Doi:10.47572/muskutd.1292120

A Retrospective Analysis of Cases Evaluated by Endoscopy in a Newly-Established Endoscopy Unit at A Second-Level Hospital

2. Basamak Bir Hastanede Yeni Kurulan Endoskopi Ünitesinde Endoskopik Değerlendirme Yapılan Olguların Retrospektif Analizi

Cenk YAZKAN, Okay NAZLI

[1]Muğla Sıtkı Koçman Üniversitesi Tıp Fakültesi Genel Cerrahi Anabilim Dalı, Muğla, Türkiye

Öz

Bu çalışmanın amacı 2. basamak bir hastanede ilk kez kurulmuş olan endoskopi ünitesinde 2021-2022 yılları arasında üst ve alt gastrointestinal sistem endoskopik değerlendirme yapılan olguların retrospektif olarak analizi ve merkez hastanelerden uzakta bulunan ilçe hastanelerinde de endoskopi ünitelerinin önemini vurgulamaktır. Çalışma ilk kez endoskopi ünitesi kurulmuş bir ilçe hastanesinin verilerini ele alması açısından ön plana çıkmaktadır. Endoskopik değerlendirme yapılan toplam 440 hastanın verileri analiz edildi. Üst gastrointestinal sistem endoskopik değerlendirme yapılan toplam 320 hasta ve alt gastrointestinal sistem endoskopik değerlendirme yapılan 120 hasta çalışmaya dahil edildi. Elde edilen veriler üzerinden endoskopik ve patolojik olarak hastalara konulan tanılar değerlendirilerek tanımlayıcı istatistik çalışmaları yapıldı. Üst gastrointestinal sistem endoskopik değerlendirme yapılan olguların yaşları ortalama 53.93±16.14 yıl, alt gastrointestinal sistem endoskopik değerlendirme yapılan olguların ise yaşları ortalama 53.71±15.86 yıl olarak bulundu. Üst gastrointestinal sistem endoskopik değerlendirme yapılan olguların %70.3'ünde antral gastrit (n=225), %34.8'inde ülser (n=111), %10.3'ünde hiatus hernisi (n=28), %9.1'inde özofajit (n=29), %9.1'inde duodenit (n=29) saptandı. Endoskopik olarak kanser tanısı alan olguların %0.9'u distal özofagusta (n=3), %0.6 antrumda (n=3) lokalizeydi. Alt gastrointestinal sistem endoskopik değerlendirme yapılan olguların %20'sinde polip (n=24), %10'unda divertikül (n=12), %3.3 internal hemoroidal hastalık (n=4), %5'inde kanser (n=6) tanısı endoskopik olarak konuldu. Sonuç olarak çalışmadan elde edilen veriler merkez hastanelerden uzak ilçe hastanelerinde de endoskopi ünitelerinin önemini vurgulamaktadır.

Anahtar Kelimeler: Endoskopi, Helicobakter Pylori, Malignite, Polip

Abstract

The aim of this study is to retrospectively analyze the cases who underwent upper and lower gastrointestinal system endoscopic evaluation between 2021-2022 in the endoscopy unit, which was established for the first time in a second level hospital, and to emphasize the importance of endoscopy units in district hospitals located far from central hospitals. The study comes to the fore in terms of dealing with the data of a district hospital where an endoscopy unit was established for the first time. The data of 440 patients who underwent endoscopic evaluation were analyzed. The study included 320 patients who underwent upper gastrointestinal tract and 120 who underwent lower gastrointestinal tract endoscopic examination. The endoscopic and pathological diagnoses given to patients were examined based on the data obtained, and descriptive statistics were performed. The cases undergoing upper gastrointestinal endoscopic examination had a mean age of 53.93±16.14 years, and those undergoing lower gastrointestinal tract endoscopic examination had a mean age of 53.71±15.86. Of cases undergoing upper gastrointestinal tract endoscopic examination, 70.3% had antral gastritis (n=225), 34.8% had ulcers (n=111), 10.3% had hiatus hernia (n=28), 9.1% had esophagitis (n=29), and 9.1% had duodenitis (n=29). Among the cases endoscopically diagnosed with cancer, 0.9% were localized in the distal esophagus (n=3) and 0.6% in the antrum (n=3). Of cases undergoing lower gastrointestinal tract endoscopic examination, 20% were diagnosed with polyp (n=24), 10% with diverticulum (n=12), 3.3% with hemorrhoidal disease (n=4), and 5% with cancer (n=6). As a result, the data obtained from the study emphasize the importance of endoscopy units in district hospitals located far from central hospitals.

Keywords: Endoscopy, Helicobacter Pylori, Malignancy, Polyp

Introduction

The advent of fiber optic technology and the transmission of cold light from an outside source in the mid-20th century enabled the development of flexible endoscopes. Fiber optic endoscopy was first used in 1957 by Basil Hirschowitz (1). In time, modern endoscopes have been developed. Using these endoscopes to examine mucosal and luminal pathologies of the upper and lower gastrointestinal system (GIS) has become the golden standard (2).

