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GASTRIC POLYPS: A RETROSPECTIVE ANALYSIS OF 5-YEAR SINGLE CENTER RESULTS

5 YILLIK TEK MERKEZ SONUÇLARININ RETROSPEKTİF ANALİZİ

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ABSTRACT

Introduction: Gastric polyps are mostly asymptomatic, seen incidentally on oesophagogastroduodenoscopy and are mostly benign lesions. They are less common than colon polyps and have a lower malignant potential. The main determinant of treatment planning is the histopathological features of the polyp. In this study, we aimed to retrospectively investigate the frequency, age, gender and localisation distribution, histopathological features, association with Helicobacter pylori (HP) and the presence of intestinal metaplasia (IM) in gastric polyps detected in our endoscopy unit.

Methods: Endoscopy reports of 4004 patients who underwent oesophagogastroduodenoscopy between January 2017 and January 2022 were retrospectively reviewed. The data of 67 patients with histopathological polyps were evaluated. Age, gender, endoscopic examination findings and histopathological data of the patients were obtained from hospital records and evaluated retrospectively.

Results: The lesions sampled in 67 (1.67%) of 4004 patients were histopathologically evaluated as polyps. Of the patients with polyps, 41 (61.19%) were female and 26 (38.81%) were male. The mean age of the patients was 60.28 years (38-87). The mean polyp diameter was 7.40 (3-60) mm. HP was positive in 18 of 58 patients (32.14%). IM was positive in 9 of 56 patients (16.07%). HP coexistence was present in 6 (66.67%) of these patients.

Conclusion: It is important to perform biopsy or polypectomy when polyps are detected in esophagogastroduodenoscopy and histopathological evaluation of the lesions found in the specimen in gastric resections. This evaluation is thought to contribute to the detection of possible malignancies. Investigation of the presence of HP and IM in patients with polyps due to the potential for malignancy development will contribute to early diagnosis and treatment.

Keywords: Gastric polyp, Helicobacter pylori, intestinal metaplasia, malignancy

ÖZET

Giriş: Gastrik polipler çoğunlukla asemptomatiktir, özofagogastroduodenoskopide rastlantısal olarak görülür ve çoğunlukla benign lezyonlardır. Kolon poliplerinden daha az görülürler ve daha düşük malign potansiyele sahiptirler. Tedavi planlamasının ana belirleyicisi polibin histopatolojik özellikleridir. Bu çalışmada, endoskopi ünitemizde saptanan gastrik poliplerin sıklığını, yaş, cinsiyet ve lokalizasyon dağılımını, histopatolojik özelliklerini, Helicobacter pylori (HP) ile ilişkisini ve intestinal metaplazi (İM) varlığını retrospektif olarak araştırmayı amaçladık.

Yöntemler: Ocak 2017 ile Ocak 2022 tarihleri arasında özofagogastroduodenoskopi yapılan 4004 hastanın endoskopi raporları retrospektif olarak incelendi. Histopatolojik polip saptanan 67 hastanın verileri değerlendirildi. Hastaların yaş, cinsiyet, endoskopik muayene bulguları ve histopatolojik verileri hastane kayıtlarından elde edildi ve retrospektif olarak değerlendirildi.

Bulgular: İncelenen 4004 hastadan, 67(%1,67) kişide örneklenen lezyonlar histopatolojik olarak polip olarak değerlendirildi. Polip saptanan hastaların 41'i (%61,19) kadın ve 26'sı (%38,81) erkekti. Hastaların ortalama yaşı 60,28 (38-87) idi. Ortalama polip çapı 7,40 (3-60) mm idi. HP 58 hastanın 18'inde (%32,14) pozitifti. IM 56 hastanın 9'unda (%16,07) pozitifti. Bu hastaların 6'sında (%66,67) HP birlikteliği mevcuttu.

Sonuç: Özofagogastroduodenoskopide polip saptandığında biyopsi veya polipektomi yapılması, mide rezeksiyonlarında ise spesmende saptanan lezyonların histopatolojik olarak değerlendirilmesi önemlidir. Bu değerlendirmenin olası malignitelerin tespitine katkı sağlayacağı düşünülmektedir. Malignite gelişme olasılığı nedeniyle polip saptanan hastaların HP ve IM varlığının araştırılmasının erken tanı ve tedaviye katkı sağlayacaktır.

