Diagnostic and Interventional Endoscopy

Research Article

Gastroscopy and Colonoscopy Findings in Patients with Gynecological Malignancies

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Abstract

Objective: Gynecological malignancies in women may be accompanied by metastatic/second primary gastrointestinal system cancer at the time of diagnosis. Recognition of gastrointestinal system involvement may change the treatment approach. Therefore, we aimed to detect and evaluate the gastroscopy–colonosc opy findings performed in patients who had been diagnosed with gynecological malignancies in our clinic.

Methods: Results of gastroscopy–colonoscopies performed on patients with a diagnosis of gynecological malignancy in Manisa Celal Bayar University Hafsa Sultan Hospital Gastroenterology Department between June 2014 and September 2021 were reviewed retrospectively. Female patients who underwent gastr oscopy–colonoscopy due to iron deficiency anemia during the same period were selected as the control group.

Results: The mean age of the patient population was 64.03, and the mean age of the control population was 62.1. All the patients were female. In our study group, there were 76 patients with gynecological malignancy. The control group included 79 patients who had iron deficiency anemia. As a result of gastros-copy, 10.56% of the study group was diagnosed with concomitant malignancy against 1.26% in the control group ($P < .05$). While the rate of cases diagnosed with lower gastrointestinal system malignancy after colonoscopy in the patient group was 9.21%, the same rate was found to be 1.26% in the control group ($P < .05$).

Conclusion: We think that routine gastroscopy–colonoscopic evaluation is necessary before treatment in women diagnosed with gynecological malignancy.

Keywords: Gynecological malignancy, gastroscopy, colonoscopy, endoscopy

INTRODUCTION

Gynecological malignancies constitute 20% of solid cancers seen in women. Endometrial, ovarian, and cervical are the most common types of these malignancies. In gynecological cancer, which is difficult to diagnose, patients may be in the advanced stage until they give symptoms. Our screening methods are not enough and need to be developed.1 For this reason, distant metastases may be encountered in these patients at the time of diagnosis.

In the USA, the Surveillance, Epidemiology, and End Results (SEER) program has found that women who are diagnosed with gynecological cancer are at an increased risk for colorectal cancer after 6 months of diagnosis. This applies to ovarian cancer the most, but for endometrial cancer, this time can be up to 12-24 months.2 The exact mechanism is unknown but risk factors for gynecological cancer and colorectal cancer are similar. Lifestyle, hereditary diseases, estrogen exposure, and hormonal modulation can explain this correlation. Factors like radiotherapy usage on treat-ment methods can also increase the risk of colorectal cancer.

Studies found that 3.2%-7.0% of patients diagnosed with ovarian cancer may have a colon or stomach metastasis which is called "Krukenberg tumor."3 Because of that, newly diagnosed ovarian cancer patients were determined as gastroscopy–colonoscopy candidates for metastasis inves-tigation according to National Comprehensive Cancer Network (NCCN). Endometrial cancer should be scanned as well for hereditary diseases, metastases, or second primary cancer.4

Around the world, 20% of patients with gynecological malignancies are referred to gastroenterological interventions in the preoperative period.3 Considering these approaches in the world, patients diagnosed with gynecological malignancy at Manisa Celal Bayar University Hospital

are sometimes referred to the Gastroenterology Department for gastr oscopy–colonoscopy. When you look at the downside, gastroenterological procedures may have disadvantages such as disrupting patient comfort, increasing treatment costs, delaying treatment, gastroenterological perforation, and bleeding so patients should be chosen carefully.

Therefore, more data are needed for the use of gastroenterological interventions for metastasis screening in this patient group. We thought that retrospective screening of these procedures performed in our center would help fill the lack of information on this subject.

METHODS

Patients

Department of Gastroenterology, Manisa Celal Bayar University, provides health services, primarily in the city of Manisa and its districts. Also, due to the proximity of the location, a significant amount of patients come from the İzmir, Aydın and Balıkesir. The medical history of the patients, their laboratory findings, and imaging records are recorded by the Probel software system. We retrospectively scanned the patients referred to Faculty of Medicine, Department of Gastroenterology, Manisa Celal Bayar University, for newly diagnosed gynecological malignancy and underwent gastroscopy–colonoscopy for screening gastrointestinal system (GIS) metastasis and/or second primary cancers.