	ORCID No
Cenk YAZKAN	0000-0002-4252-8490
Okay NAZLI	0000-0001-8500-5510

Başvuru Tarihi / Received: 03.05.2023
Kabul Tarihi / Accepted : 04.09.2023

Adres / Correspondence : Cenk YAZKAN
Muğla Sıtkı Koçman Üniversitesi Tıp Fakültesi Genel Cerrahi Anabilim Dalı, Muğla
e-posta / e-mail : cenkyzkn@gmail.com

Endoscopy stands out as it offers the possibility to make an objective diagnosis as well as the opportunity to perform a biopsy and endoscopic treatment. It can be used for treatment in numerous procedures, such as controlling gastrointestinal system bleeding, removing foreign bodies, placing percutaneous gastrostomy tubes, polypectomy, and endoscopic mucosal resection (3-5).

The aim of the study is to analyze the endoscopic evaluation results of a district hospital where an endoscopy unit was established for the first time, and to emphasize the importance of endoscopic evaluation and endoscopy units in secondary level district hospitals, which are far from central hospitals and where it is very difficult for patients to reach central hospitals. This study differs from similar studies in that it presents the data of the endoscopy unit, which was established for the first time in a region where access to the central hospital is difficult.

Material and Method

The research is a descriptive, correlational and retrospective study. The study population consisted of all patients who underwent GIS endoscopy between the years 2021-2022. In the study, the data of 440 patients who underwent upper and lower GIS endoscopic examinations between 2021 and 2022 in the newly-established endoscopy unit of a second-level hospital were retrospectively analyzed.

The study involved 320 patients who presented to the general surgery polyclinic with dyspeptic problems and underwent upper GIS examination and 120 patients who presented with various symptoms such as rectal bleeding, constipation, anemia, anal fissure, and tenesmus and underwent lower GIS examination.

The file data of 500 patients who underwent endoscopic evaluation were analyzed. In accordance with the inclusion and exclusion criteria, 440 patients were included in the study. The cases who underwent endoscopic evaluation of the upper and lower GIS were evaluated within themselves as two separate groups. The flow chart of the study is given in Figure 1.

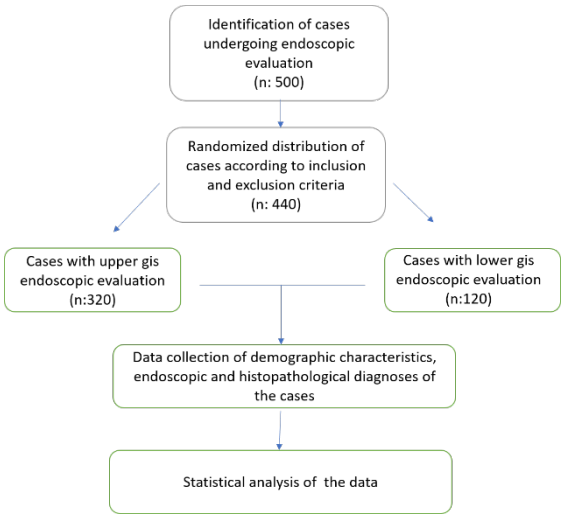

Figure 1. The chart showing the association between growing age and the percentage of hiatus hernia diagnosis.

In the study, patients with inadequate lower gastrointestinal system endoscopic evaluation due to suboptimal bowel cleansing, and upper gastrointestinal system patients who could not undergo the procedure under anesthesia because it was not suitable for anesthesia and who could not be optimally evaluated because they could not tolerate the procedure were not included in the study. All endoscopy patients with optimal evaluation and complete file information were included in the study.

Oral food intake was stopped 8h before the procedure. Xylocaine 10% spray was used locally for oropharyngeal anesthesia. Before the procedure, iv 2-milligram midazolam + iv 1-microgram/kilogram fentanyl + iv 1-milligram/kilogram propofol was given to the patients for sedation. Procedures were implemented after adequate sedation was achieved.

The examination was performed with a Fujinon EG-600 WR gastroscope. All the procedures were performed by the same surgeon.

The staging was performed in cases diagnosed with esophagitis based on the Los Angeles classification (**Grade A:** one or several erosions limited to the mucosal fold(s) and no larger than 5 mm in extent. **Grade B:** one or several erosions limited to the mucosal fold(s) and larger than 5 mm in extent. **Grade C:** erosion(s) extending over mucosal folds, but over less than three-quarters of the circumference. **Grade D:** confluent erosions extending over more than three-quarters of the circumference.)

In addition to suspicious lesions in cases undergoing upper GIS endoscopic examination, biopsies were performed from prepyloric antrum and corpus in all patients.

The R software version 2.15.3 (R Core Team, 2013) was used for statistical analyses. Minimum, maximum, mean, standard deviation, median, frequency, and percentage were used to report the study data. The Pearson chi-square, Fisher's Exact, and Fisher-Freeman-Halton Exact tests were used to compare the qualitative data. The level of significance was accepted as $p<0.05$.

