ARAŞTIRMA MAKALESİ / *RESEARCH ARTICLE*

Lower Gastrointestinal System Endoscopy Findings in Şırnak: A Retrospective Study

Şırnak İlinde Alt Gastrointestinal Sistem Endoskopi Bulguları: Retrospektif Çalışma

Selma Demirbas Yuceldi[1]

[1]*Sakarya Training and Research Hospital, Department of Internal Medicine, Department of Gastroenterology, Sakarya, Turkiye*

ABSTRACT

Aim: *It was aimed to evaluate endoscopy reports in patients who had lower gastrointestinal system complaints and underwent endoscopy in Şırnak to determine up-to-date findings and their frequency and to compare them with the literature data.*

Materials and Methods: *Demographic characteristics, endoscopy, and pathology results of patients who underwent lower gastrointestinal system endoscopy in the gastroenterology clinic endoscopy unit of Şırnak State Hospital between November 2019 and August 2021 were evaluated retrospectively. The findings were described with the help of the SPPS 25 statistical program.*

Results: *Of the 728 patients in the study, colonoscopy was performed in 632, and rectosigmoidoscopy was performed in 96 patients. 57.8% (n: 421) were male. The mean age was 46±18.46 (range 18–120 years). The most common indication was rectal bleeding, hematochezia, or, rarely, unexplained melena in 139 (19.1%) patients. Unexplained anemia was the second most common indication in 120 (16.5%) patients. Four hundred and fifty (61.8%) patients had pathological findings. The most common results were 44% (n: 317) hemorrhoids and 19.1% (n: 139) colorectal polyps. The frequency of colorectal cancer, inflammatory bowel disease, solitary rectal ulcer, and diverticulum was 3.4% (n: 25), 9.2% (n: 67), 4.4% (n: 32), and 3.6% (n: 26), respectively.*

Conclusion: *In this study, epidemiological data of lower gastrointestinal system endoscopy in Şırnak were obtained for the first time and compared with literature data. This study, with its up-to-date data, will contribute to regional epidemiological studies.*

Keywords: lower *gastrointestinal system; endoscopy; diagnosis; epidemiology*

ÖZET

Amaç: *Şırnak ilinde, alt gastrointestinal sistem şikâyetleri ile gelen ve endoskopi yapılan hastalarda endoskopi raporlarının değerlendirilmesi; güncel bulgular ve sıklıklarının belirlenmesi ve literatür ile karşılaştırılması amaçlandı.*

Materyal ve Metot: *Kasım 2019 ve Ağustos 2021 tarihleri arasında, Şırnak Devlet Hastanesi gastroenteroloji kliniği endoskopi ünitesinde, alt gastrointestinal sistem endoskopi işlemi yapılan hastaların demografik özelikleri, endoskopi ve patoloji sonuçları retrospektif olarak tarandı; bulgular SPPS 25 istatistik programı yardımı ile tanımlandı.*

Bulgular: *Çalışmaya dahil edilen 728 hastanın 632'sinde kolonoskopi, 96'sında rektosigmoidoskopi işlemi yapıldı. %57,8 (n: 421)'i erkek; %42,2 (n: 307)'si kadın idi. Yaş ortalamaları 46±18,46 (dağılım 18–120) yıl idi. Ensık endikasyon 139 (%19,1) hastada rektal kanama, hematokezya veya nadiren açıklanamayan melena; ikinci sıklıkta 120 (%16,5) hastada açıklanamayan anemi idi. Dört yüz elli (%61,8) hastada patolojik bulgu saptandı. En sık saptanan bulgular 317 (%44) hemoroid, 139 (%19,1) kolorektal polip idi. Kolorektal kanser, enflamatuvar bağırsak hastalığı, soliter rektal ülser, divertikül sıklıkları, sırasıyla, %3,4 (n: 25), %9,2 (n: 67), %4,4 (n: 32), %3,6 (n: 26) saptandı.*