We scanned 22019 patients' gastroscopy–colonoscopy results. Of these, 8974 were colonoscopy results, while 13045 were the result of gastroscopy. Seventy-six patients had gynecological malignancy. Patients who underwent gastroscopy–colonoscopy due to iron deficiency were included in the study as the control group. The study was approved by the local ethics committee of Manisa Celal Bayar University. The ethics committee's approval was obtained from the local ethics committee of the Faculty of Medicine, Manisa Celal Bayar University (Date: August 10, 2022, Number: 20.478.486/1463).

Examination

Gastroscopy and colonoscopy procedures in this study were performed by 2 gastroenterologists from Gastroenterology Department who are Dr. Elmas Kasap and Dr. Tahir Buran. They received training in internal medicine for 4 years and gastroenterology for 3 years. All gastr oscopy–colonoscopy findings of all the patients were collected from the reports. We did not exclude any patient who had gynecological malignancy.

Identification

Gynecological malignancy diagnoses of patients were scanned retrospectively from Probel System. These diagnoses were made as a result of tissue biopsies performed after imaging methods. Other gastroscopy or colonoscopic findings were identified with procedure or tissue biopsy.

MAIN POINTS

- According to our knowledge, gastroscopy and colonoscopy should be performed at the time of diagnosis of gynecological malignancies.
- Early diagnosis of secondary malignancy or metastasis is important and may affect the course of the disease.
- Our knowledge in this area is limited and more research is needed.

Statistical Analysis

All data of the patients were recorded in MS Excel and digitized. It was then transferred to Statistical Package of the Social Sciences (IBM Corp.; Armonk, NY, USA). Data were evaluated using descriptive statistics (number, percentage distribution, mean standard deviation, median, min-max values), independent groups *t*-test (Mann–Whitney *U* test if normal distribution conditions are not met), Pearson correlation test, and chi-square test. The statistical significance limit in the tests was accepted as $P \leq .05$. Between gynecological malignancies and the control group, we compared age, gastroscopy findings (cancer, gastritis, esophageal varices, esophagitis, duodenitis, polyp, hernia, Dieulafoy lesion, previous surgery scar, and lipoma), and colonoscopic findings (cancer, polyp, hemorrhoids, diverticulosis coli, Crohn's disease, ulcerative colitis, and ulcer).

RESULTS

Colonoscopy

We included 76 female patients with gynecological malignancy who underwent colonoscopy–gastroscopy (15 of these patients did not undergo gastroscopy procedure). As our control group, we included 79 female patients who underwent colonoscopy and gastroscopy for further evaluation of iron deficiency anemia (18 of these patients did not undergo a gastroscopy procedure). So, in both groups, there were 61 patients who underwent both gastroscopy and colonoscopy.

The mean age of patients diagnosed with gynecologic malignancy was 64.03 years. The mean age of the control group was 62.1 years. No statistically significant difference was observed between the 2 groups in terms of mean age ($P > .05$).

While 53.94% (n=41) of patients with gynecologic malignancy had normal colonoscopy findings, this rate was observed as 11.39% (n=9) in the control group. A statistically significant difference was observed in terms of normal colonoscopy findings ($P < .05$).

As a result of colonoscopy, polyps were observed in 11.84% (n=9) of patients with gynecological malignancy. It was observed in 15.15% (n=12) of the control group. No statistically significant difference was observed between the 2 groups in terms of the prevalence of polyps. Hemorrhoids were seen in 7.89% (n=6) of patients with gynecological malignancy. This rate was observed as 48.1% (n=38) in the control group. While no polyps and hemorrhoids were seen together in our patient group (n=0), both polyps and hemorrhoids were seen in 11.39% (n=9) of the control group. A statistically significant difference was observed between the 2 groups in terms of both isolated hemorrhoids ($P < .05$) and hemorrhoid–polyp association ($P < .05$). Diverticulosis coli was detected in 6.57% (n=5) of patients with malignancy. In the control group, it was observed at a rate of 8.86% (n=7). No statistically significant difference was observed between the 2 groups in terms of diverticulosis coli rates ($P > .05$). Other colonoscopy findings (Crohn's disease, ulcerative colitis, and ulcer) were detected in 10.52% (n=8) of the patient group. This was 3.79% (n=3) in the control group. No statistically significant difference was observed between the 2 groups in terms of other colonoscopy findings ($P > .05$).

Second primary malignancy or metastasis was detected in 9.21% (n=7) of patients who underwent colonoscopy after diagnosis of gynecological malignancy. We observed this rate as 1.26% (n=1) in our control group and we saw a statistically significant difference between the 2 groups in this respect (Table 1).