Prior to the study, an approval was obtained from the Ordu University Clinical Research Ethics Committee (approval no: 2022/59). Patient information was kept confidential during the study, paying attention to patient privacy.

Results

The ages of cases who underwent upper GIS endoscopic examination varied between 18–90, with a mean of 53.93±16.14 years. Among the cases, 43.1% were males (n=138), while 56.9% were females (n=182). On the other hand, the ages of cases who underwent lower GIS endoscopic examination varied between 19–88, with a mean of 53.71±15.86 years. Of these cases, 58.3% were males (n=70), and 41.7% were females (n=50). Cases within the age range of 52–67 years had examinations for both upper GIS (35%) and lower GIS (38.3%) the most frequently. Age distribution and gender characteristics are summarized in Table 1.

Table 1. Information regarding age and sex in upper and lower GIS endoscopic examinations

	Upper GIS		Lower GIS	
	Min – Max (Median)	**Mean ± sd**	**Min – Max (Median)**	**Mean ± sd**
Age	18–90 (54)	53.93 ± 16.14	19–88 (55)	53.71 ± 15.86
	n	**%**	**n**	**%**
Sex				
Male	138	43.1	70	58.3
Female	182	56.9	50	41.7
Age				
20–35	44	13.8	13	10.8
36–51	95	29.7	40	33.3
52–67	112	35.0	46	38.3
68–83	55	17.2	17	14.2
84–99	14	4.4	4	3.3

The clinical diagnoses of cases who underwent upper GIS endoscopic examination involve the following: antral gastritis (70.3%, n=225), pangastritis (22.2%, n=71), ulcer (34.8%, n=111), hiatus hernia (10.3%, n=28), polyp (5.3%, n=17), esophagitis (9.1%, n=29), and duodenitis (9.1%, n=29). The ulcer was not detected in 65.3% of the cases. According to the investigation of ulcer cases, 19.4% were localized in the antrum (n=62), 7.5% in the pylorus (n=24), 2.5% in the duodenitis (n=8), 2.2% in the corpus (n=7), 1.6% in the incisura angularis (n=5), and 1.6% in both the antrum and the duodenitis (n=5). The investigation of the cases with polyps showed that 2.2% of the polyp cases were localized in the fundus (n=7, in the form of numerous gland polyps), 1.3% in the antrum (n=4), 0.9% in the corpus (n=3), 0.3% in the fundus (n=1, single polyp), and 0.3% in the pylorus (n=1). The cases in which esophagitis was detected, on the other hand, were grade A in 6.6% of the cases (n=21), grade B in 1.3% of the cases (n=4), grade C in 0.3% of the cases (n=1), and candida esophagitis in 0.9% of the cases (n=3). Among the cases endoscopically diagnosed with cancer, the cancer was localized in the distal esophagus in 0.9% of the cases (n=3) and the antrum in 0.6% of the cases (n=3) (Figure 2). Intramucosal adenocarcinoma was diagnosed in one patient who had a biopsy for ulcer base in the antrum.

Data on the age variable and the incidence of hiatus hernia are given (Figure 3).

The histopathological diagnoses of cases undergoing upper GIS endoscopic examination include the following conditions: chronic gastritis (98.8%, n=316), *H. Pylori* (72.8%, n=233), intestinal metaplasia (15%, n=48), atrophy (2.2%, n=7), malignancy (1.9%, n=6), focal low-grade gastric epithelial dysplasia (0.9%, n=3), hyperplastic polyp (1.6%, n=5), candida esophagitis (0.6%, n=2), atypical reactive changes (3.8%, n=12), and inlet patch in upper esophagitis (0.3%, n=1). Endoscopic and histopathological diagnoses are summarized in Table 2.

Of lower GIS endoscopic examinations, 84.2% were total colonoscopy (n=101), 10% were rectosigmoidoscopy (n=12), and 5.8% were rectoscopy (n=7). The endoscopic diagnoses included polyps in 20% of the cases (n=24), diverticulum in 10% (n=12), internal hemorrhoidal disease in 3.3% (n=4), and cancer in 5% (n=6). Among cases diagnosed with polyps, 7.5% had polyps localized in the sigmoid colon (n=9), 5.8% in the rectum (n=7), 1.7% in the ascending colon (n=2), 1.7% in the sigmoid colon + descending colon (n=2), 1.7% in the rectum + sigmoid colon (n=2), 0.8% in the splenic flexure, and 0.8% in the descending colon. Diminutive polyps were the most frequently observed type in terms of polyp size and single polyps in terms of the number of polyps. Patients diagnosed with cancer had a diagnosis of rectum cancer (3.3%, n=4) and sigmoid colon cancer (1.7%, n=2) (Figure 4). Table 3 summarizes the histopathological and endoscopic diagnoses of cases undergoing lower GIS endoscopic examination.

