Colon Polyps with All Features: Third Step Center Experience in the Eastern Mediterranean

Tüm Özellikleri ile Kolon Polipleri: Doğu Akdeniz'de Üçüncü Basamak Merkez Deneyimi

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ABSTRACT

Introduction: Colon polyps are proliferative and neoplastic lesions which originate from the mucosa, submucosa and protrude into the lumen. With this study, we aimed to reveal the demographic data, histopathological features, malignant potential and characteristics of patients with colonic polyp in our region by evaluating the results of 4-year colononoscopic polypectomy in our tertiary university clinic.

Methods: The records of patients over 18 years of age with polyps detected during colonoscopy and removed by polypectomy between 2014 and 2019 in our hospital were retrospectively analyzed. The demographic characteristics of the patients, localization, size, number and histopathological features of the polyps, and control colonoscopy results were evaluated.

Results: During this period, data of 240 polyps of 180 patients who underwent polypectomy in our clinic were analyzed. 125 (69%) of the patients were male and 55 (31%) were female. The average age of men was 59.2±14.4, and the mean age of women was 57.2±11.3. One hundred and thirty-seven people had a single polyp, 43 people had multiple polyps. When polyps are examined according to their localization; 27% was in the sigmoid colon, 24% in the rectum and 15% in the ascending colon. 82% of polyps were adenomatous polyp, 10% hyperplastic polyps, 3% adenocarcinoma, 3% inflammatory polyp. 67% of adenomatous polyps were tubular adenoma, 27% tubulovillous adenoma, 0.5% villous adenoma. 71% of adenomatous polyps had low grade dysplasia, 23% had high grade dysplasia. Adenocarcinoma was detected in 8 of the cases and intramucosal carcinoma was detected in 6% of the patients with adenomatous polyp. Colonoscopy controls were performed periodically in the cases, and recurrent polyps were detected in 52% and adenocarcinoma development in 2 patients.

Conclusion: The colon polyps were observed in our study were more frequently in the 5th and 6th decades, and more frequently

ÖZ

Amaç: Kolon polipleri mukoza ve submukozadan köken alan ve lümen içine doğru çıkıntı yaparak kitle oluşturan proliferatif ve neoplastik olabilen lezyonlardır. Bu çalışma ile üçüncü basamak üniversite kliniğimizde 4 yıllık kolononoskopik polipektomi sonuçlarını değerlendirerek bölgemizde kolon polibi saptanan hastaların demografik verilerini, histopatolojik özelliklerini, malignite potansiyellerini ve özelliklerini ortaya koymayı amacladık.

Yöntemler: Hastanemizde 2014-2019 yılları arasında kolonoskopide saptanmış ve polipektomi ile çıkarılmış polip olan 18 yaş üstü hastaların raporları geriye dönük olarak incelendi. Hastaların demografik özellikleri, poliplerin lokalizasyonları, büyüklükleri, sayıları ve histopatolojik özellikleri ve kontrol kolonoskopi sonuçları değerlendirildi.

Bulgular: Bu süre içinde kliniğimizde polipektomi yapılmış 180 hastanın 240 polibinin verileri incelendi. Hastaların 125'i (%69) erkek ve 55'i (%31) kadındı. Erkeklerin yaş ortalaması 59,2±14,4, kadınların yaş ortalaması ise 57,2±11,3 idi. Yüz otuz yedi kişide tek polip varken, 43 kişide birden çok polip vardı. Polipler lokalizasyonlarına göre incelendiğinde; %27 sigmoid kolonda, %24 rektumda ve %15'i çıkan kolonda idi. Poliplerin %82'si adenomatöz polip, %10 hiperplastik polip, %3 adenokarsinom, %3 enflamatuvar polipti. Adenomatöz poliplerin %67'si tübüler adenom, %27 tübülovillöz adenom, %0,5 villöz adenom idi. Adenomotöz poliplerin %71'inde düşük dereceli displazi, %23'ünde yüksek dereceli displazi vardı. Olguların 8'inde adenokarsinom, ayrıca adenomatöz polip saptanan hastaların %6'sında intramukozal karsinom tespit edilmisti. Olgularda kolonoskopi kontrolleri periyodik olarak yapılmış olup %52'sinde tekrar polipler ve 2 hastada adenokanser gelişimi saptanmıştı.

Sonuç: Bölgemizde saptadığımız kolon polipleri 5. ve 6. dekatta ve erkeklerde daha sık gördüğümüz, tek veya birden fazla sayıda olabilen sıklıkla neoplastik oluşumlardı. En sık

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ABSTRACT

in men, as single or multiple neoplastic formations. It is most commonly located in the left colon and were found to be malign at a rate of 9%. Detection of cancer precursor polyps and their removal by polypectomy show the importance of colon cancer screening programs and colonoscopy.

