SCIE DOI: 10.14744/scie.2022.03206
South. Clin. Ist. Euras. 2022;33(4):413-416

Original Article

Lower Gastrointestinal System Polyps: Colonoscopy and Histopathological Features in 698 Cases

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Submitted: 28.06.2022
Revised: 28.06.2022
Accepted: 04.07.2022

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Keywords: Colon polyps; endoscopic polyps; multiple polyps.

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ABSTRACT

Objective: Colon is the region where most of the polyps are being observed in the gastrointestinal system. Colorectal cancers are an important cause of mortality and morbidity in our country and all over the world. Since these polyps originating from the submucosa and mucosal epithelium may be precancerous lesions, follow-up and treatment are also important. In our study, we evaluated the type, size, and number of colon polyps detected in our province and examined their histopathological precancerous status.

Methods: In our study, 698 colon polyp cases detected during 3654 colonoscopy examinations performed in the two large hospitals of our city in between 2013 and 2019, and underwent polypectomy or biopsy with the help of snare or forceps, were evaluated. The demographic characteristics of the patients, location of the polyps, number of polyps, sizes of the largest excised polyps, and pathological diagnoses have been evaluated.

Results: In our study, a total of 698 patients diagnosed with colon polyps were included in the study. A total of 1606 polyps were detected in 698 patients. The mean number of polyps per procedure was 2.3. In our study, the distribution of polyps according to their sizes was 527 (75.5%) diminutive polyps, 70 (10%) small polyps, and 101 (14.4%) large polyps. Polyps were observed most frequently from distal to proximal as 278 (39.8%) in the rectum and 175 (25.1%) in the sigmoid colon. The least polyp localization was seen in the cecum as 22 (3.2%). In the histopathological examination of polyps, tubular adenoma 47% and hyperplastic polyp were found most frequently. While no dysplasia was observed in 386 (55%) patients, 239 (34%) patients had low-grade dysplasia, 6 (0.9%) patients had moderate dysplasia, and 67 (9.6%) patients had high-grade dysplasia.

Conclusion: The fact that colon cancers are among the most common cancers of the gastrointestinal system increases the importance of colonoscopy evaluation since colon polyps are found frequently in the colon, the incidence increases by age, and they can be seen as precancerous lesions. Timely endoscopic evaluations and removal of detected polyps gain importance in terms of reducing the risk of cancer development.

INTRODUCTION

Polyps are structures arising from the mucosa or submucosa epithelium that protrudes into the intestinal lumen.[1] Polyps are important because they may be precancerous lesions for colorectal cancers (CRCs). CRCs are common in our country and in the world and they are among the important causes of mortality and morbidity.[2] The frequency of colorectal polyps is reported around 53–59% in men and 40–46% in women.[3] Polyps encountered during colonoscopy regardless of their number and size or whether they are stalked or sessile should be removed and examined histopathologically. Polyps are examined in two groups according to their histopathological features which are non-neoplastic (hyperplastic, inflammatory, hamartomatous, and Peutz-Jeghers polyp) and neoplastic (benign: Adenomas and malignant: Carcinomas) polyps. The most clinically important group is adenomas (adenomatous polyps), which have the risk of turning into CRC and constitute 2/3 of all colorectal polyps and are the main element of the neoplastic polyps group. Adenomas are histologically divided into three types as tubular, tubulovillous, and villous adenomas. Tubular adenomas are the most common histological type among adenomas, and they are usually diminutive and have the feature of low-grade dysplasia (LGD). Polyps are divided into three groups according to their size, which are diminutive (≤5 mm), small (6–9 mm), and large (≥10 mm) polyps. Most of the polyps detected

in colonoscopy are diminutive and small polyps less than 1 cm in size. As the polyp diameter increases, the frequency of villous features (tubulovillous and villous adenoma), dysplasia (especially high-grade dysplasia [HGD]) increases, which also increases the risk of CRC transformation.[4] Hyperplastic polyps are most frequently seen in non-neoplastic polyps, these are usually sessile and diminutive polyps around 1–3 mm in size. When the relationship between size and malignancy is considered; the 10 mm size of the polyp is accepted as the limit for the development of malignancy in guidelines, and the colonoscopy follow-ups of the patients vary according to the size of the polyp. Colorectal polyps are more common in the distal colon and rectum in parallel with the distribution of colorectal cancer.[5] In our study, we aimed to present the location, size, number, and histopathological examination results of polyps detected during the colonoscopies performed in two large public hospitals in our province within a determined time.

MATERIALS AND METHODS

Patients who underwent colonoscopy because of various reasons at two hospitals between April 2017 and December 2019 were retrospectively analyzed. Endoscopic and histopathological features of polyps detected during colonoscopy, which underwent polypectomy or biopsy with the help of snare or forceps, were examined in detail. Patients over the age of 18 whose colonoscopy and histopathology results were fully accessible from the hospital computer database were included in the study. The patients who had recurrent procedures and the patients under the age of 18 were excluded from the study. A total of 698 patients who met the study criteria were included in the study.