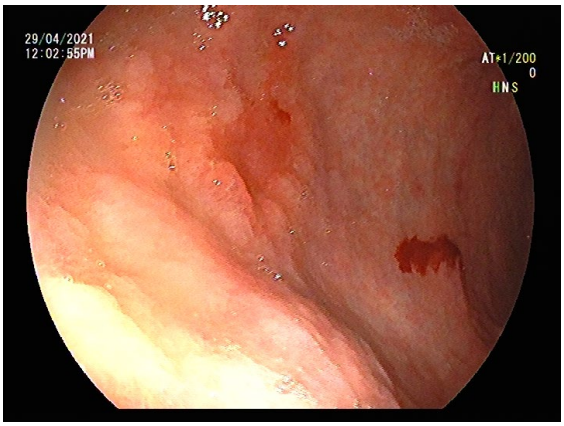

Figure 2. Endoscopic image of the case who had a biopsy of ulcer base in the antrum and was diagnosed with intramucosal adenocarcinoma.

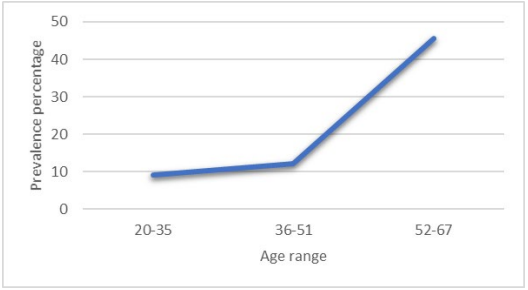

Figure 3. The chart showing the association between growing age and the percentage of hiatus hernia diagnosis

Table 2. Table showing the clinical and histopathological diagnoses of cases undergoing upper GIS endoscopic examination.

	Min – Max (Median)	**Mean ± sd**
Age	18–90 (54)	53.93 ± 16.14
	n	**%**
Sex		
Male	138	43.1
Female	182	56.9
Age		
20–35	44	13.8
36–51	95	29.7
52–67	112	35.0
68–83	55	17.2
84–99	14	4.4
Endoscopic Diagnosis		
Antral gastritis	225	70.3
Pangastritis	71	22.2
Erosion	66	20.6
Ulcer		
Ulcer in pylorus	24	7.5
Ulcer in antrum	62	19.4
Ulcer in corpus	7	2.2
Ulcer in duodenum	8	2.5
Ulcer incisura angularis	5	1.6
Ulcer in antrum + duodenum	5	1.6
Hiatus hernia	33	10.3
Gastric polyp		
Polyp in antrum	4	1.3
Polyp in corpus	3	0.9
Polyp in fundus	1	0.3
Polyp in pylorus	1	0.3
Gland polyp in fundus	7	2.2
Polyp in duodenum	1	0.3
Esophagitis		
Grade A	21	6.6
Grade B	4	1.3
Grade C	1	0.3
Candida	3	0.9
Duodenitis	29	9.1
Histopathological Diagnosis		
H. Pylori	233	72.8
Intestinal metaplasia	48	15.0
Atrophy	7	2.2
Malignity	6	1.9
Focal low-grade gastric epithelial dysplasia	3	0.9
Hyperplastic polyp	5	1.6
Candida esophagitis	2	0.6
Antrum intramucosal adenocarcinoma	1	0.3
Reactive atypical changes	12	3.8
Antrum adenocarcinoma	2	0.6
Fundic gland polyp	5	1.6
Distal esophagus adenocarcinoma	3	0.9
Inlet patch in the upper esophagus	1	0.3
Autoimmune metaplastic atrophic gastritis	1	0.3
Hyperplastic polyp + autoimmune metaplastic atrophic gastritis	1	0.3

It was observed that the number of endoscopically detected polyps decreased starting from the rectum and sigmoid colon to the cecum (Figure 5).

Among cases undergoing upper GIS endoscopic examination, no statistically significant differences were detected between sexes regarding endoscopic diagnoses ($p>0.05$). However, significant differences were found when histopathological diagnoses were considered ($p=0.008$, Fisher-Freeman-Halton exact test, test value: 18,678). It was determined that there was a statistically

significant difference in the percentage of metaplasia in terms of sex (p=0.003, Pearson ki-square test, test value: 8,643). The percentage of incidence was higher among males than females. Similarly, there was a statistically significant difference in the percentage of atrophy regarding sex (p=0.045, Fisher's exact test, test value: 5,292). The percentage of incidence was higher among males than females. It was found that males had higher incidences of focal low-grade gastric epithelial dysplasia and distal esophagus adenocarcinoma but lower incidences of fundic gland polyp than females (p=0.045, p=0.045, p=0.049, respectively).