Keywords: Colon polyps, adenomatous polyps, colonoscopy

ÖZ

sol kolonda yerleşmektedir ve %9 oranında kanserleşmiş olarak saptanmıştır. Kanser öncüsü poliplerin saptanması ve polipektomi ile çıkarılması kolon kanseri tarama programlarının ve kolonoskopinin önemini göstermektedir.

Anahtar Kelimeler: Kolon polipleri, adenomatöz polipler, kolonoskopi

Introduction

Gastrointestinal polyps are proliferative and neoplastic lesions that originate from the mucosa and submucosa and form a mass by projecting into the gastrointestinal lumen. Gastrointestinal system polyps are most common in the colorectal region. The importance of colon polyps comes from its relationship with colon cancer. Colorectal carcinoma usually develops from an adenomatous polyp. Colorectal carcinoma is the second leading cause of cancer-related deaths in the western world (1). Colonic adenoma frequency increases with age and varies according to geography and ethnic origin (2,3). It is possible to detect and treat adenomatous polyps and early localized cancers that have not yet turned into cancer with screening programs. Colorectal cancer screening can reduce deaths from colorectal cancer with early detection. In this way, colorectal cancers are preventable and treatable diseases.

With this study, we aimed to reveal the demographic data, histopathological characteristics, malignancy potential and characteristics of patients with colonic polyp in our region by evaluating the 4-year colonoscopic polypectomy records.

Methods

The records of patients over the age of 18 who were diagnosed with colonoscopy, underwent polypectomy and diagnosed histopathologically between 2014-2019 in our hospital were retrospectively analyzed. Age and gender of all cases included in the study, histopathological type of colon polyps, location of polyps; the rectum, sigmoid colon, descending colon, transverse colon, ascending colon and cecum were divided into regions, and the number and size of polyps were recorded. In these patients, it was investigated whether malignancy developed according to the type of polyps and whether there was recurrence in the polyps. Patients with multiple polyp or recurrent polyp were included in the study as a different polyp. In this study, which was completed by retrospective file scanning, the consent of these patients was obtained during colonoscopy and the Mersin University Faculty of Medicine Local Clinical Trials Ethics Committee was obtained (approval number: 57, date: 22.01.2020).

Statistical Analysis

SPSS 21.0 for Windows program was used for statistical analysis. Descriptive statistical methods were used to evaluate the study.

Results

From the records, 12217 colonoscopy reports belonging to the range to be investigated were obtained. The data of 240 polypectomy materials obtained from 180 patients meeting the criteria were evaluated. 125 (69%) of these patients were male and 55 (31%) were female. The average age of men was 59.3±14.4, while that of women was 57.2±11.3. No serious complications developed in any of our patients who underwent polypectomy.

When we examined polyps according to their diameters, the diameter of 11 (4.6%) polyps was ≥ 2 cm, 84 polyps (35%) were 1-2 cm in diameter, and 45 (18.8%) polyps were 0.5-1 cm in diameter. The diameter of 100 (41.6%) polyps was ≤ 0.5 cm, that is, in the form of diminutive polyp (Table 1).

When we examined the polyps according to their localization in the colon, 64 (26.6%) of the polyps were in the sigmoid colon, 58 (24.2%) in the rectum, 36 (15%) in the ascending colon, 33 (13.3%) in the descending colon, and 27 (11.3%) in the transverse colon, 10 (4.1%) in the cecum, 4 (1.6%) in the entire colon, 4 (1.6%) in the anastomosis line, 2 (0.8%) in the hepatic flexure and 2 (0.8%) was observed in the splenic flexure (Table 2, Figure 1).

Table 1. Polyps by diameter		
	Number (n)	Percentage (%)
≥2 cm	11	4.6
≥1 cm and <2 cm	84	35
>0.5 cm and <1 cm	45	18.8
≤0.5 cm	100	41.6

Table 2. Colon polyps by localization				
	Number (n)	Percentage (%)		
Sigmoid colon	64	26.6		
Rectum	58	24.2		
Ascending colon	36	15		
Descending colon	33	13.3		
Transverse colon	27	11.3		
Cecum	10	4.1		
All colon	4	1.6		
Anastomosis line	4	1.6		
Hepatic flexure	2	0.8		
Splenic flexure	2	0.8		

According to histopathological features, 196 (81.6%) of the sample were adenomatous polyps, 24 (10%) hyperplastic polyps, 8 (3.3%) adenocarcinomas, 7 (2.9%) inflammatory polyps, 2 (0.8%) mixed type (hyperplastic + adenomatous), 2 (0.8%) mild chronic non-specific inflammation and 1 (0.4%) focal erosive area (Table 3).