Anahtar Kelimeler: Gastrik polipler, Helicobacter pylori, İntestinal metaplazi, malignite

INTRODUCTION

Gastric polyps are usually asymptomatic and are detected during endoscopic procedures due to complaints such as anemia and dyspepsia (1). In the literature, the incidence of gastric polyps is reported to be between 0.3-6%. The prevalence of different polyp subtypes is highly variable. With the increase in the frequency of endoscopy use and modern developments in endoscopy, there is an increase in the frequency of gastric polyp detection, Studies have shown that the prevalence of gastric polyps increased from 1.0% to 4.70% between 2004 and 2013 (2). Gastric polyps can be seen in different parts of the stomach. They originate from different cells and tissues. There are many subgroups of gastric polyps and there is no clear differentiation of these polyps endoscopically. Histopathological examination is considered essential for definitive diagnosis. Gastric

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polyps can be either neoplastic or non-neoplastic. The most common types of gastric polyps are hyperplastic polyps and fundic gland polyps. Those reported as adenocarcinoma, neuroendocrine tumor or ectopic pancreatic tissue are less frequent (3-5). Compared to colorectal polyps, the majority of gastric polyps are not neoplastic (6). In patients with Helicobacter pylori (HP) infection, hyperplastic and adenomatous polyps are more common than other polyps. Intestinal metaplasia (IM), on the other hand, is a precancerous lesion and requires close follow-up due to the risk of gastric cancer. It is thought that this evaluation will contribute to the detection of possible malignancies and investigating the presence of HP and IM in positive cases due to the possibility of malignancy development will contribute to increased awareness and early diagnosis.

METHODS

Patients who underwent esophagogastroduodenoscopy for various reasons in the General Surgery Endoscopy unit of our hospital between January 2017 and January 2022 and whose histopathological examination was found to be compatible with gastric polyp among the lesions described as gastric polyps in the procedure were included in the study. Endoscopy reports of patients who underwent retrospectively reviewed. The procedures were performed by General Surgery specialists using the Fujinon 4400 device. Among the lesions defined as gastric polyps in esophagogastroduodenoscopy, those whose histopathological examination was found to be compatible with gastric polyp were included in the study. Age, gender, patient's history, family history, endoscopy findings and histopathological data of the patients were obtained from hospital records.

Ethics committee approval was obtained from the ethics committee of Istanbul Medeniyet University with the number 2022/0326.

Statistical analysis was performed with use of standard descriptive statistical methods (mean, median, percentage, minimum, maximum).

RESULTS

Within the scope of the study, polypectomy was performed on 128 patients with endoscopic polyp image in 4004 esophagogastroduodenoscopy procedures performed in the defined period. The histopathological examination of the sampled lesions of 67 of these patients was reported to be compatible with gastric polyp, while the lesion result of 61 patients was not considered to be compatible with polyp. Of these 67 patients, 41 (61.19%) were female and 26 (38.81%) were male. The mean age of the patients was 60.28 years (38-87). A total of 80 gastric polyp samples were obtained from these 67 patients. Polyp diameter was larger than 1 cm in 10 patients, and lesions were less than 1 cm in 57 patients. The mean polyp diameter was found to be 7.40 (3-60) mm (Table 1).

Polypectomy was performed with the help of snare in 8 of these 67 patients, and polypectomy was performed with the help of forceps in 58 patients. Surgical polypectomy was performed in one patient because polypectomy could not be performed endoscopically. While 18 (27%) of the patients had more than one polyp, 49 (73%) patients had a single polyp. Multiple sessions of polypectomy were performed in five of the patients with gastric polyps. Two patients had a previous history of polypectomy. In both sexes, the most common polyp localization was the gastric corpuscle. In a total of 30 (37.5%) patients, gastric polyp corpus was localized (Table 2).

The most common type of polyp histopathologically was hyperplastic polyp. Hyperplastic polyps were observed in 39 (58.21%) patients. Polypoid lesions of 2 patients who were evaluated endoscopically as hamartomatous polyps were compatible with Peutz-Jeghers Syndrome in histopathological examination. Colonoscopy performed on these two patients revealed polyps in the colon. It was learned that the family members of one of these patients also had Peutz-Jeghers Syndrome. In the histopathological examination after polypectomy, malignancy was detected in a total of 4 patients. Polyp diameter was over 1 cm in 4 patients with malignancy. Adenocarcinoma was found in two of the patients and a Neuroendocrine tumor in one. In the histopathological examination of the polyp, which was detected in a patient with a previous history of subtotal gastrectomy for gastric carcinoma, the lesion was reported to be compatible with adenocarcinoma recurrence (Table 3).