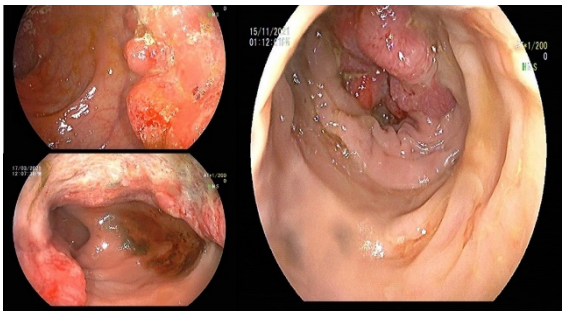

Figure 4. Endoscopic images of cases in whom malignancies were detected in lower GIS endoscopic examinations.

Table 3. Table showing the clinical and histopathological diagnoses of cases undergoing lower GIS endoscopic examination.

	Min – Max (Median)	**Mean ± sd**
Age	19–88 (55)	53.71 ± 15.86
	n	**%**
Sex		
Male	70	58.3
Female	50	41.7
Age		
20–35	13	10.8
36–51	40	33.3
52–67	46	38.3
68–83	17	14.2
84–99	4	3.3
Procedure		
Total colonoscopy	101	84.2
Rectosigmoidoscopy	12	10.0
Rectoscopy	7	5.8
Clinical Diagnosis		
Polyp		
Polyp in the rectum	7	5.8
Polyp in the sigmoid colon	9	7.5
Polyp in the descending colon	1	0.8
Polyp in the sigmoid colon + descending colon	2	1.7
Polyp in the ascending colon	2	1.7
Polyp in the rectum + sigmoid colon	2	1.7
Polyp in the splenic flexure	1	0.8
Diameter of polyps		
<1cm	19	15.8
>1cm	2	1.7
<1cm or >1cm	3	2.5
Number of polyps		
1	16	13.3
2	5	4.2
3	2	1.7
≥4	1	0.8
Diverticulum	12	10.0
Malignancy	6	5.0
Malignancy in rectum	4	3.3
Malignancy in the sigmoid colon	2	1.7
Hemorrhoidal disease	4	3.3
Histopathological Diagnosis		
Adenocarcinoma in rectum	4	3.3
Sigmoid colon adenocarcinoma	2	1.7
Tubular adenoma	13	10.8
Tubulovillous adenoma	4	3.4
Tubular adenoma + tubulovillous adenoma	2	1.7
Serrated adenoma	1	0.8
Hyperplastic polyp	4	3.4
Rectitis	2	1.7

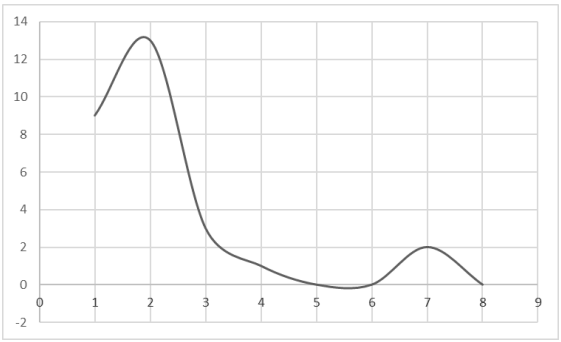

Figure 5. The chart showing the decrease in the number of detected polyps starting from the rectum and sigmoid colon to the cecum (1: Rectum, 2: Sigmoid colon, 3. Descending colon, 4. Splenic flexure, 5. Transverse colon, 6. Hepatic flexure, 7. Ascending colon, 8. Cecum).

A statistically significant difference was detected in terms of the percentage of pangastritis among cases with ulcers (p=0.037, Pearson ki-square test, test value: 4,342). The incidence rate of pangastritis was higher in cases with ulcers than those without ulcers. Likewise, it was determined that there was a statistically significant difference in the percentage of erosion (p=0.008, Pearson chi-square test, test value: 6.987). Its incidence rate was higher in cases with ulcers than those without ulcers.

A statistically significant difference was detected in duodenitis incidence in terms of the existence of ulcers (p=0.043, Pearson chi-square test, test value: 4.086). The incidence of duodenitis was higher in cases with ulcers. Similarly, histopathological examinations detected a significant difference in the percentage of *H. Pylori* in terms of ulcers (p=0.031, Pearson ki-square test, test value: 4.660). Cases with ulcers had higher incidence rates than those without ulcers. Similar results were obtained in terms of the existence of intestinal metaplasia (p=0.006, Pearson chi-square test, test value: 7,543).

No statistically significant differences were detected between age groups in terms of the incidence of hiatus hernia (p=0.047, Pearson chi-square test, test value: 9.060).

Statistically significant differences were detected between age groups regarding the incidence of malignancy (p=0.003, Fisher-Freeman-Halton exact test, test value: 12.309). It was observed that the incidence of hernia was higher among those aged between 84–99 (p<0.001).

Lower GIS endoscopic examinations determined a statistically significant difference in the percentage of diverticulum in terms of sex (p=0.002, Pearson chi-square test, test value: 9.524). The percentage of incidence was higher among males than females. A statistically significant difference was detected in histopathological diagnosis in terms of the existence of polyp (p<0.001). It was found that the incidence of tubular adenoma was higher among those with polyp (p=0.043).

