

Stomach Polyps; 264 Retrospective Analysis of Upper Gastrointestinal System Endoscopy

Mide Polipleri; 264 Üst Gastrointestinal Sistem Endoskopisinin Retrospektif Analizi

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Öz

Amaç	Çalışmamızda amacımız endoskopi kliniğimizde mide polip tanısı ile polipektomi yapılmış olan hastalarımızın verilerini polipin tipi, boyutu, sayısı ve histopatolojik değerlendirme sonuçlarının literatür verileri ile değerlendirilmesidir.
Gereç ve Yöntemler	Çalışmamızda Şanlıurfa Eğitim ve Araştırma Hastanesi ile Mehmet Akif İnan Eğitim ve Araştırma Hastanesinde 2014-2019 yılları arasında yapılmış olan 9654 üst gastrointestinal sistemi endoskopisinde tespit edilen ve polipektomi yapılan 264 vakanın histopatolojik ve demografik verileri retrospektif olarak incelendi.
Bulgular	Hastaların 140'ı erkek, 124'ü ise kadındı. Yaş ortalaması kadınlarda 55.8, erkeklerde 54.4 idi. 185 (%70.1) olguda hiperplastik polip, 15 (%5.7) olguda fundik gland polibi, 8 (%3.0) olguda adenomatöz polip, 16 (%6.1) olguda inflamatuvar polip, 18 (%6.8) olguda foveolar hiperplazi, 19 (%7.2) olguda lenfoid hiperplazi, 1 (%0.4) olguda karsinoid tm, 1 (%0.4) olguda adenokarsinom, 1 (%0.4) olguda leiomyom olarak raporlandı. Yerleşim yerlerine göre 142 (%53.8) tanesi antrumda, 73 (%27.7) tanesi korpusta, 28 (%10.6) tanesi fundusta, 20 (%7.6) tanesi kardiada, 1(%0.4) tanesi pilorde idi. Hastalarımızın %75.4 prekanseröz lezyon saptanmamıştır. 53 (%20.1) vakada metaplazi, 6 (%2.3) vakada atrofi, 5 (%1.9) vakada low grade displazi, 1 vakada ise high grade displazi saptanmıştır.
Sonuç	Mide polipleri genellikle rastlantsal olarak saptanan polipler olup en sık antrumda ve karpusta görülürler. Hiperplastik polipler en sık görülen polip türü olup helicobacter pylori ile ilişkisi kanıtlanmıştır. Çalışmamız sonuçları literatüre uygun olarak benzerlik göstermektedir.
Anahtar kelimeler	Mide polipleri, Hiperplastik polipler, Endoskopi

Abstract

Objective	The main objective of our study was to evaluate the data of our patients who underwent polypectomy with the diagnosis of gastric polyp in our endoscopy clinic by comparing type, size, number and histopathological evaluation results of the polyps with the literature data.
Materials and Methods	In our study, the histopathological and demographic data of 264 cases who were detected among 9654 upper gastrointestinal endoscopies and underwent polypectomy performed in Şanlıurfa Training and Research Hospital and Mehmet Akif İnan Training and Research Hospitals in between the years 2014-2019 were retrospectively analyzed.
Results	Among our patients 140 were male and 124 were female. The mean age was 55.8 in females and 54.4 in males. The results were reported as hyperplastic polyp in 185 cases (70.1%), fundic gland polyps in 15 cases (5.7%), adenomatous polyps in 8 cases (3.0%), inflammatory polyps in 16 cases (6.1%), foveolar hyperplasia in 18 cases (6.8%), lymphoid hyperplasia in 19 cases (7.2%), carcinoid tumor in 1 case (0.4%), adenocarcinoma in 1 case (0.4%) and leiomyoma in 1 case (0.4%). According to their location, 142 (53.8%) were in the antrum, 73 (27.7%) were in the corpus, 28 (10.6%) were in the fundus, 20 (7.6%) were in the cardia, and 1 (0.4%) were in the pylorus. No precancerous lesions were detected in 75.4% of our patients. Metaplasia in 53 (20.1%) cases, atrophy in 6 (2.3%) cases, low-grade dysplasia in 5 (1.9%) cases, and high-grade dysplasia in 1 case were detected.
Conclusion	Stomach polyps are usually incidentally detected polyps which are most commonly seen in the antrum and corpus. Hyperplastic polyps are the most common type of polyp and their relationship with helicobacter pylori has been proven. The results of our study were correspondingly similar to the findings in literature.
Keywords	Gastric polyps, Hyperplastic polyps, Endoscopy