Sonuç: *Bu çalışma ile Şırnak ilinde, alt gastrointestinal sistem endoskopi epidemiyolojik verileri, ilk kez elde edildi ve literatür bilgileri ile karşılaştırması yapıldı. Güncel olan verileri ile bu çalışmanın bölgesel epidemiyolojik çalışmalara katkı saylayacağı düşünülmektedir.*

Anahtar kelime: *alt gastrointestinal sistem; endoskopi; tanı; epidemiyoloji*

Introduction

Today, lower gastrointestinal system (GIS) endoscopies, colonoscopy, and flexible rectosigmoidoscopy, are widely used in diagnosing and treating patients with lower GIS symptoms and in the screening and surveillance of lower GIS diseases[1–3].

The incidence of GIS pathologies varies according to countries and regions and sometimes over time. This may require differences in disease prevention, diagnosis, and follow-up approaches. When we look at the literature, there are studies conducted in other eastern/southeastern provinces and in the past years in our country[2,6], however, there is no recent epidemiological study on lower GIS endoscopy and pathology in Şırnak province.

İletişim/Contact: *Selma Demirbaş Yüceldi, Sakarya Training and Research Hospital, Department of Internal Medicine, Department of Gastroenterology, Sakarya, Türkiye* • ***Tel:*** *0505 873 9603* • ***E-mail:*** *selmademirbas@yahoo.com* • ***Geliş/Received:*** *28.11.2021* • ***Kabul/Accepted:*** *21.12.2022*

ORCID: *Selma Demirbaş Yüceldi, 0000-0002-2533-0845*

Kafkas J Med Sci 2023; 13(1):6–10
doi: 10.5505/kjms.2023.78553

This study aimed to detect up-to-date lower GIS endoscopy indications, findings, and frequencies, in the Şırnak State Hospital Gastroenterology clinic endoscopy unit and compared the results with the literature.

Material and Methods

This study was designed as cross-sectional, single-center, and retrospective. The data of 763 patients who underwent lower GIS endoscopy between November 2019 – August 2021 in Şırnak State Hospital Gastroenterology clinic endoscopy unit were scanned. Thirty-five of them, those under the age of 18, pregnant, and those who did not have sufficient data, were excluded from the study. Seven hundred and twenty eight patients were included in the study.

The endoscopy and pathology reports of the patients included in the study were scanned retrospectively from online hospital data and patient files. Age, gender, endoscopy indications and findings, and pathology results were recorded.

Watery, low-fiber diet two days before and an oral laxative the day before the procedure was applied for colonoscopy bowel preparation. Rectosigmoidoscopy was performed after preparation with a rectal enema, applied on the procedure day. For all of the rectosigmoidoscopy procedures, most of the colonoscopy procedures were performed without sedation due to an insufficient number of assistant health personnel. However, in a small number of patients who could not tolerate it, the procedure was performed after sedation with midazolam, meperidine, and propofol. Before the procedure, patients were informed, and their consent was obtained.

Statistical Analysis

The obtained data were defined using the IBM Statistical Package for Social Sciences (SPSS) version 25 statistical program. Descriptive statistics were expressed as numbers and percentages for categorical variables, as means, standard deviations, and ranges for numerical variables.

Ethical Issues of The Study

The study was conducted by the Principles of the Helsinki Declaration. Before the study, the ethics committee approval dated 25.10.2021 and numbered 74646–471 was obtained from the Sakarya University Faculty of Medicine Ethics Committee.

Results

Of the 728 procedures, 632 were colonoscopy, and 96 were rectosigmoidoscopy. Of the patients, 421 (57.8%) were male, and 307 (42.2%) were female; The mean age was 46±18.46 (range 18–120) years. Indications, rectal bleeding, hematochezia, or rarely unexplained melena in 139 (19.1%) patients, unexplained anemia in 120 (16.5%) patients, chronic diarrhea in 117 (16.1%) patients, chronic constipation in 50 (6.9%) patients, bowel habit changes in the form of constipation-diarrhea attacks lasting longer than 2 weeks in 8 (1.1%) patients, chronic bloody mucus diarrhea in 43 patients (5.9%), abdominal pain in 112 (15.4%) patients, stool occult blood positivity in 39 (5.4%) patients, premalignant and malignant lesions screening and follow-up in 88 (12.1%) patients, tenesmus in 5 (0.7%) patients, and rectal pain in 7 (1%) patients. No complications developed during or after any procedure.

