ENDOSCOPIC EVALUATION OF DYSPEPSIA

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ABSTRACT

Background

Dyspepsia, a classic symptom of Peptic Ulcer Disease (PUDs) is a common clinical problem, However, only 15-25% of patients are found to have a gastric or duodenal ulcer. Oesophagogastroduodenoscopy (OGD) is a necessary investigation of dyspepsia to exclude mucosal disease.

Objectives

To determine the specific causes of dyspepsia amid hundreds of patients who attended a major tertiary GIT center in Erbil city over the last two decades, to preclude the serious medical illness through endoscopic visualization, as well as determine if any endoscopic medical intervention would rather relieve dyspepsia most

patients and Methods

A retrospective study was done on endoscopic records of patients from 2004 to 2023. The records review of 2106 patients who underwent OGD for evaluation of dyspeptic symptoms. The OGDs were done in Rizgary Teaching Hospital at the endoscopy Module. The Device model was an Olympus OTV-F2 connected to a TV monitor.

Results

The commonest OGD findings were duodenal ulcer (32.5%), atrophic gastritis (29.1%), and normal OGD (22.7%). Normal OGD was most common amid the age group 30-39 years, while duodenal ulcer and atrophic gastritis were both most common among the 15-29 age groups.

Conclusion

The most common OGD findings in this study were duodenal ulcers and atrophic gastritis. Both were found mostly among younger patients. Gastric cancer was the predominant significant lesion seen among various age groups including younger age groups, no medical intervention through OGD was useful to relieve dyspepsia in the majority of participants. We recommend active screening programs for gastric cancer, especially among middle-aged patients together with better social awareness against unhealthy lifestyles.

Keywords: *Dyspepsia, Oesophagogastroduodenoscopy, Doudenal Ulcer, Antral Gastritis, Atrophic Gastritis.*

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INTRODUCTION

Dyspepsia is a classic symptom of peptic ulcer disease (PUDs), it is a common clinical problem and may be seen in 25-40% of adults. [1].However, only 15-25% of patients are found to have a gastric or duodenal ulcer[2].The remainder are diagnosed with non-ulcer or functional dyspepsia, a condition most likely related to an abnormal perception of events in the stomach caused by different visceral hypersensitivity[2] ·Oesophagogastroduodenoscopy (OGD) is an essential investigation for dyspepsia to exclude mucosal disease [3] .The normal OGD findings are common for dyspepsia and constitute 40%, so as classified as non-ulcer dyspepsia (NUD) which recently related to impairment in the fundic accommodation response of the stomach [4].

The organic causes of dyspepsia include peptic ulcer diseases (duodenal and gastric ulcers), H-pylori gastritis, Gastro-esophageal reflux disease, and gastric cancer[4] .Careful history taking allows for accurate differential diagnosis of dyspepsia in nearly half of patients. In the remainder, endoscopies can be a useful diagnostic tool for those whose symptoms are not resolved by an empiric supportive treatment.

Endoscopies are generally safe, and very rarely lead to death (0 to 0.01%) [2].The endoscopes are the best procedures for examining the upper gastrointestinal mucosa. While the upper gastrointestinal radiographic series has similar accuracy for the diagnosis of duodenal ulcers, OGD is superior for the detection of gastric ulcers and permits directed biopsy and endoscopic therapy if needed [5].

PATIENTS & METHODS

This was a retrospective study done on endoscopic records of patients from 2004 to 2023. The records were from 2106 patients who underwent OGD for evaluation of dyspeptic symptoms. Patient characteristic: Adult patients aged ≥18 or more, who had dyspepsia for >6 months, both genders involved, almost all patients received several courses of empirical treatment with antacids, anticholinergics, H2-blockers, and Proton pump inhibitors, but their symptoms either did not improve or has recurred after treatment discontinuation.

The exclusion criteria were weight loss, upper GI bleeding manifested as hematemesis and or melena, dysphagia, previous gastric surgery, and abdominal and epigastric mass.

The OGDs were done at the Outpatient Endoscopy facility in Rizgary General Hospital, a major health care facility, The patients were examined after an overnight fasting, being put in their left lateral position and the procedure was done by the researcher assisted by a well-trained staff.

The provided instrument used was an Olympus OTV-F2 connected to a TV monitor, local anesthesia was used in most of the patients with 2-3 puffs of lidocaine 10% spray (20-30mg) to the oral cavity applied by the staff member who also involved in the procedure, she also lubricated the endoscope tube by 2% lidocaine jelly. Occasionally light intravenous benzodiazepine: 10mg of Dimercon (IV) is used as premedication in patients who did not tolerate the traditional endoscopic procedure.

