known cases of chronic pancreatitis and liver disease, patients on NSAID's for more than one month duration, patients who have received Anti-Helicobacter pylori treatment, unwilling or unfit patients for endoscopy.

Highest prevalence of dyspepsia in the age group of 31-40 years. Most common presenting complaint was epigastric pain and discomfort. Dyspepsia was more common in males (63%) when compared to females. Most common endoscopic finding was gastritis followed by GERD. H.pylori infection was present in 38.7% of study population. H.pylori infection was present in 69.2% patients with peptic ulcer disease, Malignancy was diagnosed in 4.2% patients with dyspepsia. Clinically significant endoscopic findings were observed in 84.5% of patients with uninvestigated dyspepsia. Most patients presented with a complex of three or more dyspeptic symptoms and the symptom profile was not predictive of the endoscopic findings. A larger number of inflammatory lesions as a result of increased acid production, a remarkable prevalence of H.Pylori infection and low incidence of malignancy in the study group is reported. It is suggested that the uninvestigated patients with dyspepsia may be initially managed medically with acid suppressive therapy or H.Pylori eradication in cases suspected to be infected endoscopy may be undertaken in patients with recurrent symptoms or in whom drug therapy fails.

### Statistical Analysis:

All statistical analysis was performed using SPSS 25 (Statistical Package for Social Science).

Quantitative variables were presented as means or as median (range)

## 3. Results

Out of 120 patients, there were 76 (63%) male patients, 44 (37%) female patients, age ranging from 15 years to 80 years. The mean age of the patients in this study was found

to be 42.6 years. All these patients presented to our hospital with symptoms of dyspepsia for 4 or more than 4 weeks. Upper GI endoscopy was done in all patients.

Normal study was observed in 22 (15.5%) patients. Most common abnormal endoscopic finding was gastritis 41 (28.9%) patients, followed by GERD in 26 (18.3%) patients, esophagitis, hiatus hernia and duodenal ulcer, which were present in 8 (5.6%) patients each. Duodenitis in 7 (4.9%) patients, esophagogastritis and gastric ulcer were seen in 5 (3.5%) patients each. Carcinoma stomach in 4 (2.8%) patients, gastroduodenitis in 3 (2.1%) patients, carcinoma esophagus in 2 (1.4%) patients were noted esophageal polyp, esophagogastrroduodenitis and Barrett's esophagus present in 1 (0.7%) patient each, were the least common findings. Most of the patients were in the age group of 31-40 years (26.8%) and Hiatus hernia and GERD were common findings. Inflammatory lesions (gastritis, esophagitis, eso polyp, Barrett's esophagus, esophagogastritis, duodenitis, gastroduodenitis and esophagogastrroduodenitis) were commonly seen in the age group between 21-40 years. Ulcer dyspepsia was commonly seen in the age group between 41-70 years. Malignant lesions were seen frequently in patients aged more than 50 years. Analysis of various diseases on endoscopy showed that the most common pathology was inflammatory lesions seen in 67 (47.2%) of patients, of which 42 (47.7%) were male patients and 25 (46.3%) were female patients, followed by Hiatus hernia and GERD were next common abnormal findings, 34 (23.9%) in the decreasing order of the frequency of which 18 (20.5%) were males and 16 (29.6%) females. Ulcer dyspepsia was seen in 13 (9.2%) of which 9 (10.2%) males and 4 (7.4%) females. Malignancy was common in males 5 (5.7%) patients.

Out of 120 patients with clinically significant endoscopic findings, most common pathology was seen in stomach of 50 (41.7%), patients followed by esophagus 46 (38.3%) and duodenum 15 (12.5%). And out of 120 patients, the most common component of dyspepsia was epigastric pain and discomfort, seen in 102 (85%) patients, followed by nausea and/or vomiting 92 (76.6%) patients, heartburn in 75 (62.5%) patients, food intolerance in 60 (50%) patients, indigestion in 55 (45.8%) patients and loss of appetite and/or weight in 37 (30.8%) patients. The prevalence of *H.pylori* in male patients (39.8%), was marginally higher than in female patients (37%). Out of 22 patients with normal endoscopic findings, 5 patients (22.7%) were positive for *H.pylori* positive on RUT. The prevalence of *H.pylori* infection in dyspeptic patients was 38.7%. *H.pylori* prevalence in esophagogastrroduodenitis was 100%, duodenal ulcer 75%, duodenitis 71.4%, gastroduodenitis 66.7%, gastric ulcer 60%, gastritis 53.6%, esophageal and gastric carcinoma 50% each. Other abnormal endoscopic findings were less associated with prevalence of *H.pylori* infection. Prevalence of *H.pylori* infection was highest in the age group of 51-60 years and least in the age group of 13-20 years. The most common clinical presentation in these patients with *H.pylori* positive was loss of weight and/or appetite (63%), followed by nausea and/or vomiting (41.2%), followed by indigestion (38.5%), food intolerance (37.1%), epigastric pain and discomfort (36.6%) and heart burn (29.4%) in the decreasing order.

