

Retrospective Analysis of the Esophagogastroduodenoscopy Applications at Endoscopy Unit within Year 2017

Elif Boduç Bulunmaz  • Müjgan Gürler 

Department of Internal Medicine, Abant İzzet Baysal University Faculty of Medicine, Bolu, Turkey

Introduction: The present study aimed to retrospectively evaluate the esophagogastroduodenoscopy (EGD) results of patients who applied to our hospital with gastrointestinal system (GIS) complaints.

Materials and Methods: Five hundred patients who applied to our hospital's clinics with GIS complaints in 2017 were included in the study. EGD and biopsy findings performed in the endoscopy unit were analyzed retrospectively.

Results: Sixty percent of the cases included in our study were female and 40% were male, and the mean age was 54.9 ± 17.7 in females and 53.9 ± 17.9 in males. Only 18 (3.6%) of 500 patients included in the study were found to be normal. The esophageal disease was present in 111 (22.2%) cases, the gastric disease was present in 474 (94.8%) and duodenal disease was present in 109 (21.8%) cases. In our study, gastritis was the most common disease among both gastric diseases and all patients who underwent endoscopy. *Helicobacter pylori* (HP) was seen in 165 (36.6%) of the cases.

Conclusion: Upper GIS endoscopy means a very important procedure in terms of early diagnosis and treatment in patients presenting with various GIS complaints.

Keywords: Duodenitis, esophagogastroduodenoscopy, gastritis, *Helicobacter pylori*, peptic ulcer

Introduction

Upper GIS endoscopy named esophagogastroduodenoscopy (EGD) includes visualization of the oropharynx, esophagus, stomach, proximal duodenum, real-time evaluation, interpretation of the obtained findings (1). An EGD is indicated for the diagnostic evaluation of signs and symptoms of a wide variety of gastrointestinal disorders (2). For diagnostic purpose; symptoms that include any of the following criteria; not responding to empirical therapy, associated

with alarm symptoms, new-onset symptoms in a patient older than 50 years, dysphagia, odynophagia, persistent/recurrent esophageal reflux despite treatment, persistent vomiting of unknown cause, active or new upper GI bleeding and if any of the following are present, presumed chronic blood loss and iron deficiency anemia: there is clinical suspicion of an upper GI source, colonoscopy is negative and the lesion seen on upper GI tract imaging, acute caustic intake, when tissue or fluid is

Corresponding Author: Müjgan GÜRLER, MD; Bolu Abant İzzet Baysal University Faculty of Medicine, Department of Internal Medicine, Bolu, Turkey
ORCID: 0000-0001-9532-8241
Email: drmgurler@gmail.com

Received: Dec 22, 2021 **Accepted:** Feb 8, 2022
Published: March 9, 2022

This is an Open Access article distributed under the terms of Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, or reproduction in any area, original work is properly cited.

The Ulutas Medical Journal © 2022



sampled on upper GIS tractus, in a patient with suspected small intestinal bowel disease (e.g. Celiac) and intraoperative evaluation of anatomical reconstructions. For scanning purposes; screening for dysplasia in patients with Barrett's esophagus, gastric cancer in selected patients, polyposis syndromes or upper GIS malignancies in patients with Lynch syndrome, esophageal varices in patients with portal hypertension, squamous cell carcinoma in patients with a history of caustic ingestion, to identify upper GIS pathology that may affect the treatment of other disorders (e.g. to evaluate a patient with a history of upper GI bleeding before initiation of anticoagulation). The key technical components of upper GIS endoscopy also serve as a platform on which many therapeutic interventions are based. For therapeutic purposes; bleeding treatment of upper GI tract lesions, prophylactic varicose banding, removal of foreign bodies, placement of feeding or drainage tubes, removal of selected polypoid lesions, dilatation of stenotic lesions, management of Achalasia, palliation of stenoses due to neoplasms, endoscopic treatment of intestinal metaplasia, treatment of operative complications (3, 4).

With the prevalence of EGD, we encounter lesions of GIS more frequently and studies on this subject are very limited in our country. In this study, we retrospectively analyzed the endoscopic results of patients who applied to our outpatient clinic with GIS complaints.

Materials and Methods

Ethical Statement

The study complies with the provisions of the Declaration of Helsinki, which declares ethical principles to guide medical research. In addition, informed consent was obtained from all patients before the endoscopic procedure.

Study Design

500 patients who applied to the clinics of our internal medicine and gastroenterology clinic of

Abant İzzet Baysal University Medical Faculty Hospital in 2017 with GIS complaints were included in this study. Our study was designed as a cross-sectional retrospective study. EGD findings and biopsy results performed in the endoscopy unit of our hospital in 2017 were evaluated retrospectively. Patients under the age of 18 who were not admitted to our outpatient clinics due to their age and lower GIS endoscopy findings and biopsy results were not included in the study. The patients who applied to the clinics with GIS complaints were evaluated by anamnesis, physical examination, and then upper GIS endoscopic procedures included in this study.

