

## Frequency of Lesions Found on Endoscopy in Patients Presenting with Dyspepsia in a Tertiary Care Hospital

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### Abstract

**Background:** Uninvestigated dyspepsia is a very common clinical problem faced by gastroenterologists. More than half of patient has no detectable lesion at endoscopy. The common organic causes of dyspepsia include peptic ulcer, esophagitis and cancer. The diagnostic test of choice is endoscopy. Age specific thresholds to trigger endoscopic evaluation may differ by gender, availability of resources and regional disease specific risks.

**Objectives:** The aim of the study was to evaluate esophagogastroduodenoscopy (OGD) findings in patients presenting with dyspepsia.

**Study Design:** Retrospective descriptive study.

**Place and Duration:** It's a complete one year study conducted between Jan. 2013 till Dec. 2013, at Hayat Abada Medical Complex Peshawar.

**Results:** A total of one hundred and fifty patients with dyspepsia were assessed by UGI endoscopy. Fifty-five (n. 33) percent were male. The mean age was  $40 \pm 15$  years. Thirty two patients (21%) had a history of smoking, 20(14%) were taking aspirin or non-steroidal anti-inflammatory drugs. Endoscopy revealed normal findings or miscellaneous irrelevant findings in 70 patients (46%). Significant endoscopic findings were diagnosed in 80 (54%). These included peptic ulcers in 40 patients (26%), esophagitis in 15(10%), erosive gastroduodenitis in 10 (6.6%) UGI malignancy in 6 (4%), hiatus hernia in 4(2.6%). The miscellaneous findings on OGD were Mallory Weis tear (n = 1), gastric outlet obstruction (n = 1), esophageal diverticula (n = 1), achalasia (1) and duodenal diverticula (n = 1). Significant endoscopic findings were associated with increasing age.

**Conclusion:** Dyspepsia is a common indication for endoscopy. Endoscopy revealed normal findings or miscellaneous irrelevant findings in about half of patients. The most frequent significant pathologies included peptic ulcer, esophagitis and erosive gastroduodenitis. These were associated with increasing age. UGI malignancy was uncommon and found in older age groups.

**Keywords:** Upper GI Endoscopy; Dyspepsia; Esophagitis; Gastritis; Gastric Ulcer; Duodenal Ulcer; Gastroduodenitis; Hiatus Hernia

### Introduction

Dyspepsia is usually defined as pain or discomfort in the upper abdomen [1]. It is a common disorder with a prevalence of up to 40% in the general population in Great Britain [2]. More than half of these patients presenting with dyspepsia have no detectable cause for their

symptoms [1]. The common organic causes of dyspepsia are peptic ulcer, esophagitis and cancer. Dyspepsia is a complex condition, including upper gastrointestinal tract with chronic and recurrent symptoms, including epigastric pain, discomfort, including postprandial fullness and early satiety, which may overlap with heartburn and regurgitation [3,4]. Over 80% of the population are affected by dyspepsia at some time in their life [5]. Worldwide investigations have shown that the prevalence of dyspepsia is in the range of 14.5 - 45% [6,7]. Only 75% of the dyspepsia experts, 73% of gastroenterologists and 59% of primary care providers adhere to dyspepsia best practices; so different medics have different views of dyspepsia. Providing of adequate treatment following common dyspepsia guidelines without a common diagnostic language may be unable [8].

Due to structural upper gastrointestinal (UGI) tract diseases like peptic ulcer, erosive esophagitis, luminal strictures and malignancy in structural dyspepsia, esophagogastroduodenoscopy is the method of choice in differential diagnosis between structural and functional dyspepsia. It is possible that endoscopy is considered as the first approach in dyspepsia [9]. It should also be recognized that a large percentage of uninvestigated dyspepsia are functional cases [10]. Therefore the use of endoscopy in uninvestigated dyspepsia is still a controversial subject in the world [11].

### Materials and Methods

The endoscopy record from January 2013 to December 2013 from Gastro unit of Hayatabad medical complex was analyzed retrospectively. It contained data of patients from all parts of KPK including both locals and Afghans refugees. Endoscopies were performed in standard ways using Olympus endoscope. Diagnosis is based on accepted criteria [12]. They were either referred from outpatient department (OPD) and private clinics (open access) or were admitted patients (booked cases). We excluded patients who were positive for hepatitis B and C.