Endoscopic pathological findings were detected in 450 (61.8%) patients. The results are given in Table 1.

As a result of the evaluation of the clinical, laboratory, imaging, and histological data of 69 (9.5%) patients with endoscopically suspected inflammatory bowel disease, ulcerative colitis (UC) was diagnosed in 43 (62.3%), and Crohn's disease (CH) was diagnosed in 24 (34.8%); intestinal tuberculosis was diagnosed in 2 (2.9%) patients. The mean age of UC patients was 31.23±10.09; 28 (65.1%) were male. The mean age of CD patients was 32.16±13.8; 16 (66.7%) were male. Both patients with intestinal tuberculosis were women aged 25 and 46 years.

9 (6.5%) of 139 (19.1%) patients with colorectal polyps had more than three polyps. Familial adenomatous polyposis was detected in 1 (0.1%). Of the patients, 55 (35.7%) had polyps in the rectum, 28 (18.2%) had in the sigmoid colon, 21 (13.6%) had in the descending colon, 9 (5.8%) had in the transverse colon, 11 (7.1%) had in the ascending colon, 7 (4.5%) had in the cecum, and polyps were scattered in 23 (14.9%). Pathology reports of 145 out of 154 removed polyps could be accessed. Their histopathological examination findings are given in Table 2. Low-grade dysplasia was found in 6 (7.2%) of the adenomas, and high-grade dysplasia was found in 1 (1.2%). 64.5% of the patients detected hyperplastic, inflammatory polyp, and pseudopolyp were male, mean age of 49.8±16.4 (range 19–83 years); 60.8% of the patients detected adenoma were male, the mean age was 59.07±15.08 (range 33–94 years).

Table 1. *Lower gastrointestinal system endoscopy findings, in Şırnak*

Endoscopic findings	Number (N; %)
Normal	278 (38.2)
Hemorrhoids	317 (43.5)
Anal fissure	33 (4.5)
Anal fistula	3 (0.4)
Rectal prolapse	3 (0.4)
Perianal abscess	1 (0.1)
Solitary rectal ulcer	32 (4.4)
Diverticulum	26 (3.6)
Angiodysplasia	22 (3)
Melanosis coli	2 (0.3)
Subepithelial lesion	13 (1.8)
Enterobiasis	5 (0.7)
Nodular lymphoid hyperplasia	4 (0.5)
Sigmoid colon volvulus	3 (0.4)
Operated colon	8 (1.1)
Nonspecific ileitis/colitis	17 (2.3)
Inflammatory bowel disease	67 (9.2)
Intestinal tuberculosis	2 (0.3)
Colorectal polyp	139 (19.1)
Malignancy	25 (3.4)

Table 2. *Histopathological findings of colorectal polyps, detected on lower gastrointestinal system endoscopy, in Şırnak*

Histopathological diagnosis	Number (N; %)
Hyperplastic polyp	44 (30.3)
Adenoma	83 (57.2)
Pseudopolyp	4 (2.8)
Inflammatory polyp	14 (9.7)
Total	145 (100)

Table 3. *Cancer distribution by colon segments, in lower gastrointestinal system endoscopy, in Şırnak*

Colon segment where cancer is detected	Number (N; %)
Anal canal	1 (4)
Rectum	6 (24)
Sigmoid colon	8 (32)
Descending colon	1 (4)
Transverse colon	1 (4)
Ascending colon	6 (24)
Cecum	2 (8)
Total malignancy	25 (100)

Seventeen (68%) of 25 patients detected colorectal cancer were male; 2 (8%) were under the age of 40, 7 (28%) were in the 40–50 age range, 16 (64%) were 50 years and over. The mean age was 58.59±14.68 (range 31–81 years). Cancer distribution by colon segments is shown in Table 3.