The suspicious lesions as gastric ulcers, oesophageal ulcers, and masses were biopsied and sent for histopathological examination. The treatment was given according to the result of endoscopy on an outpatient base.

Categorical variables were presented as frequencies and percentages. Patients were distributed based on Age group and OGD findings, Histopathologic findings for Age group per se. Categorical variables were compared using Fisher's exact T-test. The level of significance was presented as p-values in different tables. The analysis was performed at a 5% level of significance using SPSS (version 16).

RESULTS

This study was conducted on 2100 patients who underwent OGD. Figure 1. Demonstrates, the majority (34%) were in the 15-29 age group, followed by the 30-39 age group (24%), 50-59 (16%), 40-49 (15%) and the >60 age group (11%). The diagnostic findings of the OGD from the most to least common were as follows: Duodenal ulcer (32.5%), atrophic gastritis (29.1%), normal OGD (22.7%), Gastric ulcer (2.1%), Duodenitis (2.1%), combined Duodenal ulcer and Reflux esophagitis (2.1%), Biliary reflux (1.7%), Refractory esophagitis (1.7%), combined Duodenal ulcer and biliary reflux (1.2%), Stomach cancer (0.86%), Combined Erosive Gastritis and Gastric ulcer (0.43%), Esophageal candidiasis (0.43%), Combined Esophageal varices and Gastric ulcer (0.43%), Esophageal varices (0.43%), Prepyloric ulcer (0.43%), Polyps (0.43%), Combined Refractory esophagitis and atrophic gastritis (0.43%), Combined Duodenal ulcer

and esophageal bleeding (0.43%), Bleeding duodenal ulcer (0.43%), combined Duodenal ulcer and Peptic esophagitis (0.43%) and combined Duodenal ulcer with Gastric ulcer (0.43%). This is shown in Figure 2. Normal OGD was seen most among the 30-39 age group (33.8%), followed by the 15-29 age group (26.2%), 40-49 age group (18.5%), >60 (15.4%) and least commonly among the 50-59 age group (6.2%). Findings were statistically significant with a

P. value less than 0.05 for OGD findings.

Stomach cancer was found equally among the 15-29 and the 40-49 age groups, 50% each. None of the other age groups were found to have stomach cancer. Atrophic gastritis was found most by far among the 15-29 age group (44.1%), followed by the 30-39 and the 50-59 (19.1% each), 40-49 (13.2%), and finally and finally the > 60 age group (4.4%). All suspicious lesions were sent for histopathological sampling and the resulting samples were statistically significant with P <0.05.

Gastric ulcer was a finding found equally among the 30-39, 40-49, and the 50-59 and >60 age groups (20% each) and was not found among the 15-29 age group.

Esophageal candidiasis, esophageal varices, pre-pyloric ulcer, and erosive gastritis + gastric ulcer was found 100% among the > 60 age group.

A combination of esophageal varices and gastric ulcer, refractory esophagitis in combination with atrophic gastritis as well as a duodenal ulcer in combination with peptic esophagitis was found 100% among the 50-59 age group.

Biliary reflux was found equally (25% each) among the 15-29, 30-39, 40-49, and 50-59 age groups. None of the > 60 age group were found to have biliary reflux.

Refractory esophagitis was found among 66.7% of the 30-39 age group and 33.3% of the 40-49 age group. None of the other age groups had this finding.

Polyps were exclusively found among the 30-39 age group.

Duodenal ulcers were most commonly found among the 15-29 age group (32.9%), followed by the 30-39 and the 50-59 age groups (22.4% each), then > 60 age group (11.8%) and lastly the 40-49 age group (10.5%).

A combination of duodenal ulcer and esophageal bleeding was found exclusively among the 40-49 age group.

Duodenitis was found 60% among the 30-39 age group and 40% among the 15-29 age groups.

A combination of duodenitis and reflux esophagitis was 60% seen among the 15-29 age group and 40% among the 40-49 age group.

Bleeding duodenal ulcer, a combination of duodenal ulcer and biliary reflux as well as a combination of duodenal and gastric ulcer were found exclusively among the 15-29 age group.