Table 1. Colonoscopy Findings

	Patients with Gynecological Malignancy	Control Group	*P*
Mean age	64	62.4	>.05
Normal colonoscopy	41	9	<.05
Polyps	9	12	>.05
Polyps and hemorrhoids	0	9	<.05
Hemorrhoids	6	38	<.05
Diverticulosis coli	5	7	>.05
Additional malignancy	7	1	<.05
Other patients*	8	3	>.05
Total patients	76	79	>.05

*Crohn's disease, ulcerative colitis, and ulcer.

Gastroscopy

Of the 76 patients in the study group, 61 of them underwent gastroscopy. While the rate of completely normal gastroscopy findings in the study group was 19.67 (n=12), this rate was 9.83% (n=6) in the control group. There was a statistically significant difference between the 2 groups ($P < .05$).

We determined 61 patients from the control group who only underwent gastroscopy as the study group. While isolated gastritis was detected in 49.18% (n=30) of patients with gynecological malignancy, this rate was 57.37% (n=35) in the control group. No statistically significant difference was found between the 2 groups in this regard ($P > .05$).

We created a broad category for other findings like esophageal varices, esophagitis, duodenitis, polyps, Dieulafoy lesions, old surgical scars, and lipoma. In 18.03% (n=11) of the study group, we found those other findings in gastroscopy. This percentage was 31.14% (n=19) in the control group. There was a statistically significant difference between the 2 groups in this aspect ($P < .05$).

And finally, the rate of concomitant metastatic or second primary malignancy in patients with gynecological malignancy was 13.11% (n=8), this rate was 1.63% (n=1) in our control group. In this respect, there was a statistically significant difference between the 2 groups ($P < .05$) (Table 2).

DISCUSSION

In a lifetime, a healthy woman has a 5% risk of GIS malignancy. As we mentioned before, this cancer group is hard to diagnose and symptoms can be indicators for the advanced stage.5 Thus, screening is crucial for early diagnosis. Patients with a family history of cancer, polyps, or inflammatory bowel disease have an increased risk of colorectal cancer. It has been reported by many researchers that there is a high incidence of accompanying metastatic or second primary malignancies in female patients with gynecological malignancies.6 Singh et al (2012) show that 5%-9% of patients who are newly diagnosed with endometrial cancer has mismatch repair mutations. Singh et al. (2012) reveal that 5%-9% of patients newly diagnosed with endometrial cancer have mismatch repair mutations. Thus, Hereditary Nonpolyposis Coli (HNPCC) must be ruled out first if you have a newly diagnosed endometrial cancer patient.7

Table 2. Gastroscopy Findings

	Patients with Gynecological Malignancy	Control Group	*P*
Mean age	64.03	62.1	>.05
Gastritis	30	35	>.05
Additional malignancy	8	1	<.05
Normal gastroscopy	12	6	<.05
Other findings	11	19	<.05
Total patients	61	61	

*Esophageal varices, esophagitis, duodenitis, polyp, Dieulafoy lesion, old surgical scar, lipoma.

For ovarian cancer, NCCN recommends looking for gastrointestinal screening before the preoperative stage as ovarian cancer has a higher risk for intra-abdominal spread than any other gynecological cancer. Accordingly, finding out bowel metastasis would cause expanding the surgical resection. On the other hand, colorectal cancer has metastasized to the ovary in about 6% of the cases.8 So, it is important to remember that these 2 different cancers can occur together.1

National Comprehensive Cancer Network recommends performing preoperative colonoscopy at the time of the diagnosis; however, we found out, this is not routinely used by physicians specialized in gynecological oncology. To improve the prognosis of the patients, gastroenterology and obstetrics–gynecology specialists should work cooperatively after the diagnosis. One study shows that 75% of patients who were newly diagnosed with gynecological cancer had recommendations for gastroenterological screening for GIS malignancy.4 Another study found that only 46.8% of patients had been screened for colorectal cancer after their diagnosis of endometrial cancer. The importance of early screening has been mentioned before and every patient should be evaluated by a gastroenterologist before their operation.

Based on our findings, there was a statistically significant increase in malignancy in the patient group compared to our control group. According to our results and many similar studies, we recommend routine gastroscopy–colonoscopy to female patients diagnosed with gynecological malignancy.

Ethics Committee Approval: Ethics committee approval was received for this study from Manisa Celal Bayar University, Faculty of Medicine (Date: August 10, 2022, Number: 20.478.486/1463).

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