INTRODUCTION

Stomach polyps are usually epithelial-derived lesions that are usually detected incidentally during upper gastrointestinal system endoscopy and which grow as pedunculated polyp or sessile polyp.^{1,2} The gastric polyps which are rarely symptomatic may present with bleeding, iron deficiency anemia, abdominal pain and gastric pyloric obstruction when they reach large sizes.²⁻⁵ The World Health Organization has classified gastric polyps in 3 groups. These are non-neoplastic polyps, neoplastic polyps and reactive polypoid lesions.⁶ Although gastric polyps are various, nonneoplastic hyperplastic and fundic gland polyps are encountered most commonly. Also, the most common neoplastic polyps are adenomatous polyps.^{2,3,7} The main objective of the study was to make contribution to the literature by evaluating the demographic characteristics of the patients who underwent “polypectomy” with the diagnosis of gastric polyps in the endoscopy clinic and the pathological features of the polyps detected in these patients, and also by comparing them with other studies on this subject.

MATERIALS and METHODS

The sample of the study consists of 264 cases who were detected by the polypectomy made after 9,654 upper gastrointestinal system endoscopy performed in Şanlıurfa Training and Research Hospital and Mehmet Akif İnan Training and Research Hospitals in between the years 2014-2019. The study was initiated after obtaining the approval numbered E2-22-1624 of the Ankara City Hospital clinical research ethics committee. In the study, the relationship between the age and gender of the cases and the histopathological features of the polyps, whether they contain precancerous lesions, their size, location, number and helicobacter pylori positivity of the cases were evaluated. The compliance of the data with the normal distribution was reviewed, and after it was observed that they were not normally distributed, the evaluation was made with non-parametric tests. All variables were categorized and the correlation was evaluated with the Chi-Square Test of Independence.

SPSS 20.0 package program and Excel Office program were used to analyze the data in the study. Descriptive statistics of the sample were obtained, and then Chi-Square Tests of Independence were applied to reveal the correlation of the variables.

RESULTS

Among the 264 gastric polyp cases evaluated in the study, 140 were female and 124 were male. The mean age of the patients was 55.2. While this average was 55.8 in female patients, it was 54.4 in male patients.

The polyps were detected in the antrum as 53.8% (142 cases), in the corpus as 27.7% (73 cases), in the fundus as 10.6% (28 cases), in the kardia as 7.6% (20 cases) and in the pylorus as 0.3% (1 case).

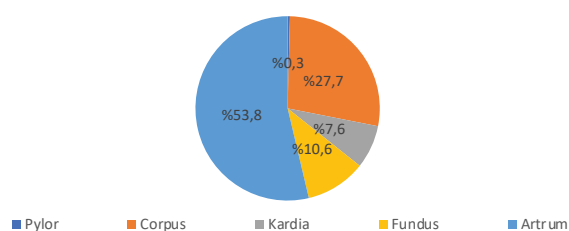


Figure 1. Distribution of Polyps Based on Location

While 173 patients had single polyps, 62 patients had two and 29 patients had multiple polyps. The histopathological features of the samples taken from the patients are shown in Table 1.

Histopathological Characteristics	Frequency (n)	Percentage (%)
Hyperplastic	185	70,1
Lymphoid Hyperplasia	19	7,2
Foveolar Hyperplasia	18	6,8
Inflammatory	16	6,1
Fundic Gland	15	5,7
Adenomatous	8	3,0
Intramucosal Adenocarcinoma	1	0,4
Carcinoid Tumor	1	0,4
Leiomyoma	1	0,4
Total	264	100,0

Precancerous lesions were found to be “negative” in 199 (75.4%) of the cases, while metaplasia in 53 cases (20.1%), atrophy in 6 cases (2.3%), low-grade dysplasia in 5 cases (1.9%) and high grade dysplasia in 1 case (0.3%) were detected.

The incidence of intestinal metaplasia in patients with histopathologically hyperplastic polyps was 67.9%, which was significantly higher than other precancerous cases.

In the study, 112 patients with positive helicobacter pylori were detected. Hyperplastic polyps were detected in 64.3% of Helicobacter pylori positive cases. In addition, 1 high-grade dysplasia and 2 low-grade dysplasia were detected in 8 cases of adenomatous polyp, which is one of the neoplastic polypoid lesions.