Of the adenomatous polyps, 132 (67.4%) were tubular adenoma, 54 (27.5%) tubulovillous adenoma, 1 (0.5%) villous adenoma, 5 (2.5%) sessile serrated adenomatous polyps and 4 (1.9%) in the form of adenomatous flat polyps (Table 4). Adenomatous polyps had low-grade dysplasia in 140 (71.4%), and high-grade dysplasia 44 (22.4%) out of 196 patients.

Adenocarcinoma was detected in 8 of the cases. 5 of them were men and 3 of them were women and the mean age was 64.8±9.5. In addition, intramucosal carcinoma was detected in 12/196 (6.1%) of the patients with adenomatous polyp. Three of the patients with adenocarcinoma died, 2 of them were male and 1 were female and all were over 80 years old. Although the polypoid masses of these patients were in the transverse colon and their diameter was greater than 5 cm, they had no metastases and were operated. However, they passed away due to other

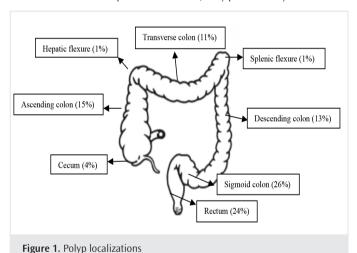


Table 3. Polyps according to histopathological features Number (n) Percentage (%) 81.6 Adenomatous polyp 196 Hyperplastic polyp 24 10 Adenocarcinoma 3.3 Inflammatory polyp 2.9 Mixed type (hyperplastic + adenomatous) 2 0.8

Chronic non-specific inflammation

Focal erosive area

Table 4. Characteristics of adenomatous polyps				
	Number (n)	Percentage (%)		
Tubular adenoma	132	67.5		
Tubulovillous adenoma	54	27.5		
Villous adenoma	1	0.5		
Sessile serrated adenoma	5	2.5		
Flat adenomatous polyp	4	1.9		

2

0.8

0.4

comorbidities. Polyp diameters of 3 patients were between 1-2 cm and one was located in the descending colon and two of them were located in the rectum. There were no signs of metastasis, only polypectomy was sufficient and the patients were still being followed up. Two of them were in 6th decade and women, with a polypoid mass in the sigmoid colon. The diameters were between 1 and 2 cm and had no signs of metastasis and were submitted to surgery. The patients were still being followed up. It was observed that seven polyps with intramucosal cancer were between 1-2 cm in diameter, four were smaller than 1 cm and one was larger than 2 cm. When we examined the patients with intramucosal carcinoma in terms of localization, eight were in the sigmoid colon, three were in the transverse colon and one was in the rectum.

We also examined the control colonoscopies of the patients and any polyps or malignancies that recurred after colonoscopy. Colonoscopy was performed only once in 92 (51%) patients. 88 (49%) patients had control colonoscopy multiple times. No recurrent polyps were detected in 79 (48%) of these colonoscopies, and recurrent polyps were detected in 85 (52%). Of these, 61 (72%) had recurrent polyp in the same localization, and 14 (38%) had different localization. 58 (68%) of these patients had the same histopathological type and 27 (42%) had different histopathological types. While previous polyps were adenomatous, 16 of those with different histopathological types in control had chronic non-specific inflammation and eight had hyperplastic polyps. Tubular adenoma was found in the follow-up of 8 patients who were found to have tubulovillous type at their first colonoscopy. While there was tubulovillous adenoma in one colonoscopy, villous adenoma was detected on repeated colonoscopy. Adenocarcinoma was detected in 2 of the control colonoscopies (2.2% of the cases).

Discussion

Colon polyps can be single or multiple in multiple localizations, with or without a pedicle, neoplastic or non-neoplastic. Non-neoplastic polyps are hyperplastic polyps, inflammatory polyps, submucosal polyps (lipoma, lymphoid polyps), juvenile polyps. Adenomatous polyps are neoplastic polyps. Although polyps are clinically generally asymptomatic, rectal bleeding and iron deficiency anemia are sometimes observed; in large polyps located in the left colon, the patient can come with obstruction. Colon polyps are frequently seen in the left colon and rectum (4).

When we looked at the mean age and gender distribution of our patients in our study, we found that it is more common in males and between the ages of 50-60, consistent with other studies conducted in our country (5,6). According to localization, polyps were mostly localized in the sigmoid colon (26.6%) and rectum (24.2%) and were similar to the literature data (4).