In the post-hoc power analysis, the effect size for the gender difference was found to be 0.27, and the power of the test was calculated to be 0.98 over 320 patients.

The examination of other parameters did not reveal any statistically significant differences.

Discussion

Dyspeptic complaints refer to symptoms such as pain in the epigastric region, retrosternal burning, swelling, gas, a sensation of early satiety, nausea, and vomiting (6). No underlying organic pathologies were observed among 75% of patients presenting with dyspeptic complaints. However, symptoms might indicate a severe problem in 25% of the cases (7). Malignancies are the most important of such problems. Upper GIS endoscopic examination is essential for early diagnosis and treatment, particularly in at-risk patient groups and patients with alarm symptoms (8). When the cases in our study are considered, dyspepsia was the primary complaint of cases undergoing upper GIS endoscopic examination. Furthermore, patient groups at risk and patients with alarm symptoms underwent endoscopic examination for further evaluation.

Rectal bleeding, tenesmus, constipation, iron deficiency anemia, fecal occult blood positivity, and weight loss may be severe symptoms of a serious colorectal disease. It is vital to make a differential diagnosis of malignancies initially in these patient groups and patients presenting with dyspeptic complaints. Diagnostic lower GIS endoscopic examination is the most effective method to detect these pathologies (9).

Endoscopy is regarded as a reliable method with low rates of complications. The rate of procedure-related complications is 0.13% in upper GIS endoscopic examinations (10). This rate has been reported to be 0.4% in lower GIS endoscopic examinations (11).

The number of patients requiring endoscopic examination has gradually increased in recent years. The main reasons are rising outpatient admissions due to symptoms such as the dyspeptic complaints mentioned above, rectal bleeding, constipation, and anemia. Similar rises in GIS cancers are observed in our country and worldwide (12). Therefore, endoscopic examination can be used for diagnostic purposes in symptomatic patients, and it has become a part of cancer screening programs (13).

In a study that investigated cases undergoing upper GIS endoscopic examination in 2017, the data of 396 patients were retrospectively analyzed, and gastric cancer was detected in one case (0.02%) (14). In a study carried out on 5551 patients, the malignancy rate was detected as 2.3%. A similar

study that investigated cases who underwent an endoscopic examination at a second-level state hospital reported a rate of 1.8%. Also, another study reported a malignancy rate of 1.1% (15-17). On the other hand, our study found a rate similar to previous studies (1.9%).

The present study detected the rate of antral gastritis as 70.3%, and the rate of *H. Pylori* was 72.8%, according to endoscopic biopsy results. The literature data shows that this rate varies between 43.66% and 93.7% (18-21). Two contemporary studies reported this rate as 60% and 45%, respectively (22,23). Although the prevalence of *H. Pylori* varied between 76.8% and 85.9% in our country, in recent years, this rate has dropped to 23–65% (24-27). This change is associated with improvements in hygiene practices in our country, non-invasive diagnostic methods for *H. Pylori*, and empirical treatments that have become widespread. The literature data are similar to our findings.

The lifelong prevalence of peptic ulcer disease changes between 5% and 10% (28). The ulcer rate was found to be 34.7% in our study. The most frequent localization of ulcers was the antrum (19.4%). Also, the prevalence of duodenal ulcers was 2.5%. The prevalence of ulcers varies between 4.6% and 9.4% in previous studies (14-17). The ulcer rate was higher in our study when gastric and duodenal ulcers were considered together. However, the rate of duodenal ulcers was lower in our study than that in previous similar studies.

The rate of hiatus hernia was found to be 10.3% in our study. It was observed that the prevalence of hiatus hernia increased with growing age. The literature data also show that its prevalence rises with age in society, which is 10% among young adults, while it exists in 70% of those over 70 years (29,30). The results of a current study conducted in our country do not agree with the results of our study. The small number of cases in our study may explain this situation. We think that there is a need for comparison with the larger series.

Gastric polyps are abnormal tissue growths protruding from stomach mucosa into the lumen. Their prevalence varies between 2% and 6%, and they are often diagnosed incidentally (31). The rate of polyps was found to be 5.3% in our study, which was consistent with the literature. They were predominantly localized in the fundus in the form of multiple fundic gland polyps. The second most frequent incidence was in the antrum (1.3%) and the corpus (0.9%). At the end of the histopathological examination, the polyps were reported to be hyperplastic polyps and fundic gland polyps. The subtypes of gastric polyps were investigated in a large series of cases, and they were reported to be hyperplastic polyps (71.2%) and fundic gland polyps (16.3%) (32). In our study, long-term proton-pump inhibitor (PPI) use was held responsible for the high incidence rate of gland polyps. The rate of polyp development following long-term PPI use varies between 1% and 36% (33).