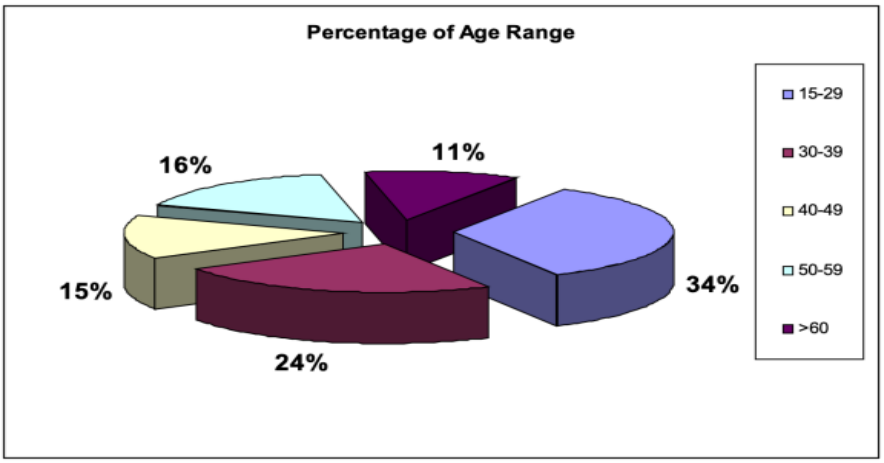

Figure 1. Age distribution in the study.

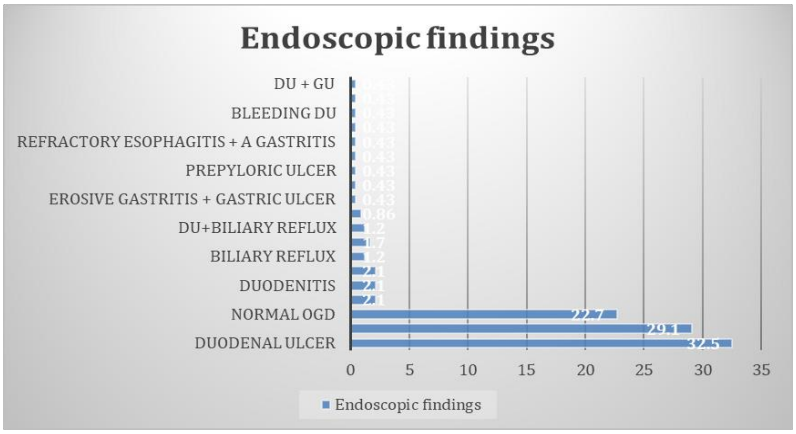

Figure 2. Endoscopic findings distribution.

Table 1. Diagnostic findings of OGD in different age groups

OGD Finding	Age Group						P value
	15 – 29 N (%)	30 – 39 N (%)	40 – 49 N (%)	50 – 59 N (%)	≥ 60 N (%)	Total N (%)	
Normal (no findings)	153 (26.2)	198 (33.8)	108 (18.5)	36 (6.2)	90 (15.4)	477 (22)	
Erosive Gastritis & GU	0 (0)	0 (0)	0 (0)	0 (0)	9 (100)	9 (0.4)	
Atrophic gastritis	270 (44.1)	117 (19)	81 (13.2)	117 (19.1)	27 (4.4)	612 (29)	
GU	0 (0)	9 (20)	9 (20)	9 (20)	18 (40)	45 (2)	
Esophageal candidiasis	0 (0)	0 (0)	0 (0)	0 (0)	9 (100)	9 (0.4)	
Esophageal varices & GU	0 (0)	0 (0)	0 (0)	9 (100)	0 (0)	9 (0.4)	
Esophageal varices	0 (0)	0 (0)	0 (0)	0 (0)	9 (100)	9 (0.4)	
Biliary reflux	9 (25)	9 (25)	9 (25)	9 (25)	0 (0)	36 (1.7)	
Refractory esophagitis	0 (0)	18 (66.7)	9 (33.3)	0 (0)	0 (0)	36 (1.7)	
Prepyloric ulcer	0 (0)	0 (0)	0 (0)	0 (0)	9 (100)	9 (0.4)	
Polyps	0 (0)	9 (100)	0 (0)	0 (0)	0 (0)	9 (0.4)	
Refractory esophagitis & Atrophic gastritis	0 (0)	0 (0)	0 (0)	9 (100)	0 (0)	9 (0.4)	
DU	225 (32.9)	153 (22.4)	72 (10)	153 (22.4)	81 (11.8)	684 (32)	
DU & esophageal bleeding	0 (0)	0 (0)	9 (100)	0 (0)	0 (0)	9 (0.4)	
Duodenitis	18 (40)	27 (60)	0 (0)	0 (0)	0 (0)	45 (2)	
DU & reflux esophagitis	27 (60)	0 (0)	18 (40)	0 (0)	0 (0)	45 (2)	
DU & Biliary reflux	27 (100)	0 (0)	0 (0)	0 (0)	0 (0)	27 (1.2)	
Bleeding DU	9 (100)	0 (0)	0 (0)	0 (0)	0 (0)	9 (0.4)	
DU & peptic esophagitis	0 (0)	0 (0)	0 (0)	9 (100)	0 (0)	9 (0.4)	
DU & GU	6 (66.7)	2 (22.2)	1 (11.1)	0 (0)	0 (0)	9 (0.4)	
Total	**744**	**542**	**316**	**351 (16.7)**	**243 (12)**	**2106 (100)**	**P <0.05***