Table 4. Test Results of the Correlation Between the Polyp Location and Other Examined Variables

Polyp Location and Correlation Examined Variable	Z ² Calculated Value	p-value	Cocclusion	Result
Helicobacter pylori	5,447	0,244	H0 Accepted	Uncorrelated
Gender of the Patient	14,722***	0,005	Ho Rejected	Correlated

*p<=0.10 **p<=0.05 ***p<=0.01

Table 2. Correlation Between the Number of Polyps and Other Variables

Number of Polyps and Examined Variable	Z ² Calculated Value	p-value	Result
Precancerous Lesion	5,127	0,744	Uncorrelated
Location of the Polyp	7,240	0,511	Uncorrelated
Size of the Polyp (mm)	10,135**	0,038	Correlated
Age of the Patient	3,669	0,453	Uncorrelated
Gender of the Patient	1,220	0,543	Uncorrelated

mm: millimeter, *p<=0.10 **p<=0.05 ***p<=0.01

As seen in Table 2, there is a statistically significant correlation between polyp size and polyp number at 95% confidence level.

Table 3. Correlation Between Polyp Size and Other Variables

Polyp size and Correlation Examined Variable	Z ² Calculated Value	p-value	Result
Helicobacter pylori	6,653**	0,036	Correlated
Location of the Polyp	4,460	0,799	Uncorrelated
Age of the Patient	10,791**	0,029	Correlated
Gender of the Patient	0,186	0,911	Uncorrelated

*p<=0.10 **p<=0.05 ***p<=0.01

There is a 95% significant correlation between polyp size and helicobacter pylori and gender of the patient. The 70.4% of 0-5 mm polyps are hyperplastic. According to odds ratio the probability of being positive for helicobacter pylori in patients with a polyp size of 0-5 mm is 2.06 times higher than patients having polyps of 5 mm or larger size. Helicobacter pylori was negative in 70.7% of patients with polyp size of 5 mm or more. In patients aged 50 and over, the probability of having 5 mm and above polyp size is 1.26 times higher than the patients in 18-50 age group.

The 80.3% of polyps located in antrum and 90% of polyps located in cardia are hyperplastic polyps. The 50% of polyps located in fundus are fundic gland polyps. Also, 58.9% of the polyps located in corpus are hyperplastic polyps. When the correlation between the histopathological characteristics of the polyps and their location in stomach is considered it was statistically significant that hyperplastic polyps were located in antrum and cardia.

The 85.7% of the polyps located in fundus region and 55.0% of the polyps located in cardia region were detected in female patients. The 52.1% of the polyps located in corpus region were detected in male patients. Statistically, it was observed that polyps located in fundus and cardia were more common in women and polyps located in corpus were more common in men.

There is a statistically significant correlation between the age of the patient and presence or absence of helicobacter pylori at 95% confidence level.

There was no statistically significant correlation detected between the gender of the patient and the helicobacter pylori status and precancerous lesion finding. While the rate of helicobacter pylori positivity is 48.2% in patients

aged 18-50 years, this rate is 39.8% in patients aged 50 and over. According to the calculated odds ratio, the probability of helicobacter pylori positivity in patients aged 18-50 is 1.41 times more than the patients aged 50 and over. Hyperplastic polyps were seen in 74.3% of the patients who were found negative for helicobacter pylori. Helicobacter pylori was positive in 63.2% of the polyps having lymphoid hyperplasia and was negative in 87.5% of the adenomatous polyps. According to the odds ratio, the probability of being negative for helicobacter pylori in patients with hyperplastic polyps is 1.61 times more than the probability of being negative for helicobacter pylori in other polyps.

Precancerous lesion was negative in 76.8% of the patients having hyperplastic polyps; 66.7% of atrophic precancerous lesions were detected as hyperplastic. According to the odds ratio, the probability of precancerous lesion negative pathologies to be "hyperplastic" is 1.18 times the probability of metaplasia lesions to be hyperplastic. Helicobacter pylori was positive in 67.9% of the patients having metaplasia as a precancerous lesion. Helicobacter pylori was negative in 64.8% of the patients without precancerous lesions. According to the calculated odds ratio, the probability of occurrence of helicobacter pylori in patients having metaplasia as a precancerous lesion is 3.90 times more than the patients without precancerous lesions.