Various studies about the rates of colorectal cancer cases detected in lower GIS endoscopic examinations performed in our country have obtained different results. These rates range between 1% and 14% (34-37). In a large series in which 4001 patients were evaluated in 2022, this rate was presented as 2.92% (38). This rate was found to be 5% in our study. Out of six cases in whom malignancies were detected, cancer was observed in the rectum in four cases while in the sigmoid colon in two cases. All the cases were reported as adenocarcinoma at the end of the histopathological examination. The data we obtained as to the localization and type of cancer were in line with previous studies (35-38).

Colorectal polyps are precancerous lesions that are extremely important for colon cancer development. They are often detected in the colon and rectum. According to a recent study including 7503 patients conducted in Turkey, the most frequent localization of cases who underwent polypectomy was the rectum (29.5%) and sigmoid colon (25.3%) (39). Similar results were obtained in our study. Our results show that the most frequent localization was in the colon in cases with polyps (7.5%). According to the size and the number of polyps, diminutive polyps, and single polyps were the most frequently detected, respectively.

Endoscopy has been extensively used due to the rising number of patients requiring endoscopic examination, the possibility of early diagnosis for GIS cancers, endoscopic treatment of precancerous lesions, its therapeutic applications in conditions such as bleeding or stricture, the potential of mucosal resections with the introduction of advanced endoscopic methods in recent years, low rates of complications, and the opportunity of making objective diagnoses. In conclusion, the need for endoscopy units and endoscopists has risen. Therefore, this study mainly emphasized the importance of both endoscopy units and surgical endoscopy.

Conclusion

Endoscopy has become the golden standard in the diagnosis of GIS cancers. It is crucial that patients can access endoscopy units easily and that their examinations be performed in a timely manner for early diagnosis and treatment of these cancers. The opportunity to carry out these procedures at second-level hospitals in the periphery may contribute to the early diagnosis and treatment of patients. This is especially important in regions where it is difficult for patients to reach central hospitals. Delays in endoscopic evaluations also lead to delays in diagnosis.

Limitations of the Study

The major limitations of the study are its retrospective design and the limited number of cases due to the data being obtained within only one year

Conflict of interest statement

In our study, there is no financial conflict of interest with any institution, organization, person and there is no conflict of interest between the authors.

Ethics Committee Approval: It was approved by Ordu University Clinical Research Ethics Committee on 11.03.2022 with protocol code 2022/59.

Funding: No financial support was received from any institution, organization or person in our study.