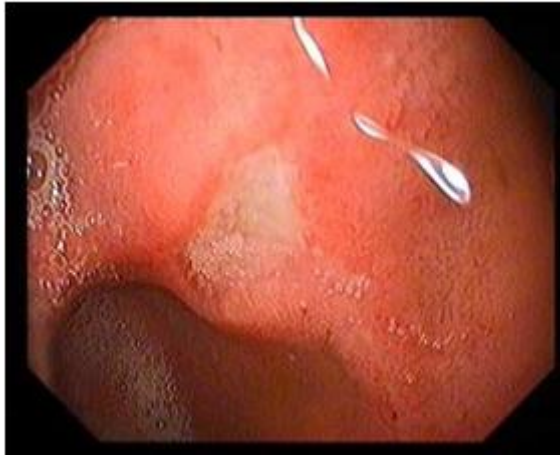


Figure 2: Endoscopic view of gastric ulcer



Figure 5: Endoscopic view of antral gastric ulcer



Figure 3: Endoscopic view of esophageal carcinoma

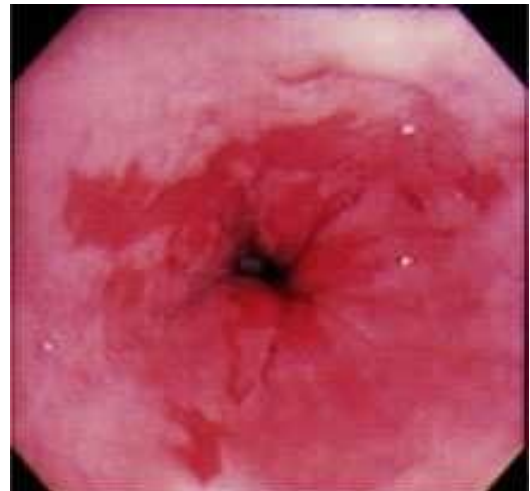


Figure 6: Endoscopic view of Barrett's oesophagus



Figure 4: Endoscopic view of carcinoma stomach with ulcer

#### 4. Discussion

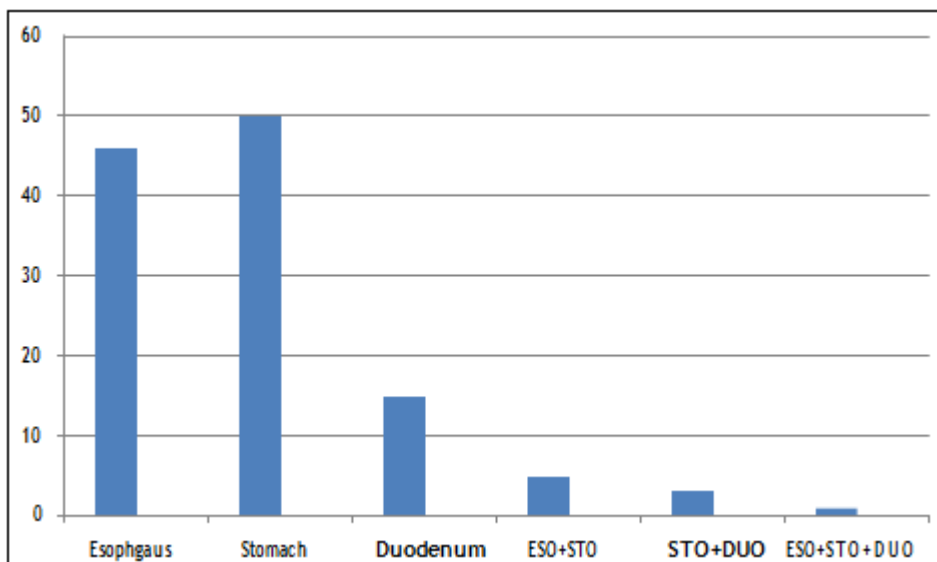
A prospective clinico-pathological study entitled “A Clinical study of various findings in upper gastro-intestinal endoscopy in patients presenting with dyspepsia at SMIMER HOSPITAL, SURAT”, was undertaken in SMIMER hospital to study the endoscopic findings of dyspepsia, prevalence of *H. pylori* infection in dyspeptic patients and to detect esophagogastrointestinal carcinoma at early stages.

After informed consent 120 cases of dyspepsia were included in the study and were studied clinically as per the proforma over a period of one and half year from March 2018 to August 2019. All the patients underwent upper gastro-intestinal endoscopy and various findings were noted.