Statistical Evaluation

Kolmogorov Smirnov was used for normality. It was observed that our data were not normally distributed. Median, percentage, standard deviation, and frequency were used to express the data. Findings were summarized separately by frequency and percentage, age groups, and gender. In addition, the differences between gender and age groups were compared with Chi-square and Fisher's exact tests. SPSS 21.0 (SPSS Inc., Chicago, Illinois, USA) program was used for data analysis, statistical tests were interpreted at $\alpha=0.05$ significance level. The level of $p<0.05$ was accepted as significance.

Results

General Findings

Of the cases included in our study, 60% were female and 40% were male, with a mean age of 54.9 ± 17.7 for females and 53.9 ± 17.9 for males (Table-1). Of 500 patients included in the study, 18 (3.6%) were normal, the esophageal disease was found in 111 (22.2%) cases, while the gastric disease was 474 (94.8%) and duodenal disease was 109 (21.8%).

Distribution of Lesions

There was no statistically significant difference in the distribution of lesions according to age ($p=0.781$)(Table-2). When the distribution of the

lesions by gender was examined, the rate of endoscopic pathology in males and females differed statistically ($p < 0.001$). When the lesions were analyzed in detail according to their anatomical locations, it was observed that this was due to the high incidence of gastric lesions in females ($p = 0.001$) (Table-3). In both genders, the most common lesion among esophageal lesions is esophagitis, and laxity of the lower esophageal sphincter (LES) is the second most common lesion (Table-1).

Table-1. Distribution of patients undergoing EGD

Total (n=500)	Females (n=300)	Males (n=200)	P value
Age (years)	54.9±17.7	53.9±17.9	0.546

T-test was used for independent groups. Data are shown as mean±Standard deviation. $p < 0.05$ accepted as significant.

Features of Esophageal Lesions

In the distribution of esophageal lesions according to age groups; the incidence of hiatal hernia and esophageal varices is higher over the age of 50. (Hiatal hernia 0.6% vs 5.3% $p = 0.006$; Esophageal varices 1.1% vs 5.3% $p = 0.019$) (Table-1). The endoscopic classification distribution of gastric lesions in males and females differs significantly ($p = 0.015$).

Features of Gastric Lesions

Considering the endoscopic topographic distribution of gastric lesions; pangastritis is the most common with 74.6%, and antral lesions are seen in the second line with 18.2%. Considering the gastritis type distribution of gastric lesions; superficial gastritis is the most common with 59%, followed by alkaline reflux gastritis with 19.4%. The distribution of other findings by gender does not differ (Table-6). In the endoscopic classification of gastric lesions and distribution by age group; there was a statistically significant difference in the gastritis category ($p = 0.047$), but there was no significant difference in endoscopic topographic findings, ulcer, and malignancy incidence ($p = 0.364$, $p = 0.332$, $p = 0.116$, respectively) (Table-7).

Histological Evaluation of Lesions

In the histological evaluation of gastric lesions by gender; considering the morphological distribution, inflammation was observed in all patients who underwent biopsy. Atrophy was 10%, intestinal metaplasia 16%, dysplasia 3.2%, *Helicobacter pylori* (HP) 36.6%, and malignancy was 1%. There was no significant difference according to gender in the morphological

Table-2. Distribution of anatomical locations of lesions detected in EGD by age group

Variables	Total (n=500)	<50 age (n=179)	>50 age (n=321)	p
Esophageal lesion				
Yes	111 (%22.2)	32 (%17.9)	79 (%24.6)	0.082
None	389 (%77.8)	147 (%82.1)	242 (%75.4)	
Gastric lesion				
Yes	474 (%94.8)	172 (%96.1)	302 (%94.1)	0.332
None	26 (%5.2)	7 (%3.9)	19 (%5.9)	
Duodenal lesion				
Yes	109 (%21.8)	34 (%19.0)	75 (%23.4)	0.257
None	391 (%78.2)	145 (%81)	246 (%76.6)	
Endoscopic lesion				
Yes	482 (%96.4)	172 (%96.1)	310 (%96.6)	0.781
None	18 (%3.6)	7 (%3.9)	11 (%3.4)	

Chi-square (X^2) test results ($p < 0.05$ accepted as significant).

distribution of lesions (Table-8). In histological evaluation of gastric lesions; considering the morphological distribution by age group; the incidence of atrophy, intestinal metaplasia, and dysplasia were higher over 50, and there was a difference. Atrophy 4.1% vs. 13.5% ($p=0.001$), intestinal metaplasia 5.3% vs. 22.3% ($p<0.001$), dysplasia 0.6% vs. 4.7% $p=0.012$ (Table-9).