References

1. Edmonson JM. Hirschowitz fiberoptic endoscope, 1960. Gastrointest Endosc. 2000;52:19A-20A.
2. Sivak MV. Gastrointestinal endoscopy: past and future. Gut. 2006;55:1061-1064.
3. İliçin G, Ünal S, Biberoğlu K, et al. Temel İç Hastalıkları. In: İlter T. Gastrointestinal sistem endoskopisi. 1. Ed., Ankara: Güneş Kitabevi. 1996;931-934.
4. Repici A, Hassan C, De Paula Pessoa D, et al. Efficacy and safety of endoscopic submucosal dissection for colorectal neoplasia: a systematic review. Endoscopy. 2012;44(2):137–50.
5. Zauber AG, Winawer SJ, O'Brien MJ, et al. Colonoscopic polypectomy and long-term prevention of colorectal-cancer deaths. N Engl J Med. 2012;366(8):687–96.
6. Heading RC. Definitions of dyspepsia. Scand J Gastroenterol. 1991;182:1-6.
7. Bytzer P, Talley NJ. Dyspepsia. Ann Intern Med. 2001;134:815.
8. Dere Ö and Kayılıoğlu SI. Endoskopik olarak konan gastrit tanısının güvenilirliğinin değerlendirilmesi. Ank Üniv Tıp Fak Mecm. 2019;72(3):339-42.
9. Yücel Y, Aktümen A, Aydoğan T, et al. Lower gastrointestinal system endoscopy: retrospectively analysis of 1800 cases and determination of the frequency of colorectal cancer. Endo Gast. 2015;23:6-8.
10. Silvis SE, Nebel O, Rogers G, et al. Endoscopic complications. Results of the 1974 American Society for gastrointestinal endoscopy survey. JAMA. 1976;235:928.
11. Jentschura D, Raute M, Winter J, et al. Complications in endoscopy of the lower gastrointestinal tract. Surg Endosc. 1994;8:672-6.
12. Bray F, Ferlay J, Soerjomataram I, et al. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. Cancer J Clin. 2018;68:394-424.
13. Kara Y, Sarıcı İŞ, Kalaycı M.U. Bölgemizde yürütülen kolon kanser tarama programının etkinliğinin değerlendirilmesi. İKSSTD. 2019;11(1):31-6.
14. Yıldız İ and Koca YŞ. Endoskopik uygulamalarında sonuçlarımız ve endoskopide genel cerrahi uzmanının rolü. SDÜ Tıp Fak Derg. 2018;25(1):1-6
15. Tamer A, Korkut E, Korkmaz U, et al. Üst gastrointestinal endoskopi sonuçları: Düzce Bölgesi. The Medi J Kocatepe. 2005;6:31-4.
16. Ferlengez E, Ferlengez AG, Çelik A, et al. İkinci basamak bir devlet hastanesinde gastroduodenoskopi ünitesinde tanı konulan olgularının endoskopik ve klinik özellikleri. Haseki Tıp Bült. 2012;50(4):131-5.
17. Karadeniz E, Arslan Ş, Kesicioğlu T, et al. Bir ilçe hastanesinde yapılan gastroskopi sonuçları. Anadolu Tıp Bilim Derg. 2015;1(1):1-4.
18. Garg B, Sandhu V, Sood N, et al. Histopathological analysis of chronic gastritis and correlation of pathological features with each other and with endoscopic findings. Pol J Pathol. 2012;3:172–8.
19. Park JW, Kim MK, Park SM. Influence of helicobacter pylori colonization on histological grading of chronic gastritis in Korean patients with peptic ulcer. Korean J Intern Med. 1995;10(2):125–9.
20. Dhakhwa R, Acharya IL, Shrestha HG, et al. Histopathologic study of chronic antral gastritis. J Nepal Health Res Counc. 2012;10(1):57-60.
21. Hassan TMM, Al-Najjar SI, Al-Zahrani IH, et al. Helicobacter pylori chronic gastritis updated Sydney grading in relation to endoscopic findings and H. pylori IgG antibody: diagnostic methods. J Microsc Ultrastruct. 2016;4(4):167-74.
22. Tiwari A, Rai R, Dahal P, et al. Sudeep Regmi. Prevalence of helicobacter pylori in endoscopic gastric biopsies of chronic gastritis patients at a tertiary care center. J Nepal Med Assoc. 2020;58(228):564-8
23. Singh N, Kumar A, Kumar R. Study of prevalence of H. pylori infection in patients undergoing upper GI endoscopy. Eur. J Mol Clin Med. 2022;9(3).
24. Adım ŞB, Filiz G, Gürel S, et al. Kronik gastrit olgularında intestinal metaplazi sıklığı ve intestinal metaplazi ile Helicobacter pylori ilişkisi. Uludağ Üni Tıp Fak Derg. 2008;34(1):1-4.
25. Özden A, Dumlu Ş, Dönderici Ö, et al. Helicobacter pylori infeksiyonunun ülkemizde seroepidemiyolojisi. Gastroenteroloji. 1992;4:665-8.
26. Yücel T, Aygın D, Şen S, et al. The prevalence of Helicobacter pylori and related factors among university students in Turkey. Jpn J Infect Dis. 2008;61(3):179-83.
27. Çıkman A, Parlak M, Güdücüoğlu H, et al. Van yöresinde Helicobacter pylori prevalansı, yaş ve cinsiyete göre dağılımı. ANKEM Derg. 2012;26(1):30-4.
28. Lanas A, Chan FKL. Peptic ulcer disease. Lancet. 2017;390:613-24.
29. Cangır AK, Ökten İ. Hiatus hernileri ve tedavi yaklaşımı. Ank Üniv Tıp Fak Mecm. 1998;51(1):43-8.
30. Menon S and Trudgill N. Risk factors in the aetiology of hiatus hernia: a meta-analysis. Eur J Gastroenterol Hepatol. 2011;23(2):133-8.
31. Carmack SW, Genta RM, Schuler CM, et al. The current spectrum of gastric polyps: a 1-year national study of over 120,000 patients. Am J Gastroenterol. 2009;104:1524–32.
32. Morais DJ, Yamanaka A, Zeitune JMR, et al. Gastric polyps: A retrospective analysis of 26,000 digestive endoscopies. Arq Gastroenterol. 2007;44:14–7.
33. Jalving M, Koornstra JJ, Wesseling J, et al. Increased risk of fundic gland polyps during long-term proton pump inhibitor therapy. Aliment Pharmacol Ther. 2006;24:1341-8.
34. Balık AA, Çelebi F, Atamanalp SS, et al. Alt gastrointestinal sistem endoskopi sonuçlarımız. AÜTD. 2000;32:101-4.
35. Tamer A, Korkut E, Korkmaz U, et al. Alt gastrointestinal endoskopi sonuçlarımız: Düzce bölgesi. Med J Kocatepe. 2005;6:29-31.
36. Yiğit T. Kolonoskopi deneyimlerimiz: Ardışık 983 hastanın irdelenmesi. Kolon Rektum Hast Derg. 2007;17:154-9.
37. Şit M, Aktaş G, Yılmaz EE. Alt gastrointestinal endoskopi sonuçlarımız: Ağrı Doğubayazıt Bölgesi. Med J Kocaeli. 2012;3:1-4.
38. Erol F, Özütemiz AÖ. A Retrospective analysis of 4001 colonoscopies in tertiary referral center. Diagn Interv Endosc. 2022;1(2):29-33.
39. Başak F, Çalışkan YK, Tilev SM. Lower gastrointestinal endoscopic polypectomy: Cross-sectional study with 7503 consecutive endoscopic procedures. J Surg Med. 2019;3(11):809-11.