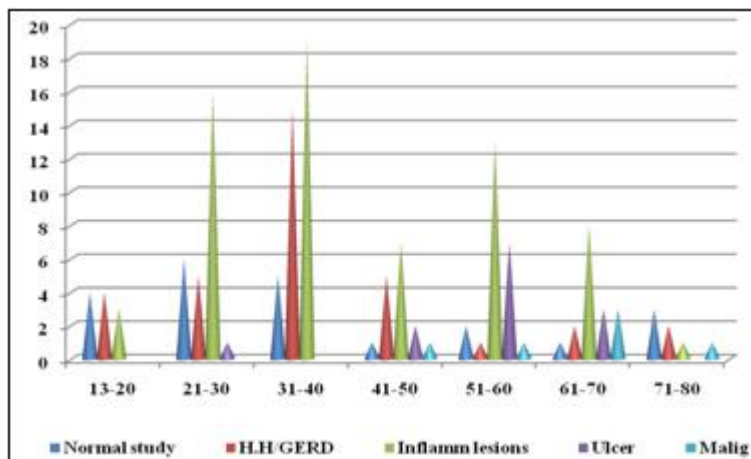
Out of 120 patients, 102 (85%) patients had epigastric pain and discomfort as their chief complaint where as nausea and vomiting was present in 92 (76.6%) patients. The other complaints were heart burn 75 (62.5%), food intolerance 60 (50%), indigestion 55 (45.8%) and loss of appetite and weight 37(30.8%).The majority of patients with dyspepsia were in the age group of 31-40 years (26.8%).The mean age in our study was 42.6 years in which 63% were male patients, 37% were female patients. The incidences of

different presentations of dyspepsia were common in males compared to females. Only the incidence of esophagogastritis was more in female patients. Clinically significant endoscopic findings were observed in 120 patients accounting for 84.5%. Gastritis was by far the most common finding (28.9%), while GERD was found in 18.3%. The next common findings were esophagitis, hiatus hernia and duodenal ulcer accounting for 8% each. The prevalence of *H.pylori* was highest in the age group of 51-60 years and least in the age group of 13-20 years. This study showed that the prevalence of *H.pylori* increased as the age increases, but in terms of male and female ratio, the prevalence of

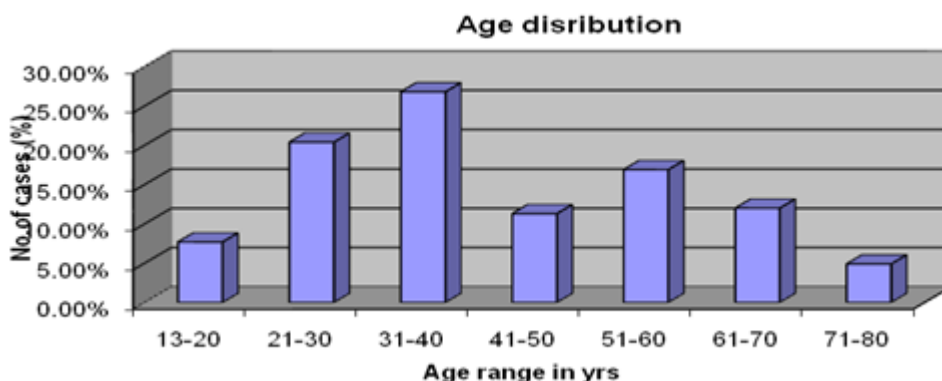
*H.pylori* was almost equal. The most common clinical presentation in these patients with *H.pylori* positivity was loss of weight and/or appetite (63%), nausea and/or vomiting (41.2%), followed by indigestion (38.5%), food intolerance (37.1%), epigastric pain and discomfort (36.6%) and heart burn (29.4%). The overall prevalence of *H.pylori* in dyspeptic patients was 38.7%. Prevalence of *H.pylori* was common in patients with gastritis (22/41), followed by duodenal ulcer (6/8), duodenitis (5/7) and gastric ulcer (3/5). There were 4 patients with carcinoma stomach accounting for 2.8%, among them which 3 were male patients. Gastric malignancies were common in older age groups.



Graph 1: Prevalence of clinically significant endoscopic findings according to the site of lesion



Graph 2: Frequency of various diseases on endoscopy in different age groups



Graph 3: Incidence of dyspepsia in different age groups

## 5. Conclusion

On endoscopic examination, gastritis and GERD together accounted for the majority of the cases. Highest prevalence of dyspepsia in the age group of 31-40 years. Most common presenting complaint was epigastric pain and discomfort. Dyspepsia was more common in males (63%) when compared to females. *H.pylori* infection was present in 38.7% of study population. *H.pylori* infection was present in 69.2% patients with peptic ulcer disease. Malignancy was diagnosed in 4.2% patients with dyspepsia. Clinically significant endoscopic findings were observed in 84.5% of patients with uninvestigated dyspepsia. Most patients presented with a complex of three or more dyspeptic symptoms and the symptom profile was not predictive of the endoscopic findings. However, the high prevalence of gastritis (28.9%), the 38.7% prevalence of *H.pylori* infection, and the observation that 69.2% (9/13) of patients with peptic ulcer were infected with *H.pylori*, suggests that most patients presenting with uninvestigated dyspepsia can be safely managed initially with acid suppressive therapy or treatment of *H.pylori*, if the patient is infected. Prevalence of large number of inflammatory lesions as a result of increased acid production, a remarkable prevalence of *H.Pylori* infection and low incidence of malignancy in the study group suggests that the uninvestigated patients with dyspepsia may be initially managed medically with acid suppressive therapy or *H.pylori* eradication in cases suspected to be infected. Endoscopy may be undertaken in patients with recurrent symptoms or in whom drug therapy fails.

## 6. Compliance with Ethical Standards

Conflict of interest: The authors declare that they have no conflict of interest.

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