*** By Fisher's exact test.**

Table 2. Histopathological findings in different age groups

Histopathology Findings	Age Group						P value
	15 – 29 N (%)	30 – 39 N (%)	40 – 49 N (%)	50 – 59 N (%)	≥ 60 N (%)	Total N (%)	
CA Stomach	0 (0)	0 (0)	9 (50)	9 (50)	0 (0)	18	
CA Duodenum	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0	
Benign polyp	0 (0)	9 (50)	0 (0)	0 (0)	9 (50)	18	
Total	**0 (0)**	**9 (25)**	**9 (25)**	**9 (25)**	**9 (25)**	**36 (100)**	**P <0.05***

***By Fisher's exact test**

DISCUSSION

This study was carried out on 2106 patients who underwent OGD, the majority of the patients (34%) being relatively young (15-29 years old). In contrast, another study conducted in Zhejiang, China included 1016 participants of which the mean age was 49.60 ± 15.36. [6] which is slightly older than the study population used for our study.

The most common OGD findings in this study were duodenal ulcer (32.5%), atrophic gastritis (29.1%), and normal OGD (22.7%). Another study conducted by Al-Abachi KT in Mosul, Iraq showed normal OGD findings in two-thirds of the patients and peptic ulcers only in 7.3% of the cases. [7] This may be explained by the fact that our study timeline was 20 years, in contrast to the 2 years of the Al-Abachi study. Therefore, more organic causes of dyspepsia were diagnosed due to the higher number of cases we had.

Another study conducted in Iran, Jafari- Heidarloo A et AL. [8] showed antral gastritis being the most common endoscopic finding (54%), compared to atrophic gastritis being a common finding in our study (29.1%).

There is a prevalent number of H. pylori infections among PUD and gastritis in our study, this coincides with similar results found in the study [9,10]. Furthermore the H.pylori infection is behind this highly prevalent number of PUD who produce dyspepsia.

In our study, normal OGD was found most commonly among the younger population, 15-29, and the 30-39 age groups (60% collectively). This was similar to the findings of another study in Pakistan by Alam L. et al. [11] which has reported Normal endoscopy in 58.8% of patients with 35% males and 24% females. In addition, our study showed a high prevalence of duodenal ulcer (32.9%) among the 15-29 age group, as well as a 22.5% prevalence among the 30-39 and the 50-59 age groups. Lastly, stomach cancer in our study was found mainly among patients aged 40 or more, another similar study made by Gado et Al. [12] .has demonstrated the stomach cancer was the most commonly seen in OGD of patients among the >50 age group who presented with dyspepsia. The age discrepancy seen in stomach cancer prevalence in Iraq and Egypt is explained by the fact that stomach cancer is prevalent in all ages [13] .

Limitation & Power of study: Not enough medical records are available in the archive, as there was not enough well-resource data available prior to 2014 in this major center. Despite obstacles faced by the researcher during the time of the study, for the first time in our country such a long-term survey has been conducted over thousands of cases in an area with poor resource facilities, the study was helpful to better demonstrate the local prevalence rate of dyspepsia as well as the common pathologies behind this common medical presentation.

Conclusion and Recommendations

The most common pathologic OGD findings among those who have dyspepsia in Erbil city in the period between 2004-2023 were duodenal ulcer and atrophic gastritis. Both findings were found mostly among younger patients. Gastric cancer was the predominant significant lesion seen among various age groups including younger age groups, no medical intervention through OGD was useful to relieve dyspepsia in the majority of participants. We recommend active screening programs for gastric cancer, especially among middle-aged patients, together with better social awareness against unhealthy lifestyles.

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