Discussion

Endoscopy is a very effective procedure in diagnosing, treating, and following lower GIS diseases; However, the disadvantages are that it is invasive, painful, and can cause serious complications. Complications are 0.08–0.19% in diagnostic colonoscopy; 0.15–3% in colonoscopies performed for therapeutic purposes[1]. In this study, most procedures were for diagnostic purposes. Therapeutic procedures performed in this study included removing polyps with forceps or snare in 135 (18.5%) patients; thermal coagulation of bleeding angiodysplasias in 20 (2.7%) patients. All of the removed polyps were under 2 cm. No complications developed.

The most common indication in this study was an investigation of rectal bleeding, hematochezia, and unexplained melena bleeding for lower GIS endoscopy (19.1%), while in previous studies, it was an investigation of constipation, diarrhea, and bowel habit changes[5,6]. This may be because of the Coronavirus disease 2019 (Covid-19) and insufficient staff and equipment. Most of the procedures in this study were performed during the Coronavirus disease 2019 (Covid-19) pandemic. The worldwide pandemic, Covid-19, emerged in Türkiye in early 2020. In the Covid-19 pandemic, like in the world and Türkiye, in the city, with national population lockdown, elective endoscopy procedures, like other interventional procedures, were postponed due to the risk of virus transmission[4]. As new cases decreased, elective endoscopic procedures were gradually resumed with protective measures. Moreover, the unit was the only gastroenterology endoscopy center in the city of over 500,000 population. There was only one gastroenterologist and one active endoscopy equipment. So emergent procedures such as GIS bleeding were given priority; elective procedures had to be postponed.

However, it was observed that this situation did not make any difference in this study's most common endoscopic findings. Normal colonoscopic findings were found in 29–54% of patients who underwent colonoscopy in previous studies throughout our country. The most common result was hemorrhoids[1]. The frequency of hemorrhoids was 39%–50% in America[1,3], 8–58% in studies conducted in different regions of

our country[1,3,5–7]. Similarly, this study found normal findings in 38.2% of the procedures. The most common result was hemorrhoids, detected in 317 (43.5%) patients.

Colorectal polyps were the second most common finding. In previous studies throughout our country, the frequency of colorectal polyps is between 7–20%[1–3,5–7]. A similar rate was found in this study, 19.1%. In previous studies, the frequency of colorectal polyps has been reported as 53–59% in men and 40–46% in women[2]. Adenomas are the most commonly detected neoplastic polyps; The incidence increases with age and is more common in men[1,2]. Similarly, in this study, all polyps were more common in men; 64.5% of the patients with a nonneoplastic hyperplastic, inflammatory polyp, and pseudopolyp were male, and the mean age was 49.8±16.4 (range 19–83 years), 60.8% of the patients with neoplastic adenoma were male, the mean age was 59.07±15.08 (range 33–94 years).

Although it varies according to region, colorectal cancer ranks 3rd among all cancers with 13% and 4th in cancer deaths[1–3]. Colorectal cancer mortality decreases with early diagnosis. In other studies in endoscopy units throughout our country, colorectal cancer frequency varies between 1.4–14% according to regions[1–3,5]. The rate found in this study was 3.4%.

Although it has been determined in recent studies that the location of colorectal cancers tends to shift from the left colon to the right colon[1], many studies have shown that 55–60% of colorectal cancers are located in the left colon, especially in the rectum and rectosigmoid region[1,2,5]. Similarly, this study detected it most frequently in the left colon; in the sigmoid colon 32%, rectum 24%, and ascending colon 24%, in order of frequency. Similar to the literature, the frequency of colorectal cancer was found to be higher in men in this study; 68% of cancer patients were male[1,2,5]. The risk of colorectal cancer increases with age. With a significant increase between the ages of 40–50, these rates continue to increase every decade after the age of 50 [1,2,3,5]. It is reported that 2–6% of all colorectal cancer cases are under 40 [2]. In this study, 8% of cancer patients were under 40, 28% were between 40–50, and 64% were over 50. These findings support the necessity of colon cancer screening with colonoscopy over 45–50; they suggest that colonoscopic examination should also be performed in younger individuals, those with alarm symptoms, and those with treatment-resistant lower GIS symptoms.