Table 5. Test Results of Age of the Patient and Correlation Examined Variables

Age of the Patient and Correlation Examined Variable	Z ² Calculated Value	p-value	Cocclusion	Result
Precancerous Lesion	6,982	0,539	H0 Accepted	Uncorrelated
Helicobacter pylori	8,310**	0,016	H0 Rejected	Correlated
*p<=0.10 **p<=0.05 ***p<=0.01				

Table 6. Test Results of the Gender of the Patient and Correlation Examined Variables

Gender of the Patient and Correlation Examined Variable	Z ² Calculated Value	p-value	Cocclusion	Result
Precancerous Lesion	3,194	0,526	H0 Accepted	Uncorrelated
Helicobacter pylori	0,121	0,728	H0 Accepted	Uncorrelated
*p<=0.10 **p<=0.05 ***p<=0.01				

Finally, the correlation between whether the polyp contains a precancerous lesion and helicobacter pylori was examined, and a statistically significant correlation was found between the precancerous lesion and helicobacter pylori at 99% confidence level. According to the calculated Phi correlation coefficient, the precancerous lesions in polyps increases by 30.3% in the presence of Helicobacter pylori.

DISCUSSION

Gastric polyps, which are one of the most common benign lesions in stomach, are lesions that usually occur coincidentally and are frequently seen in the 5th and 6th decades. Although the incidence of gastric polyps varies according to geographical locations, it has been reported in the literature that they are seen in 0.6-6% of gastroscopies performed.⁸⁻⁹ In this study, similar to the literature data, gastric polyps were found in 2.73% of 9653 upper gastrointestinal endoscopy examinations. Among gastric polyps, hyperplastic polyps are most common with a rate of 70%, followed by fundic gland polyps with 16% and adenomatous polyps with 12%, respectively.¹⁰⁻¹³ In this study, the rate of hyperplastic polyp was 70.1%, fundic gland polyp was 5.7% and adenomatous polyp was 3.0%, followed by lymphoid hyperplasia (7.2%), foveolar hyperplasia (6.8%) and inflammatory (6.1%) polyps in terms of incidence.

Stomach polyps are polyps that can be seen more than one. The incidence of multiple gastric polyps increases with older age.¹⁴ In this study, the average number of polyps in patients younger than 65 years of age was 1.53. In patients over 65 years of age, the average number of polyps was calculated as 1.77 and no statistically significant relationship was found between the age of the patient and number of polyps. Gastric polyps are most commonly seen in antrum and corpus and in the literature review, it was concluded that they were seen in 25% in antrum, 36% in corpus, 10% in fundus, and 1.4% in pylorus.¹⁵ In our study, unlike the literature, it was observed that gastric polyps were seen

53.8% antrum, 27.7% in corpus, 10.6% in fundus and 7.6% in cardia. In cases with positive helicobacter pylorus, the incidence of gastric hyperplastic and adenomatous polyps increases.^{16,17} In this study, 64.3% of 112 cases with positive helicobacter pylori had hyperplastic polyps and 10.7% of them had lymphoid hyperplasia. It has been statistically demonstrated that helicobacter pylori positivity is effective at a rate of 22.4% in the emergence of the hyperplastic, adenomatous and lymphoid hyperplasia etc. findings. In terms supportive data in this study, helicobacter pylori was found positive in 38.9% (72 cases) of patients having hyperplastic polyps. In our study, contrary to the literature, helicobacter pylori was seen more frequently in adenomatous polyps and lymphoid hyperplasia and also hyperplastic polyps were detected in 74.3% of the cases having negative helicobacter pylori.

In the study, intestinal metaplasia was detected in 19.5% of the patients who were found to have hyperplastic polyps as a result of histopathological examinations.

Besides, it was concluded that this rate increased to 30.6% in cases having hyperplastic polyps and positive helicobacter pylori. In the literature, there are studies reporting that mucosal destruction made by helicobacter pylori causes this finding.^{16,18} The diameter of gastric polyps was found to be smaller than 10 mm on average in the literature, and as supportive data the mean polyp diameter was found to be 4.5 mm in this study.^{16,19} In our study, 72.4% of the polyps having the size of 5 mm and above were histopathologically observed as hyperplastic.

CONCLUSION

Gastric polyps are lesions that are detected and excised during gastroscopies. Although gastric polyps are usually benign, they may also have malignant character. Although they are rarely seen, because of their malignant characteristic, association with helicobacter pylori in gastric polyps and their histopathological characteristics after excision play an important role in the follow-up of the polyps.

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