Features of Duodenal Lesions

In the distribution of duodenal lesions by gender, the lesions seen in the bulbous were more common in males and were found to be statistically significant ($p=0.002$) (Table-10). No difference was found in the distribution of duodenal lesions by age group (Table-11).

Table-3. Distribution of anatomical locations of lesions detected in EGD by gender

Variables	Total (n=500)	Female (n=300)	Male (n=200)	p
Esophageal Lesion				
Yes	111 (%22.2)	62 (%20.7)	49 (%24.5)	0.312
None	389 (%77.8)	238 (%79.3)	151 (%75.5)	
Gastric Lesion				
Yes	474 (%94.8)	293 (%97.7)	181 (%90.5)	<0.001
None	26 (%5.2)	7 (%2.3)	19 (%9.5)	
Duodenal Lesion				
Yes	109 (%21.8)	56 (%18.7)	53 (%26.5)	0.038
None	391 (%78.2)	244 (%81.3)	147 (%73.5)	
Endoscopic Lesion				
Yes	482 (%96.4)	296 (%98.7)	186 (%93)	0.001
None	18 (%3.6)	4 (%1.3)	14 (%7)	

Chi-square (X^2) test results ($p<0.05$ accepted as significant)

Table-4. Distribution of esophageal lesions by gender

Esophageal Lesion	Total (n=500)	Female (n=300)	Male (n=200)	Total (n=500)
Esophagitis	47 (%9.4)	25 (%8.3)	22 (%11)	47 (%9.4)
Barrett Esophagus	2 (%0.4)	1 (%0.3)	2 (%0.5)	2 (%0.4)
Esophageal Ulcer	3 (%0.6)	1 (%0.3)	2 (%1)	3 (%0.6)
Laxity of LES	33 (%6.6)	21 (%7)	12 (%6)	33 (%6.6)
Hiatal Hernia	18 (%3.6)	12 (%4)	6 (%3)	18 (%3.6)
Esophageal Varicosis	19 (%3.8)	10 (%3.3)	9 (%4.5)	19 (%3.8)
Esophageal Cancer	4 (%0.8)	1 (%0.3)	3 (%1.5)	4 (%0.8)
Mallory W. Syndrome	1 (%0.2)	0 (%0)	1 (%0.5)	1 (%0.2)
Achalasia	4 (%0.8)	2 (%0.7)	2 (%1)	4 (%0.8)
Schatski Ring	1 (%0.2)	0 (%0)	1 (%0.5)	1 (%0.2)
Other (<i>Diverticulum, Benign disease</i>)	7 (%1.4)	4 (%1.3)	3 (%1.5)	7 (%1.4)

Chi-square (X^2) test results ($p<0.05$ accepted as significant)

Table-5. Distribution of esophageal lesions by age

Esophageal Lesion	Total (n=500)	<50 age (n=179)	>50 age (n=321)	p
Esophagitis	47 (%9.4)	15 (%8.4)	32 (%10)	0.552
Barrett's Esophagus	2 (%0.4)	1 (%0.6)	1 (%0.3)	1
Esophageal Ulcer	3 (%0.6)	0 (%0)	3 (%0.9)	0.556
Laxity of LES	33 (%6.6)	13 (%7.3)	20 (%6.3)	0.662
Hiatal Hernia	18 (%3.6)	1 (%0.6)	17 (%5.3)	0.006
Esophageal Varicosis	19 (%3.8)	2 (%1.1)	17 (%5.3)	0.019
Esophageal Ca	4 (%0.8)	0 (%0)	4 (%1.2)	0.556
MalloryW.Syndrome	1 (%0.2)	0 (%0)	1 (%0.3)	1
Achalasia	4 (%0.8)	2 (%1.1)	2 (%0.6)	0.621
Schatski Ring	1 (%0.2)	0 (%0)	1 (%0.3)	1
Other (Diverticulum, Benign disease)	7 (%1.4)	1 (%0.6)	6 (%1.9)	0.430

Chi-square (X^2) test results (p<0.05 accepted as significant)