The patient's record including name, age, sex, address and indications for OGD, procedure performed and endoscopy findings were documented. Histopathology of the biopsy specimen was retrieved. Helicobacter pylori status was available for few cases only.

**Inclusion Criteria:** Our study included adult patients (age range between 14 to 80 years) presented with dyspepsia.

#### Exclusion Criteria:

1. Patients who underwent UGI endoscopy for reasons other than dyspepsia such as dysphagia, UGI
2. bleeding, or strong suspicion of cancer were excluded from the study.
3. Patients with prior peptic ulcer were also excluded.
4. Those with serious complications related to the procedure were also excluded.

**Data recording and statistics:** Upper GI endoscopies data performed in a total of 150 patients with diagnosis of dyspepsia was collected. Endoscopies which were incomplete or could not be accomplished due to lack of patient cooperation and or failure to pass the scope were not included in this study.

Patients were stratified according to their age. A standardized data collection form (sheet) was completed for each patient. Recorded information included demographic data (age and gender), smoking history, drugs used (aspirin and non-steroidal anti-inflammatory) alcohol consumption, associated heartburn, endoscopic findings and histopathology. Data were analyzed to assess a statistically significant difference between the age groups for various gastrointestinal lesions. The data from the patients were registered, tabulated and statistically analyzed using the Statistical Package for Social Sciences (SPSS) program version 15 to calculate frequencies and the v2 test. P value was taken as significant at a level less than 0.05.

**Results**

The age of the patient ranges from 14 years to 80 years with mean age of 40 ± 15 years. Majority of the patients were in third or fourth decade of their life. Fifty five percent patients (n 83) were males and forty five percent (n 67) were females.

In all patients, a single endoscopic diagnosis was made. Significant endoscopic findings in the UGI tract were defined as those benefiting from specific treatment or those that are life threatening. The presence of any of the following lesions was considered as a significant finding in UGI endoscopy: peptic ulcer, esophagitis (with or without hiatal hernia), erosive gastritis or duodenitis, stricture, Barrett’s esophagus, esophageal candidiasis, neoplasm, mass and polyps.

These included peptic ulcers in 40 patients (26%), esophagitis in 15 (10%), erosive gastroduodenitis in 10 (6.6%) and UGI malignancy in 6 (4%) and hiatus hernia in 4 (2.6%). The miscellaneous findings on OGD were Mallory Weiss tear (n = 1), gastric outlet obstruction (n = 1), esophageal diverticula (n = 1), achalasia (1) and duodenal diverticula (n = 1), Significant endoscopic findings were associated with increasing age. Endoscopy was normal in 46% (n = 70). These patients suffered from functional dyspepsia. The latter was more common in younger population i.e. below 30 years of age, especially female.

**Endoscopic diagnosis in dyspeptic patients**

Endoscopic diagnosis	Total No	% Age
Peptic ulcer	40	26
Esophagitis	15	10
Erosive gastroduodenitis	10	6.6
UGI malignancy	6	4
Hiatus hernia	4	2.6
Mallory Weiss tear	1	< 1
Gastric outlet obstruction	1	< 1
Esophageal diverticula	1	< 1
Achalasia	1	< 1
Duodenal diverticula	1	< 1
Normal OGD	70	46

**Discussion**

Dyspepsia is a common clinical problem seen by both primary care physicians and gastroenterologists. Dyspepsia accounts for about 4 - 5% of all the general practitioner consultations and 20 - 40% of all gastroenterological consultations [12]. Initial evaluation should focus on the identification and treatment of potential causes of symptoms such as gastro-esophageal reflux disease, peptic ulcer disease and medication side effects but also on recognizing those at risk for more serious conditions such as gastric cancer. Endoscopy is recommended as the first investigation in the work up of a patient with dyspeptic symptoms and is essential in the classification of the patient’s condition as organic or functional dyspepsia. Approximately 40% of dyspeptic patients have an organic cause and only 20% of patients have significant gastro duodenal lesions, such as peptic ulcer [13,14]. The most commonly reported major endoscopic abnormalities are: gastric ulcer (1.6 - 8.2%), duodenal ulcer (2.3 - 12.7%), esophagitis (0 - 23.0%) and gastric malignancy (0 - 3.4%). Only in a few cases are dyspeptic symptoms caused by gastro-esophageal malignancy [15]. While gastric or esophageal cancer is an unusual finding in patients with dyspepsia, excluding malignancy is a common reason given for performing endoscopy [16]. Once an organic cause for symptoms has been excluded, a diagnosis of functional dyspepsia can be made [16].