Statistical analysis

Statistical Package for the Social Sciences (SPSS 25 Inc., Chicago, IL, USA) computer software was used for bio-statistical analyses. The data obtained from the patients participating in the study were expressed as mean, standard deviation values, and as percentage where necessary.

RESULTS

A total of 698 patients who met the criteria during the study period were included in the study. A total of 1606 polyps were found in 698 patients, with the average of 2.3 polyps per procedure. Among the patients who had polyps, 478 (68.5%) were male and 220 (31.5%) were female. Two hundred and twenty-three (31.9%) patients were under the age of 50 and 475 (68.1%) were over the age of 50. The mean age of the patients was 55.2±14.9 (min: 18-max: 99) (Table 1).

In our study, the distribution of polyps according to their sizes was detected as 527 (75.5%) diminutive polyps, 70 (10%) small polyps, and 101 (14.4%) large polyps. The mean diameter of the polyps was 3 mm (min: 1-max: 50 mm) (Table 2). Distribution of polyps from distal to proximal according to their localization; 278 (39.8%) polyps were located in the rectum, 175 (25.1%) in the sigmoid colon, 109 (15.6%) in the descending colon, 60 (8.6%) in the transverse colon, 54 (7.7%) in the ascending colon, and 22 (3.2%) in the cecum. The most common polyp location

Table 1. Demographic characteristics of the patients

Demographic characteristics	Number (n)	%
Male	478	68.5
Female	220	31.5
Under 50 years of age	223	31.9
Over 50 years of age	475	68.1
Mean age	55.2±14.9	

Table 2. Polyp size

Size	Number (n)	%
Diminutive polyp	527	75.5
Small polyp	70	10
Large polyp	101	14.4

Table 3. Location of colon polyps

Location	Number (n)	%
Rectum	278	39.8
Sigmoid colon	175	25.1
Descending colon	109	15.6
Transverse colon	60	8.6
Ascending colon	54	7.7
Cecum	22	3.2

Table 4. Histopathology results of colon polyps

Histopathology	Number (n)	%
Tubular adenoma	328	47
Tubulovillous adenoma	59	8.5
Villous adenoma	4	0.6
Adenocarcinoma	45	6.4
Hyperplastic polyp	171	24.5
Inflammatory polyp	36	5.2
Juvenile polyp	8	1.1
Colitis	22	3.2
Lymphoid hyperplasia	6	0.9
Serrated polyp	8	1.1
Normal colonic mucosa	11	1.6
Dysplasia		
Low grade	239	34.2
High grade	67	9.6
Moderately differentiated	6	0.9

was 39.8% in rectum, the least common location was 3.2% in cecum (Table 3).

The results of histopathological examination of polyps were tubular adenoma 328 (47%), tubulovillous adenoma 59 (8.5%), villous adenoma 4 (0.6%), adenocarcinoma 45 (6.4%), hyperplastic polyp 171 (24.5%), inflammatory polyp 36 (5.2%), juvenile polyp 8 (1.1%), colitis 22 (3.2%), lymphoid hyperplasia 6 (0.9%), serrated polyp 8 (1.1%), and normal colonic mucosa 11 (1.6%). As a result of histopathological examination, dysplasia was not observed in 386 (55.3%) patients. Two hundred and thirty-nine (34.2%) LGD, 67 (9.6%) HGD, and 6 (0.9%) moderately differentiated were found (Table 4).

DISCUSSION

When cancer-related deaths are considered, CRCs appear as the second most common cause.[4,6] All polyps, especially adenomatous polyps, are important because they are precursor lesions for CRC. It has been reported that the colonoscopy polypectomy procedure reduces the incidence of CRC by 76–90%.[7] The average prevalence of colon polyps in studies is seen as 20–25%.[4,8] The incidence of colon polyps is 2–3 times more common in men. In our study, in accordance with the literature, it was 2 times more common in males. In the literature, the mean age of patients having polyps varies between 53 and 59 years in men, 40–46 years in women, and 43–61 years in general.[9] The mean age of the patients in our study was 57 years. It is known that the incidence of sporadic CRC increases, especially over 50 years of age. In our study, 68.1% of the patients who had polyps were over 50 years of age.

It has been shown in many studies that CRCs are classically located in the left colon, especially in the rectum and rectosigmoid region.[10] In recent studies, it has been shown that the location of CRC had the tendency of shifting from the left column to the right column. In our study, the frequency according to localization was 39.8% in the rectum, 40.7% in the left colon, 8.6% in the transverse colon, and 10.9% in the right colon. In accordance with the literature, it was observed more common in the rectum and left colon.