Table-6. Endoscopic classification of gastric lesions and distribution by gender

Endoscopic Diagnosis	Total (n=500)	Female (n=300)	Male (n=200)	p
Endoscopic Topographic				
Antrum	91 (%18.2)	60 (%20f)	31 (%15.5)	0.015
Corpus	1 (%0.2)	1 (%0.3)	0 (%0)	
Pangastritis	373 (%74.6)	226 (%75.3)	147 (%73.5)	
Corpus Dominant	0 (%0)	0 (%0)	0 (%0)	
None	35 (%7)	13 (%4.3)	22 (%11)	
Gastritis Type Category				
Superficial	295 (%59)	178 (%59.3)	117 (%58.5)	0.608
Erosive	45 (%9)	29 (%9.7)	16 (%8)	
Nodular	4 (%0.8)	3 (%1)	1 (%0.5)	
Hypertrophic	0 (%0)	0 (%0)	0 (%0)	
Atrophic	9 (%1.8)	5 (%1.7)	4 (%2)	
Hemorrhagic	4 (%0.8)	3 (%1)	1 (%0.5)	
Alkaline Reflux Gastritis	97 (%19.4)	60 (%20)	37 (%18.5)	
Portal Hypertensive Gastropathy	13 (%2.6)	8 (%2.7)	5 (%2.5)	
None	33 (%6.6)	14 (%4.7)	19 (%9.5)	
Ulcer				
Yes	26 (%5.2)	14 (%4.7)	12 (%6)	0.511
None	477 (%94.8)	286 (%95.3)	188 (%94)	
Malignancy				
Yes	5 (%1)	4 (%1.3)	1 (%0.5)	0.653
None	495 (%99)	296 (%98.7)	199 (%99.5)	
Other				
Yes	21 (%4.2)	19 (%6.3)	2 (%1)	0.004
None	479 (%95.8)	281 (%93.7)	198 (%99)	

Chi-square (X^2) test results (p<0.05 accepted as significant)

Discussion

EGD is an interventional procedure used in the diagnosis of esophageal, stomach, and duodenal diseases. It is generally accepted that many symptoms thought to be due to various benign and malignant upper gastrointestinal diseases are best evaluated by EGD. In this study, the EGD results of 500 patients in 2017 were retrospectively analyzed. 60% of the cases were female and 40% were male, and the mean age of females was 54.9 ± 17.7 years, and the mean age of males was 53.9 ± 17.9 years. Only

18 (3.6%) of 500 patients included in the study were found to be normal. Of the cases, 111 (22.2%) had esophageal disease, 474 (94.8%) gastric disease, 109 (21.8%) duodenal disease. These rates are 31.51% for esophageal diseases, 61.15% for gastric diseases, and 31.51% for duodenum in the Trakya University series; In the Dicle University series, 16.6% were found for esophageal diseases, 35.16% for gastric diseases, and 48.17% for duodenum. Gastric diseases were found to be more common in our study compared to other studies.

Table-7. Endoscopic classification of gastric lesions and distribution by age group

Endoscopic Diagnosis	Total (n=500)	<50 age (n=179)	>50 age (n=321)	p
Endoscopic Topographic				
Antrum	91 (%18.2)	39 (%21.8)	52 (%16.2)	0.364
Corpus	1 (%0.2)	0 (%0.0)	1 (%0.3)	
Pangastritis	373 (%74.6)	127 (%70.9)	246 (%76.6)	
Corpus Dominant	0 (%0.0)	0 (%0.0)	0 (%0.0)	
None	35 (%7.0)	13 (%7.3)	22 (%6.9)	
Gastritis Type Category				
Superficial (Erythematous, Exudative)	295 (%59.0)	113 (%63.1)	182 (%56.7)	0.047
Erosive	45 (%9.0)	8 (%4.5)	37 (%11.5)	
Nodular	4 (%0.8)	3 (%1.7)	1 (%0.3)	
Hypertrophic (Rugal Hyperplastic Gastritis)	0 (%0.0)	0 (%0.0)	0 (%0.0)	
Atrophic	9 (%1.8)	2 (%1.1)	7 (%2.2)	
Hemorrhagic	4 (%0.8)	1 (%0.6)	3 (%0.9)	
Alkaline Reflux Gastritis	97 (%19.4)	37 (%20.7)	60 (%18.7)	
Portal Hypertensive Gastropathy	13 (%2.6)	2 (%1.1)	11 (%3.4)	
None	33 (%6.6)	13 (%7.3)	20 (%6.2)	
Ulcer				
Yes	26 (%5.2)	7 (%3.9)	19 (%5.9)	0.332
None	474 (%94.8)	172 (%96.1)	302 (%94.1)	
Malignancy				
Yes	5 (%1.0)	0 (%0.0)	5 (%1.6)	0.116
None	495 (%99.0)	179 (%100.0)	316 (%98.4)	
Other				
Yes	21 (%4.2)	3 (%1.7)	18 (%5.6)	0.036
None	479 (%95.8)	176 (%98.3)	303 (%94.4)	

Chi-square (X^2) test results ($p < 0.05$ accepted as significant)

Esophagitis in 47 (9.4%) of the cases included in the study, laxity of LES in 33 (6.6%), esophageal varices in 19 (3.8%), and hiatal hernia in 18 (3.6%). Esophagitis was the most common lesion among the esophageal lesions, and laxity of LES was the second most common lesion.