The frequency of inflammatory bowel disease (IBD) varies considerably geographically around the world. Inflammatory bowel disease is more common in western societies with better hygienic conditions and higher socioeconomic status[8–14]. It is most frequently observed in Western Europe and North America; the prevalence was 505 and 286 per 100,000 subjects, respectively, for ulcerative colitis (UC); 319–322 per 100,000 subjects for Crohn's disease (CD)[14]. As a developing country, Türkiye is transitional between east and west. Although the incidence of the disease is not as high as in western societies, it is not as low as in the east. In previous studies in our country, the prevalence rates were reported to be between 3.27–4.9/10^5 for UC and 1.2–2.2/10^5 for CD[10–13]. Most recently, in the study conducted between 2004–2013 in the Western Black Sea region located in the Northern region of Türkiye, a higher overall prevalence of IBD was detected; 31.83/10^5 for UC and 12.53/10^5 for CD[9]. Recently, the incidence of IBD has been increasing in Türkiye and developing countries. This increase is attributed to environmental factors such as industrialization and the spread of western lifestyle, dietary changes, improved hygiene, microbial exposure, increased use of antibiotics and other drugs, and exposure to air pollution[8–13]. Although there are studies on the epidemiological data of IBD in Türkiye[8–13], no studies have been conducted in recent years, especially in the east-southeast region. In our country, which has a very heterogeneous structure in terms of ethnic origin, the disease frequency may differ according to the region. While the frequency of inflammatory bowel disease was 1.7–4.9% in studies conducted in endoscopy centers in Türkiye in previous years[1–3,5–7], the rate was found to be 9.2% in this recent study. This detected high frequency can be explained by the increase in urbanization and exposure to changing environmental factors in the east and southeast regions in Türkiye, as well as worldwide. Additionally, the increase in awareness of the disease, significant progress in diagnostic methods, more opportunities to benefit from health services, and easier access to colonoscopy, compared to previous periods, may be effective factors in the increase in frequency.

Ulcerative colitis is more common than CD[6–11]. In this study, 43 (64.2%) of IBD patients were UC and 24 (35.8%) CD. The female/male ratio ranges from 0.51–1.58 for UC and 0.34 to 1.65 for CD, and when evaluated in general, there is no difference in frequency between males and females in IBD[8]. However, there was mild male predominance in a few studies for UC and CD

in Türkiye[11,12]. Similarly, this study had a male predominance; 65.9% of IBD patients were male. Age at onset of IBD usually peaks in the 2nd and 3rd decades, followed by the 6th decade[8–11]. In this study, the mean age of IBD patients was 31.57±11.46 (range 18–66 years).

Colon diverticulum frequency was 0.6–5.3% in studies conducted in endoscopy centers in Türkiye[1,3,5–7]. Similarly, its frequency was 3.6% in this study.

Enterobius vermicularis was found at a rate of 0.1–3.3% in studies throughout Türkiye[5,7], and similarly at 0.7% in this study.

Solitary rectal ulcer syndrome (SRUS) is a rare condition of unknown exact cause and prevalence. It usually occurs after chronic constipation, pelvic floor dysfunction, or rectal mucosal prolapse[15]. The frequency of SRUS was 0.6–1.3% in studies in Türkiye[1–3,5–7]. In this study, a higher rate of 4.4% was found. In the eastern and southeastern regions, consumption of fatty, spicy, and low-fiber foods, such as meat products, more frequently; of high-fiber foods, such as fruits and vegetables, less frequently and especially in the Covid-19 pandemic, due to social isolation rules, more sedentary life may trigger chronic constipation. The high incidence of SRUS may be related to this.