Colorectal polyps are adenomatous polyps that are mostly neoplastic (81%). Adenomas are examined in three groups in size as those below 1 cm, between 1-2 cm and larger than 2 cm. Most adenomas are smaller than 1 cm. Those smaller than 0.5 cm are called diminutive polyps (4). Studies have reported that as the diameter of the polyp increases, the risk of dysplasia and malignancy increases, and the risk of malignancy is 10% higher in polyps that are 2 cm or larger (5). In our study, 41.6% of

the polyps were diminutive polyps, and 54% were between 0.5 and 2 cm. 4.6% of them were larger than 2 cm. In our cases, when the diameter of the polyp increased, the degree of dysplasia increased in accordance with the literature (4,5).

Adenomatous polyps according to their histopathology were tubular (65-80%), tubulovillous (10-25%) and villous (5-15%) adenoma (4,7,8). 67.4% of our cases were tubular adenoma, 27.5% were tubulovillous adenoma, which was consistent with the literature. Tubular adenomas can become malignant in 0-25%, tubulovillous adenomas in 25-75% and villous adenomas in 75-100%. Villous histology, increased polyp size, high-grade dysplasia, and an increase in the number of polyps are risk factors for cancer (3,4,9). Studies have reported that the rate of low-grade dysplasia in adenomatous polyp is 19-20.8%, and the rate of high-grade dysplasia is 6,7-8% (9,10). The low-grade dysplasia rate in adenomatous polyps in our study was 71.5% and the high-grade dysplasia rate was 22.5%. In our patients with high-grade dysplasia, polyps were found to recur on control colonoscopies, and 6.1% of them had progressed to intramucosal carcinoma. This finding may be due to the more aggressive course of lesions with high-grade dysplasia. In addition, 3.3% of all polyps had adenocarcinoma. This high rate indicates that polyps should be removed as soon as they detected and post-polyp follow-up colonoscopies are important.

Flat adenoma was detected in 1.9% of the cases. Typically, these lesions less than 1 cm in diameter can be easily overlooked on endoscopy. It is known that the progression of these adenomas to cancer is much faster than other types of adenomas (4). All of our cases were smaller than 1 cm and no malignancy was detected. There was also a 2.5% rate of sessile serrated adenoma. These adenomas, which have the characteristics of both adenomatous and hyperplastic polyps, rapidly lead to cancer development (4). In all of our cases, low-grade dysplasia was detected in sessile serrated adenomas, all of which were less than 1 cm in diameter.

Hyperplastic polyps consist of normal cellular components with normal structure and proliferative properties, do not show dysplasia, and have a characteristic "saw tooth" pattern. They are often 5 mm or less in size (4,11,12). 10% of our patients had hyperplastic polyp and 0.8% had mixed (adenomatous + hyperplastic) polyp. All of these polyps were under 1 cm and 61.5% of them were in the recto sigmoid region. None of them had dysplasia.

Inflammatory polyps are non-neoplastic intraluminal mucosa projections consisting of stromal and epithelial components and inflammatory cells. Inflammatory pseudo polyps are irregularly shaped islands of residual intact colonic mucosa that result from mucosal ulceration and regeneration in response to localized or widespread inflammation (e.g. ulcerative colitis or Crohn's disease) (4). In 2.9% of our patients, there was inflammatory polyp, all of them larger than 1 cm in diameter and none of them had dysplasia. All of them had inflammatory bowel disease.

If adenomatous polyp is detected in the colon, control colonoscopy should be performed at certain intervals after polypectomy. Because if there is an adenoma in the colon, it means that the colon tends to develop malignancy and new adenomatous polyps may develop over time. Another reason for repeated colonoscopy is for the detection and treatment of polyps that may have been overlooked at the first colonoscopy (13-19). The timing of the next control colonoscopy is based on the findings of the initial colonoscopy. If no adenoma is found on the first surveillance colonoscopy, the next surveillance colonoscopy should be performed within five years (14,20). Patients with an advanced adenoma appear to be at high risk for colorectal at any examination and should have a short follow-up interval (1-3-5 years) for subsequent control colonoscopies (14,20). When we examined our repeated colonoscopies (49%), recurrent polyps were detected in 52% of them, and 72% were found to be in the same localization. It was observed that these were 42% different types compared to the previous histopathological type, 2 had adenocarcinoma and 1 had intramucosal cancer. All these results show that control colonoscopies should definitely be performed after the first colonoscopy.

Conclusion

It was determined that colon polyps in patients who underwent colonoscopy for various reasons in our region were more common in males and in the 5th and 6th decades, and most of them were neoplastic polyps. In the first colonoscopy, a high rate of early stage cancer (9%) was detected and treated. Detection of recurrent polyps and cancer in control colonoscopies once again demonstrated the importance of follow-up of these patients.

Ethics Committee Approval: The Mersin University Faculty of Medicine Local Clinical Trials Ethics Committee was obtained (approval number: 57, date: 22.01.2020).

Informed Consent: The consent of these patients was obtained during colonoscopy.

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