The incidence of esophagitis is reported between 1.23-9.4% in the literature, and it was found to be at the upper limit with 9.4% in our study (1, 2). Gastroesophageal reflux disease (GERD) is the most common disease of the esophagus, and the most common cause of esophagitis is reflux esophagitis. Considering that esophagitis was seen in 9.4% of our cases, it turns out that GERD is a very common entity in our region. In the analysis of esophageal lesions according to age groups; The incidence of hiatal hernia and esophageal varices was found to be higher over the age of 50. (Hiatal hernia 0.6% vs 5.3% $p=0.006$, Esophageal varices 1.1% vs 5.3% $p=0.019$). The fact that Hiatal hernias are generally seen after the age of 50 suggests the wear of the structures that make up the hiatus (3). When cirrhosis is diagnosed; approximately 40% of those with compensated disease and approximately 60% of those with the decompensated disease have esophageal varices (4,5). The fact that esophageal varices are generally seen after the age of 50 in our study suggests that the development of varicose veins in cirrhosis is due to the complication that occurs over time after diagnosis. In our study; gastric lesions are the most common among all cases, and gastritis is the most common disease among all gastric diseases and endoscopy cases. In our country, gastritis was found to be 78% in the study conducted at Zonguldak Karaelmas University and 23% in the study conducted at Osmangazi University (6,7). In a study published in 2012 and conducted in Cuba, the rate of gastritis was reported as 91.6% (8). In our study, we found gastritis at a rate of 93.4%. Nutritional habits, environmental factors, and genetic differences of the relevant regions may play a role in the

serious differences in gastritis rates according to cities. We think that the high rate determined in our study is because there is more than one health institution in our region, which is easier to reach the city center. Since it is relatively more difficult to reach our hospital compared to other health institutions, patients who have more serious and persistent complaints or who are considered for the endoscopic procedure after evaluating risk factors are often referred to us by a physician. We think that this may explain the high rate of gastritis in patients undergoing endoscopy in our hospital. The classification of gastritis according to the Sydney system; is aimed to give combined topographic, morphological, and etiological information as a schema (9). The most important feature of this system is the grading of changes in the gastric mucosa into five main histological features (chronic inflammation, neutrophil activity, glandular atrophy, intestinal metaplasia, and HP density) (10). In our study, we classified gastritis according to the Sydney system. Considering the endoscopic topographic distribution of gastritis according to this classification; in line with the literature, pangastritis is the most common with 74.6%, and antral lesions are seen in the second line with 18.2%. Consistent with our study, in the endoscopic topographic distribution of the study conducted in Bayburt province, pangastritis is the most common with 74.6%, and antral lesions are seen in the second line with 18.2%. When the chronicity distribution of gastritis is considered, chronic lesions are more common with 63.2%, and there is no statistically significant difference according to gender and age group ($p=0.552$ by gender, $p=0.06$ by age). Peptic ulcer disease is most commonly localized in the bulbous of the duodenum. The second most common site is the prepyloric antrum. Duodenal ulcer is more common than a gastric ulcer. In our study, by the literature, when peptic ulcers were evaluated according to their anatomical regions; the incidence of gastric ulcer was 5.2%,

Table-8. Morphological classification of gastric lesions and distribution by gender

Histological Diagnosis	Total (n=451)	Female (n=281)	Male (n=170)	p
Morphology Inflammation				
Positive	451 (%100)	281 (%100)	170 (%100)	-
Negative	0 (%)	0 (%)	0 (%)	
Atrophy				
Positive	45 (%10)	24 (%8.5)	21 (%12.4)	0.191
Negative	406 (%90)	257 (%91.5)	149 (%87.6)	
IM**				
Positive	72 (%16)	40 (%14.2)	32 (%18.8)	0.197
Negative	379 (%84)	21 (%85.8)	138 (%81.2)	
Dysplasia				
Positive	16 (%3.2)	12 (%4)	4 (%2)	0.213
Negative	484 (%96.8)	288 (%96)	196 (%98)	
H. pylori				
Positive	165 (%36.6)	106 (%37.7)	59 (%34.7)	0.519
Negative	286 (%63.4)	175 (%62.3)	111 (%65.3)	
Malignancy				
Positive	5 (%1)	4 (%1.3)	1 (%0.5)	0.653
Negative	495 (%99)	296 (%98.7)	199 (%99.5)	

Chi-square (X²) test results (p<0.05 accepted as significant); IM: Intestinal metaplasia