Conclusion

The frequency of GIS pathologies differs between countries and regions and over time. In addition, the frequency can change as awareness, living conditions, and diagnostic possibilities change. In this study, the frequency of lower GIS pathologies in patients who underwent lower GIS endoscopy in Şırnak State Hospital Gastroenterology clinic endoscopy for approximately two years was determined for the first time. These up-to-date results support the variation of the frequency of especially IBD and SRUS, between regions and over time in Türkiye. With its up-to-date data, the study is thought to contribute to epidemiological research.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject nor from a company that provides or produces medical instruments and materials, which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and/or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding, and similar situations in any firm.

References

1. Yücel Y, Aktümen A, Aydoğan T, Uyanıkoğlu A, Şeker A, Gözeneli O, et al. Lower gastrointestinal system endoscopy: Retrospectively analysis of 1800 cases and determination of the frequency of colorectal cancer. Endoscopy. 2015;23:6–8.
2. Güvendi Fındık G, Eroğlu HA, Adalı Y. Lower Gastrointestinal Endoscopic Biopsy Results of Kars Region. Kafkas J Med Sci. 2018;8(1):70–9.
3. Kosus A, Ates M, Kosus N. Endoscopic Findings In Women With Lower Gastrointestinal System Symptoms. Turkiye Klinikleri J Med Sci. 2008;28:635–9.
4. Lantinga MA, Theunissen F, Ter Borg PCJ, Bruno MJ, Ouwendijk RJT, Siersema PD. Impact of the COVID-19 pandemic on gastrointestinal endoscopy in the Netherlands: analysis of a prospective endoscopy database. Endoscopy. 2021; 53:166–170.
5. Korkmaz H, Kendir İC, Kerpiç O. Evaluation of colonoscopy outcomes with the indications, complications, and success of the procedure in our gastroenterology unit. Endoscopy. 2015; 23(1):9–13.
6. Şit M, Aktaş G, Yılmaz EE. Lower Gastrointestinal Endoscopy Results: Region of Ağrı Doğubayazıt. Medical Journal of Kocaeli. 2012;3:1–4.
7. Tamer A, Korkut E, Korkmaz U, Akcan Y. Low Gastrointestınal Endoscopy, An Institutional Results: Region of Düzce. The Medical Journal of Kocatepe. 2005;6:29–31.
8. Özgürsoy Uran BN, Yüksel Sarıtaş E, Avdal Ünsal E, Arkan B. Epidemiological characteristics and awareness of inflammatory bowel diseases: a cross-sectional study in Izmir. The Turkish Journal of Academic Gastroenterology. 2019;18:112–9.
9. Can G, Poşul E, Yılmaz B, Can H, Korkmaz U, Ermiş F, et al. The rates of incidence and prevalence of inflammatory bowel diseases in Bolu/Düzce Region: Retrospective cohort study between 2004-2013. Abant Med J. 2015;4:210–20.
10. Özin Y, Kılıç MZ, Nadir I, Cakal B, Disibeyaz S, Arhan M, et al. Clinical features of ulcerative colitis and Crohn's disease in Turkey. J Gastrointestin Liver Dis. 2009;18:157–62.
11. Tözün N, Atug O, Imeryuz N, Hamzaoglu HO, Tiftikci A, Parlak E, et al. Members of The Turkish IBD Study Group. Clinical characteristics of inflammatory bowel disease in Turkey: A multicenter epidemiologic survey. J Clin Gastroenterol. 2009;43:51–7.
12. Tezel A, Dökmeci G, Eskiocak M, Umit H, Soylu AR. Epidemiological features of ulcerative colitis in Trakya, Turkey. J Int Med Res. 2003;31:141–8.
13. Özden A. İnflamatuvar bağırsak hastalığının tarihine kısa bir bakış. Güncel Gastroenteroloji. 2013;17:294–301.
14. Ng SC, Shi HY, Hamidi N, Underwood FE, Tang W, Benchimol EI, et al. Worldwide incidence and prevalence of inflammatory bowel disease in the 21st century: a systematic review of population-based studies. Lancet. 2017;390(10114):2769–78.
15. Aygün C, Bahçecioğlu İH. Soliter Rektal Ülser Sendromu. Güncel Gastroenteroloji. 2010;14:35–8.