Polyp size (adenoma ≥10 mm), increasing number of polyps, and advanced histological features (>25% villous histology, presence of HGD, or cancer) are important criteria for the development of malignancy from polyps. Advanced histological features are seen less frequently in diminutive and small polyps than in large polyps.[4,11] When the polyp sizes were examined in our study, it was seen that there were 75.5% diminutive polyps, 10% small polyps, and 14.4% large polyps. The number of polyps below 1 cm was 85.5%. In the literature, the number of polyps below 1 cm is seen between 58.7 and 87.5%.[4] In studies, most of the colorectal polyps are adenomatous polyps from the neoplastic polyps group. Among adenomatous polyps, approximately 80–86% are tubular adenomas, 3–16% are villous adenomas, and 8–16% are tubulovillous adenomas.[7,12] In our study, 47% tubular adenoma, 8.5% tubulovillous adenoma, 6.4% adenocarcinoma, 24.5% hyperplastic polyp, 5.2% inflammatory polyp, 1.1% juvenile polyp, and 1.1% serrated polyp were seen.

CONCLUSION

CRC is among the most common cancers in our country and in the world. Colonoscopy is the gold standard method in the diagnosis of CRC. Colonoscopy screening programs are especially important for patients over the age of 50. Although we encountered polyps of the left colon more frequently in our study, examination of the entire colon, polypectomy for detected polyps, and histopathological examination are required.

Ethics Committee Approval

This study approved by the Harran University Clinical Research Ethics Committee (Date: 27.12.2021, Decision No: HRU/21.23.05).

Informed Consent

Retrospective study.

Peer-review

Externally peer-reviewed.

Authorship Contributions

Concept: Y.Y.; Design: Y.Y., H.D.; Supervision: Y.Y., H.D.; Fundings: Y.Y.; Materials: Y.Y., H.D.; Data: Y.Y.; Analysis: Y.Y., H.D.; Literature search: Y.Y.; Writing: Y.Y., H.D.; Critical revision: Y.Y., H.D.

Conflict of Interest

None declared.

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Alt Gastrointestinal Sistem Polipleri: 698 Olgunun Kolonoskopi ve Histopatolojik Özellikleri

Amaç: Kolon, gastrointestinal sistemde en çok polibin gözlendiği bölgedir. Ülkemizde ve tüm dünyada kolorektal kanserler önemli bir mortalite ve morbidite nedenidir. Submukoza ve mukoza epitelinden kaynaklı bu polipler prekanseröz lezyonlar olabileceği için takip ve tedavisi de önem kazanmaktadır. Bizde bu çalışmamızda ilimizde tespit edilen kolon poliplerinin tür, boyut ve sayı bakımından değerlendirdik ve histopatolojik olarak prekanseröz durumunu inceledik.

Gereç ve Yöntem: Çalışmamızda ilimizin iki büyük hastanesinde 2013–2019 yılları arasında yapılan 3654 kolonoskopik inceleme sonrasında tespit edilen, snare ya da forseps yardımı ile polipektomi ya da biyopsi uygulanan 698 kolon polipli vaka değerlendirmeye alındı. Hastaların demografik özellikleri, poliplerin yerleri, polip sayısı, eksize edilen poliplerden en büyük olanlarının boyutları, patolojik tanıları değerlendirmeye alındı.

Bulgular: Çalışmamızda kolon polibi tanısı konan toplam 698 hasta çalışmaya alındı. 698 sayıda hastada toplam 1606 sayıda polibe rastlandı. İşlem başına ortalama polip sayısı 2.3 idi. Çalışmamızda poliplerin boyutlarına göre dağılımı; 527'si (%75.5) diminitif polip, 70'i (%10) küçük polip, 101'i (%14.4) büyük polip olarak saptandı. Polipler distalden proksimale doğru en sık olarak rektumda 278 (%39.8), sigmoid kolonda 175 (%25.1) izlendi. En az polip lokalizasyonu ise 22 (%3.2) ile çekumda görüldü. Poliplerin histopatolojik incelemelerinde en sık tübüler adenom %47 ve hiperplastik polibe rastlandı. 386 (%55) hastada herhangi bir displazi izlenmezken 239 (%34) hastada low grade displazi 6 (%0.9) hastada orta dereceli displazi 67 (%9.6) hastada ise high grade displazi izlendi.

Sonuç: Kolon kanserlerin gastrointestinal sistemin en sık görülen kanserlerinden olması, kolonda sık olarak bulunan ve yaş ile görülme sıklığı artan kolon poliplerini prekanseröz lezyonlar şeklinde görülebileceğinden dolayı kolonoskopik değerlendirmenin öneminin arttırmaktadır. Endoskopik değerlendirmelerin zamanında yapılması ve tespit edilen poliplerin çıkarılması kanser gelişme riskini düşürme açısından önem kazanmaktadır.

Anahtar Sözcükler: Endoskopik polipler; kolon polipleri; multipl polipler.