Table-9. Morphological classification of gastric lesions and distribution by age group

Histological Diagnosis	Total (n=451)	<50 age (n=169)	>50 age (n=282)	p
Morphology Inflammation				
Positive	451 (%100)	169 (%100)	282 (%100)	-
Negative	0 (%0)	0 (%0)	0 (%0)	
Atrophy				
Positive	45 (%10)	7 (%4.1)	38 (%13.5)	0.001
Negative	406 (%90)	162 (%95.9)	244 (%86.5)	
IM**				
Positive	72 (%16)	9 (%5.3)	63 (%22.3)	<0.001
Negative	379 (%84)	160 (%94.7)	219 (%77.7)	
Dysplasia				
Positive	16 (%3.2)	1 (%0.6)	15 (%4.7)	0.012
Negative	484 (%96.8)	178 (%99.4)	306 (%95.3)	
H. pylori				
Positive	165 (%36.1)	67 (%39.6)	98 (%34.8)	0.296
Negative	286 (%63.4)	102 (%60.4)	184 (%65.2)	
Malignancy				
Positive	5 (%1)	0 (%0)	5 (%1.6)	0.166
Negative	495 (%99)	179 (%100)	316 (%98.4)	

Chi-square (X²) test results (p<0.05 accepted as significant); IM: Intestinal metaplasia.

the incidence of the duodenal ulcer was 8.6% (2.8% of ulcers in the bulbous, 5.8% of the second part of the duodenum). A duodenal ulcer was observed more frequently than a gastric ulcer. We think that the socioeconomic level of the region, stress, inappropriate use of antibiotics and nonsteroidal anti-inflammatory drugs (NSAIDs), and excessive consumption of animal food are effective in gastritis and ulcer formation. In our study, malignancy incidence in gastric lesions was 0.5% in males, 1.3% in females, and 1% in total. In a study conducted in the Netherlands, the rate of gastric cancer was found to be 1.1%, 1.75% in Vakıf Gureba University, 6.5% in Erzurum, 2.1% in Diyarbakır, and 1.99% in Düzce in our country (11-14). In the 2008 data of the Turkish Ministry of Health, gastric cancer rates in females in 2006-2008 were 7.6%, 8.4%, and 8%, respectively. In our study, cancer cases were found to be lower than the ministry rates. We think that diet, regional characteristics (climate, lifestyle, etc.), lifestyle are effective in carcinogenesis. In the histological evaluation of gastric lesions; when the morphological distribution is examined, inflammation is observed in all patients (281 females, 170 males, total of 451 patients) who underwent biopsy. HP 36.6%, atrophy 10%, intestinal metaplasia 16%, dysplasia 3.2%, malignancy 1% seen as. The prevalence of HP is 10-50% in developed countries and rises to 80% in developing countries. In the study published in Japan in 2017 on the frequency of HP, the prevalence of gastric HP was found to be 6.1% (15). In a study published in our country in 2016 and conducted in Southeastern Anatolia, HP was detected in 84 (65%) of 129 patients with gastrointestinal complaints (16). The fact that the frequency of HP did not differ according to age in our study suggests that the infection was acquired at young ages, the insufficiency of treatment, and the frequency of reinfection. Intestinal metaplasia (IM) is accepted as a precursor to malignancy. While intestinal metaplasia was 16% in our study, this rate was

found to be 11-48% according to the literature (17). The variation in the rates of IM within the country suggests the dietary habits at the forefront. In addition, it should be kept in mind socioeconomic and geographical conditions are also important. In the histological evaluation of gastric lesion; considering the morphological distribution by age group; the incidence of atrophy, intestinal metaplasia, and dysplasia are higher over the age of 50, and there is a statistically significant difference. This situation makes us think that the lesions leading to malignancy increase with age, and that nutritional habits and environmental factors may be effective in this situation. The incidence of ulcers in the duodenum in the cases included in our study was 8.6%, and it was 14.8% in 5306 patients in Vakıf Gureba University Internal Medicine Endoscopy Unit in our country, 1.6% in Şanlıurfa region, and 13.4% in Erzurum region (18,19). While the male/female ratio in duodenal ulcers was 5/1 in previous years, this ratio has decreased to 1.3/1 in recent years (20). In our study, this ratio was found to be 1.5/1. Our study has some limitations such as the retrospective nature, relatively the high rate of the female population applying to the outpatient clinics, and regarding the only one year period in 2017. In addition, patients under the age of 18 who were not admitted to our outpatient clinics due to their age and the lower GI endoscopy such as rectoscope, recto sigmoidoscopy, and total colonoscopy findings and biopsy results were not included.