In the present study 150 patients presenting with dyspepsia at a community hospital over a 1 year period were assessed. Our goal was to describe patients' characteristics and endoscopic findings among patients with dyspepsia. We focused on the etiology of dyspepsia. Majority of our patients were in 3<sup>rd</sup> to 5<sup>th</sup> decade of life. The number of male patients was slightly higher as compared to female. Endoscopic diagnosis were made in 80 (54%) patients while in 70 (46%) endoscopy was normal. These patients probably suffered from functional dyspepsia [17]. The prevalence rate of functional dyspepsia is reported to be higher among women. The relative frequencies of upper endoscopic finding stratified by age demonstrated that non-ulcer dyspepsia and significant lesions (peptic ulcer, esophagitis and erosive gastroduodenitis) were common in all age groups. Peptic ulcer, esophagitis and erosive gastroduodenitis were associated with increasing age. UGI malignancy was an uncommon finding and found in older age groups. The low prevalence of serious lesions in young patients is consistent with prior published data [18,19]. The number of patients with other significant lesions (esophageal MW tear, achalasia, diverticula, gastric polyps (hyper plastic) is too small for meaningful comparison.

Endoscopy revealed normal findings or miscellaneous irrelevant findings in 46% of patients presenting with dyspepsia. The findings of the present study confirmed that the majority of patients with dyspepsia had no important endoscopic lesions. Many dyspeptic patients continue to be sent for endoscopic evaluation as the initial step in management. The findings of the present study support selective UGI endoscopy in patients with dyspepsia because the prevalence of important lesions was very low in young patients. Further study is warranted to determine. Whether young patients with dyspepsia benefit from endoscopy. Unmeasured benefits could include improvement inequality of life, if anxiety is reduced and reduction in subsequent health care utilization. Significant pathology was diagnosed in 54% of patients presenting with dyspepsia. The commonest included peptic ulcer, esophagitis and erosive gastroduodenitis which were diagnosed in 26%, 10% and 6.6% of patients, respectively. These findings were more frequent among the older age groups than in the younger age group ( $P = 0.000, 0.002$  and  $0.012$ , respectively). Esophagitis was more common in those with reflux symptoms than in those without (18% vs. 13%) ( $P > 0.05$ , non-significant).

We have detected 6 (4%) patients with UGI malignancy among patients with dyspepsia and all patients were above 60 years old. Studies showed the incidence and risk of upper GI malignancy steadily increase with age after 40 years with its highest peak in the seventh decade [20]. All cases with UGI malignancy were referred to the oncology dep't for further management but unfortunately majority was diagnosed at an advanced stage. The factors responsible for delay in detection are underuse of diagnostic tests, late referrals for UGI endoscopy, misdiagnosis and injudicious use of acid suppression therapy. Perhaps the most important reason for performing diagnostic endoscopy is to detect gastric cancer at an early stage. However, in its early stage, gastric cancer presents with symptoms that are often indistinguishable from those of benign gastric ulceration; therefore, all patients who are in the age group at risk of gastric cancer should undergo early endoscopy rather than trials of medical therapy that may delay diagnosis [21].

The findings of the present study confirmed that the majority of patients with dyspepsia had no important endoscopic lesions. The significant endoscopic lesions were more frequent among the older age groups than in the younger age group. There was a statistically significant difference between the age groups for the presence of peptic ulcer, esophagitis, erosive gastroduodenitis and UGI malignancy. Our analysis of daily clinical practice provided valuable information. Also, the data provide an interesting profile of this group of patients. Limitation of the study included: the study is retrospective, lack of biopsy sampling in all patients, thereby missing microscopic esophagitis, non-erosive reflux disease, histologic gastritis as well as *Helicobacter pylori* infection. Also alarm symptoms were not assessed.

### Conclusion

In conclusion, dyspepsia is a common indication for endoscopy in our setup. Endoscopy revealed normal findings or miscellaneous irrelevant findings in the majority of patients. The most frequent significant pathologies included peptic ulcer, esophagitis and erosive gastroduodenitis. These were associated with increasing age. UGI malignancy was uncommon and found in older age groups. Patients with recent onset of dyspepsia who are in the age group at risk of gastric malignancy should undergo early endoscopy. Endoscopy can be avoided in most young patients with chronic dyspepsia because the benefits of endoscopy in these patients are uncertain.

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