Lesions of 67 patients in the study were also evaluated in terms of HP and IM. In 9 patients, it was observed that polypectomy material was not examined for HP and IM. HP was positive in 18 (32.14%) of the 58 patients examined, IM was positive in 9 (16.07%). This coexistance is stimulating

Table 1. Patient's characteristics.

Localization of polyps	Gender M/F	Number	%	Diameter of the polyp <1CM/ 1CM≤	The presence of malignity	HP+	IM+
Cardia	9/9	18	22,5	16/2	1	3	2
Fundus	6/5	11	13,75	11/0	0	2	1
Corpus	17/13	30	37,5	25/5	3	8	5
Antrum	12/7	19	23,75	17/2	0	7	3
Duodenum	0/2	2	2,5	1/1	0	1	0

M: Male, F: Female, HP: Helicobacter pylori, IM: Intestinal metaplasia

Table 2. Localization of polyps.

Localization of polyps	n	%
Cardia	18	22,5
Fundus	11	13,75
Corpus	30	37,5
Antrum	19	23,75
Duodenum	2	2,5

n: Number of polyps

in terms of its potential to increase the risk of developing malignancy HP association was present in 66.67% of the cases with IM (Table 4).

DISCUSSION

Upper gastrointestinal system polyps are usually asymptomatically detected incidentally during endoscopic examinations performed for other reasons. It is less common than colon polyps. There is no general consensus on the management of incidental gastric polyps, but the general trend is to perform or sample all polyps larger than 5 mm. The prevalence of gastric polyps shows regional variations. The prevalence of gastric polyps varies in a wide range between 0,34-29.8% in studies (7). In the study of Wang et al., the incidence of gastric polyps was reported as 29.8%, which is higher than the literature (2, 8, 9). In a study by Vatansever et al. conducted on 29940 patients in 2015, the prevalence of polyps was found to be 2.2%(10). In our study, 4004 patients underwent esophagogastroduodenoscopy and the prevalence was found to be 1.67%.

Gastric polyps can be seen in different anatomical parts of the stomach. In the study conducted by Fan et al. with 4043 gastric polyp patients in 10 years, polyps were detected in the corpus at a rate of 45% in 2004, while the frequency was reported as 64.25% in 2013 (11). Hailong et al., in a study conducted on 24121 patients in 2012, found an increase in the number of polyps located in the gastric corpus compared to years. In this study, the stomach corpus was seen as the anatomical region with the most polyps with 37.5% (12). In our study, 61.19% of patients were female. In other studies, it is stated that gastric polyps are detected more frequently in female patients (10,13).

Hyperplastic polyps are the most frequently detected polyps among gastric polyps and have been defined in different anatomical localizations in the literature. They are generally small in size and are mostly detected as a single (4). However, in recent studies, an increase in the incidence of fundic gland polyps has been reported. The widespread use of proton pump inhibitors (PPI) and the increase in HP eradication treatments can be shown as the reasons for the formation of this picture.

Carmak et al., in a study in which 121,564 esophagogastroduedonoscopy procedures were examined, reported the prevalence of gastric polyps as 6.35% and fundic gland polyps as 77% (7). In a 10-year study conducted by Fan et al. between 2004 and 2013, the frequency of fundic gland polyps was found to be 65%, and in this study, the frequency of fundic gland polyps was reported as 19% in 2004 and 77% in 2013 (6).

Table 3. Distribution of the histopathological types of the polyps.

Histopathological type	(n=67)	%
Hyperplastic polyp	39	58,21
Fundic gland polyp	13	19,4
Inflammatory polyp	6	8,96
Squamous papilloma	2	2,99
Adenomatous polyp	1	1,49
Hamartomatous polyp	2	2,99
Adenocarcinoma	2	2,29
Metastasis of adenocarcinoma	1	1,49
Neuroendocrine tumor	1	1,49

n: Number of polyps

Table 4. Coexistence of intestinal metaplasia and Helicobacter pylori

n=56	IM (+)	IM (-)
Helicobacter pylori (+)	6	11
Helicobacter pylori (-)	3	36
Total	9	47

n: Number of patients IM: Intestinal metaplasia

Yacoub et al., in a 10-year study involving 18496 patients, found the frequency of gastric polyps to be 0.46%, hyperplastic polyps to 55.9%, and fundic gland polyps to 18.1% (14). In another study, in 12,563 patients, hyperplastic polyp was found to be the most common type of polyp with 42.8% (12). In our study, hyperplastic polyp was found to be the most common polyp with a rate of 58.21% in 4004 procedures. However, since it was a retrospective study, patients' PPI use or HP eradication treatment history could not be evaluated.