Conclusion

Only 18 (3.6%) of 500 patients were normal. 111 (22.2%) had esophageal, 474 (94.8%) gastric, 109 (21.8%) duodenal disease. Gastritis was the most common disease among both gastric diseases and all cases undergoing endoscopy. Also, HP was seen in 165 (36.6%) of all cases. By analyzing the endoscopic lesions that are frequently seen within a year in our region via our study, we may predict that diagnostic evaluation of signs and symptoms of a wide

Table-10. Classification of duodenal lesions and distribution by gender

Duodenal Lesions	Total (n=500)	Female (n=300)	Male (n=200)	p
Duodenum				
Duodenitis	34 (%6.8)	20 (%6.7)	14 (%7)	0.104
Ulcer	29 (%5.8)	12 (%4)	17 (%8.5)	
None	437 (%87.4)	268 (%89.3)	169 (%84.5)	
Celiac-endoscopic				
Yes	12 (%2.4)	7 (%2.3)	5 (%2.5)	0.905
None	488 (%97.6)	293 (%97.7)	195 (%97.5)	
Celiac-pathological				
Yes	0 (%0)	0 (%0)	0 (%0)	-
None	500 (%100)	300 (%100)	200 (%100)	
Bulbus				
Bulbitis	44 (%8.8)	17 (%5.7)	27 (%13.5)	0.002
Erosive bulbitis	19 (%3.8)	8 (%2.7)	11 (%5.5)	
None	437 (%87.4)	275 (%91.7)	162 (%81)	
Bulbus ulcer				
Yes	14 (%2.8)	5 (%1.7)	9 (%4.5)	0.06
None	486 (%97.2)	295 (%98.3)	191 (%95.5)	

Chi-square (X^2) test results (p<0.05 accepted as significant)**Table-11.** Classification of duodenal lesions and distribution by age group

Duodenal Lesions	Total (n=500)	<50 age (n=179)	>50 age (n=321)	p
Duodenum				
Duodenitis	34 (%6.8)	23 (%7.2)	11 (%6.1)	0.889
Ulcus	29 (%5.8)	18 (%5.6)	11 (%6.1)	
None	437 (%87.4)	280 (%87.2)	157 (%87.7)	
Celiac-endoscopic				
Yes	12 (%2.4)	10 (%3.1)	2 (%1.1)	0.227
None	488 (%97.6)	311 (%96.9)	177 (%98.9)	
Celiac-pathological				
Yes	0 (%0)	0 (%0)	0 (%0)	-
None	500 (%100)	300 (%100)	200 (%100)	
Bulbus				
Bulbitis	44 (%8.8)	31 (%9.7)	13 (%7.3)	0.6
Erosive bulbitis	19 (%3.8)	13 (%4)	6 (%3.4)	
None	437 (%87.4)	277 (%86.3)	160 (%89.4)	
Bulbus ulcer				
Yes	14 (%2.8)	9 (%2.8)	5 (%2.8)	0.985
None	486 (%97.2)	312 (%97.2)	174 (%97)	

Chi-square (X^2) test results (p<0.05 accepted as significant)

variety of GIS disorders should be performed. Considering our study and various studies, upper GI endoscopy is generally a safe procedure for this purpose in patients presenting with various GIS complaints (21-24). Despite the rising prevalence of EGD, annual reports in the diagnostic evaluation of signs and symptoms of a wide variety of GI disorders and current related studies on this subject are very limited in our country. Hereby, we believe that our study may lead to further studies being planned in the future.

Conflict of Interest

The authors declare that there is no conflict of interest and no financial support for the study.

Author Contributions

All authors indicate that they participated in the design, execution, analysis of the manuscript and approved the final version. We give special thanks to our colleague Murat BULUNMAZ, who contributed wholeheartedly to study.

Reference

- Alper. A., Dağalp K., Karaeren N. et al. Comparison of Upper Gastrointestinal System Endoscopy Results performed in GATA Gastroenterology Clinic with SSK Patients. National Turkish Gastroenterology Congress, 1993;347
- Aksöz MK., Altınay ZA., Ünsal B. et al. Evaluation of 3176 Upper Gastrointestinal Endoscopic Examinations. Gastroenterology. 1993;4:668-70
- Skinner DB, Ellis FH, Low DE, Hill LD, Orringer MB. Esophageal Hiatal Hernia, In: Gibbon's Surgery of the Chest, Eds: Sabiston DC, Spencer FC, Fourth Edition, W. B. Saunders Company, Philadelphia, USA, 1990:890-956
- Goyal RK. Diseases of the Esophagus In Harrison's Principles of Internal Edition: Fauci SA, Braunwald E, Isselbacher K, et al. 15th Ed. McGraw-Hill Inc. International Edition, 2002.
- A.Kadayıfçı. UTS-Experts Tus Series, Internal Medicine, Atlas Publishing, 2003, 4th edition, Ankara
- Irkörücü O, Gültekin F.A., Uçan B.H. et al. Endoscopic Diagnosis and Pathological Diagnosis Compatibility in Esophagogastrosocopy performed by General Surgeons-Original Research. Haseki Medical Bulletin 2011;49(3): 26-39
- Sarıçam T, Aladağ A, Şahintürk V, et al. Upper Gastrointestinal System Endoscopic Findings and Helicobacter Pylori Infection. Journal of Endoscopy 1993; 4:209-214
- Galban E, Arus E, Periles U. Endoscopic Findings and Associated Risk Factors in Primary Health Care Settings in Havana, Cuba. MEDICC Review 2012;14:30-37
- Dixon MF, Genta RM, Yardley JH, Correa P, et al. Classification and grading of gastritis The updated Sydney system. Am J Surg Pathol 1996;20:1161-81
- Price AB. The Sydney System: Histological division. J Gastroenterol Hepatol 1991;6:209-22
- Castell DO, Donner MW. Evaluation of dysphagia: a careful history is crucial. Dysphagia 1987;2:65
- Mulhall BP, Wong RK. Infectious esophagitis. Curr Treat Options Gastroenterol 2003;6:55-70
- Mellow M. Symptomatic diffuse esophageal spasm manometric follow-up and response to cholinergic stimulation and cholinesterase inhibition. Gastroenterology 1977; 73:237
- Chuong JJ, DuBovifc SY, McCallum RW. Achalasia as a risk factor for esophageal carcinoma: a reappraisal. Dig Dis Sei 1984;29:1105
- Republic of Türkiye Ministry of Health 2010 Statistics Data.
- Overby A, Murayama SY, Michimae H, Suzuki H, Suzuki M, Serizawa H, et al. Prevalence of Gastric Non-Helicobacter pylori-Helicobacters in Japanese Patients with Gastric Disease. Digestion 2017;95(1):61-66
- Rugge M, Di Mario F, Cassaro M, et al: Pathology of the gastric antrum and body associated with Helicobacter pylori infection in non-ulcer patients: is the bacterium a promoter of intestinal metaplasia? Histopathology 1993; 22:9-15
- Meijssen MA, Tilanus HW, van Blankenstein M, Hop WC, Ong GL. Achalasia complicated by oesophageal squamous cell carcinoma: a prospective study in 195 patients. Gut 1992;33: 155
- Qualman SJ, Haupt HM, Yang P, Hamilton SR. Esophageal Lewy bodies associated with ganglion cell loss in Achalasia. Similarity to Parkinson's disease. Gastroenterology 1984;87: 848
- Chan FKL, Leung WK. Peptic Ulcer Disease. Lancet 2002; 360: 933-41
- Fennerty MB., complications of endoscopy. In: Clinical practice of gastroenterology. Brandt LJ (ed). Volume 2. Current medicine. 1999:1539-1548
- Silvis SE., Nebel O., Rogers G., Sugawa C., Mandelstam P. Endoscopic complications. Result of the 1974 American Society for Gastrointestinal Endoscopy Survey. JAMA. 1976; 235(9):928-930

22. Mousavi S., Nobahar M., Vafaei A.A., Malek M., Babaei M., Malek F., et al. Complications of upper gastrointestinal endoscopy in unsedated patients. Indian J. Gastroenterol. 2004;23(5):193
23. Wolfsen HC, Hemminger LL, Achem SR, Loeb DS, Stark ME, Bouras EP., et al. Complications of endoscopy of the upper gastrointestinal tract: a single-centre experience. Mayo Clin proc. 2004;79(10):1264-1267

Contact Details

Elif Boduç BULUNMAZ, MD

Bolu Abant İzzet Baysal University
Faculty of Medicine, Department of
Internal Medicine, Bolu, Turkey
Email: elifboduc@hotmail.com
ORCID: 0000-0001-9953-1714

Müjgan GÜRLER, MD, Assistant Professor

Bolu Abant İzzet Baysal University,
Faculty of Medicine, Department of
Internal Medicine, Bolu, Turkey
Address: Bolu Abant İzzet Baysal University
Faculty of Medicine, Department of Internal
Medicine, Gölköy Campus - 14280 Bolu, Turkey
Email: drmgurler@gmail.com
ORCID: 0000-0001-9532-8241

How to cite?

Bulunmaz EB, Gurler M. Retrospective Analysis of the Esophagogastroduodenoscopy Applications at Endoscopy Unit within Year 2017. Ulutas Med J. 2022;8(1):18-29

DOI: 10.5455/umj.20220118122431