Among gastric polyps, adenomatous polyps have a higher risk of malignancy, while hyperplastic polyps have a lower risk of malignancy. Hyperplastic polyps can be neoplastic or non-neoplastic. In the presence of hyperplastic polyps larger than 1 cm in diameter, with a stalk, a history of subtotal gastrectomy, and the presence of dysplasia, the malignancy potential increases, and polypectomy is required in these patients (15,16). The frequency of malignant transformation of hyperplastic polyps has been reported to be between 1.5% and 2.1% (17,18). It is also mentioned that fundic gland polyps associated with FAP also show malignant transformation. If multiple fundic gland polyps, dysplasia, or FAP are detected in esophagogastroduodenoscopy, other parts of the gastrointestinal tract should also be examined

to detect possible lesions (19, 20). When hamartomatous polyps are detected in esophagogastroduodenoscopy, detailed examination should be performed in terms of syndromes such as Peutz-Jeghers syndrome and juvenile polyposis syndrome. It should be kept in mind that genitourinary, breast and lung malignancies can be seen together in these patients, apart from the gastrointestinal system and gastrointestinal system, and family screening should be done (21, 22).

Although colon cancers are mostly defined as lesions that develop on the basis of polyps, gastric polyps pose a lesser risk in the development of gastric cancer. However, oxyntic atrophy caused by gastritis plays an important role in gastric carcinogenesis. Atrophic mucosa, on the other hand, forms the basis for the development of hyperplastic polyps and adenomas (5). Neuroendocrine tumors originating from enterochromaffin-like cells are detected in 0.6 to 2% of gastric polyps (23, 24).

Adenomatous polyps, the precursors of gastric adenocarcinomas, often occur as a consequence of atrophic gastritis. The risk of malignancy is highest with polyps >2 cm in size and those with villous features and associated with both size and histologic subtype. In gastric adenomatous polyps, intestinal type and fundic gland type adenomas are more likely to progress to carcinoma than foveolar and auxinic gland adenomas. Foveolar adenomas are typically single, small and rarely progress to malignancy (25).

Hyperplastic gastric polyps also have the potential for malignant transformation. Terada's study of 412 patients and 497 polypectomy materials showed that malignant transformation of hyperplastic gastric polyps can occur in 2.2% of cases and that malignant changes in hyperplastic gastric polyps develop in the order of hyperplasia-dysplasia-carcinoma (26).

The presence of HP infection leads to the development of chronic gastritis and is a serious risk factor for the development of noncardia gastric cancer (27). Intestinal metaplasia is also a precancerous lesion, increasing the risk of gastric malignancy by approximately 25%. Although it has prevented about half of gastric cancers with the diagnosis and treatment of HP, it has been reported that IM is effective in the development of gastric malignancy that cannot be prevented (28).

Endoscopic ultrasonography (EUS) is currently the most commonly used imaging modality for the diagnosis of submucosal gastric lesions. It can comment on the mucosal or submucosal depth of the gastric lesion and the echo level of the lesion (low level echo, equal echo, high level echo or hybrid echo) (29). Endoscopic mucosal resection (EMR) is a minimally invasive method that can be used for upper GI lesions smaller than 20 mm, provided that they can be easily removed and have a low risk of submucosal invasion (SMI). Endoscopic submucosal dissection (ESD) should be considered for bulky or superficial submucosal invasion risk gastric lesions (30).

The fact that our study was retrospective and the results of the cases with histopathological HP and IM could not be accessed during the process and the technical deficiencies in the evaluation of polyps are among the weaknesses of our study.

In future studies, reporting the follow-up results of patients with HP and IM will contribute to the literature.

CONCLUSION

With the widespread use of upper gastrointestinal endoscopy, it is critical to recognise, monitor and treat less common but clinically important lesions. The lesions may also be associated with polyposis syndromes. It is important to perform biopsy or polypectomy for polyps detected during oesophagogastroduodenoscopy and histopathological evaluation of lesions found in the specimen during gastrectomy. It is thought that this evaluation will help in the detection of possible malignancies and investigating the presence of HP and IM in positive cases due to the potential for malignancy development will contribute to early diagnosis and treatment.

Ethics Committee Approval: Ethics committee approval was obtained from the ethics committee of Istanbul Medeniyet University with the number 2022/0326.

Informed Consent: This study was done retrospectively.

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