CASE REPORT

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Multiple Primary Synchronous Gastric, Esophageal, and Rectal Cancer and Isolated Esophageal Metastasis from Rectal Cancer: Case Report

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ABSTRACT Synchronous tumors are defined as two or more neoplasms either identified simultaneously or within 6 months after the initial diagnosis in the same patient. Herein, we report a 63-year-old man with synchronous gastric, rectal carcinoma, and in situ esophageal carcinoma who also had isolated esophageal metastasis from rectal carcinoma. The patient man was diagnosed with rectal carcinoma. 18F-fluorodeoxyglucose (FDG) positron emission tomography-computed tomography was performed for staging and demonstrated increased 18F-FDG uptake in the rectum lesion as well as in the gastric cardia and corpus. Esophagogastroduodenoscopy was performed. After performing multiple biopsies, histopathological examination of the esophageal specimen demonstrated metastatic adenocarcinoma, in situ esophageal squamous cell carcinoma, and gastric adenocarcinoma. Isolated esophageal metastasis from rectal cancer is a highly rare entity. Gastric and esophageal cancers can be observed simultaneously with colorectal cancers; therefore, we recommend performing routine esophagogastroduodenoscopy for patients diagnosed with colorectal cancer.

Keywords: Synchronous; gastric cancer; esophageal cancer; rectal cancer; isolated metastasis

Synchronous tumors are defined as two or more neoplasms identified simultaneously or within 6 months after the initial diagnosis in the same patient.[1] However, synchronous tumors of the gastric and rectum carcinoma are not infrequent; particularly in the elderly male patient.[2] The most commonly detected synchronous tumors in patients with gastric cancer are colorectal cancers, which are followed by lung, esophagus, and liver cancers.[2] Rectal carcinoma commonly metastasizes to the liver, lungs, bone, brain, and lymph nodes.[3] Esophageal metastasis of rectal carcinoma is an unusual occurrence owing to its rarity and challenges in diagnosis. Therefore, patients might be misdiagnosed sometimes and not be treated properly. Secondary carcinoma of the esophagus occurs as a result of the direct invasion, hematogenous, or lymphatic spread from the distant primary sites.[4] Approximately 3.1-6.1% of patients who had died from any type of cancer in the autopsy series reported esophageal metastasis. Additionally, it has shown that the most common primary malignancies that metastasize to the esophagus are breast and lung cancers in the same autopsy series.[3,5]

Herein, we present the case of a 63-year-old man with synchronous gastric, rectal carcinoma, and *in situ* esophageal carcinoma who also had isolated esophageal metastasis from rectal carcinoma.

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A 63-year-old male patient without a history of any medical illness and no relevant family history presented with rectal bleeding. An ulcerovegetan mass at the entrance of the rectum and a polypoid lesion at the transverse colon was observed in colonoscopy, and biopsies were recorded. Histopathological examination revealed moderately differentiated adenocarcinoma of the rectum (Figure 1). Thickened gastric cardia wall and asymmetric thickening left wall of the rectum were demonstrated on computed tomography (CT) with intravenous contrast agent injection. ^{18}F-fluorodeoxyglucose (FDG) whole-body positron emission tomography-CT (PET-CT) was performed for staging of the patient with rectal carcinoma. PET-CT scan demonstrated increased ^{18}F-FDG uptake in the rectum lesion as well as in the gastric cardia and corpus. The patient underwent an esophagogastroduodenoscopy (EGD) to identify these lesions. EGD demonstrated a polypoid mass protruding into the esophageal lumen at a 32 cm distance from the incisor in the esophagus and a white fibrin-covered ulcerative lesion with a reddish edge in the gastric cardia. Endoscopic guided multiple biopsies were performed from the gastric cardia, gastric antrum, and esophageal lesions. Histopathological examination of the esophageal specimen revealed metastatic adenocarcinoma, and tumor cells positive for PanCK, CK20, AMACR, Villin, CDX2, and β-catenin, which was similar to the adenocarcinoma of the rectum (Figure 1). Additionally, *in situ* esophageal squamous cell carcinoma was detected in the esophageal biopsy specimen (Figure 2). Primary gastric adenocarcinoma was demonstrated in a gastric cardia biopsy sample (intestinal type; Lauren) (Figure 1). The histology was confirmed through an immunohistochemical study with PanCK (+), CK7 (+), β-catenin (cytoplasmic staining), CDX2 (-), Villin (-), AMACR (-), and CK20 (-). The multidisciplinary tumor board agreed to perform surgery simultaneously for rectum cancer, gastric cancer, esophageal cancer, and metastasis in the esophagus after neoadjuvant short-course radiotherapy to the rectum. However, the patient did not continue his follow-up at our center and continued to receive chemotherapy in the oncology department of another center. Informed consent of the patient was obtained while preparing this case report.

DISCUSSION

Three cases of esophageal metastasis from rectal cancer have been reported in the literature to date.[4,6,7]

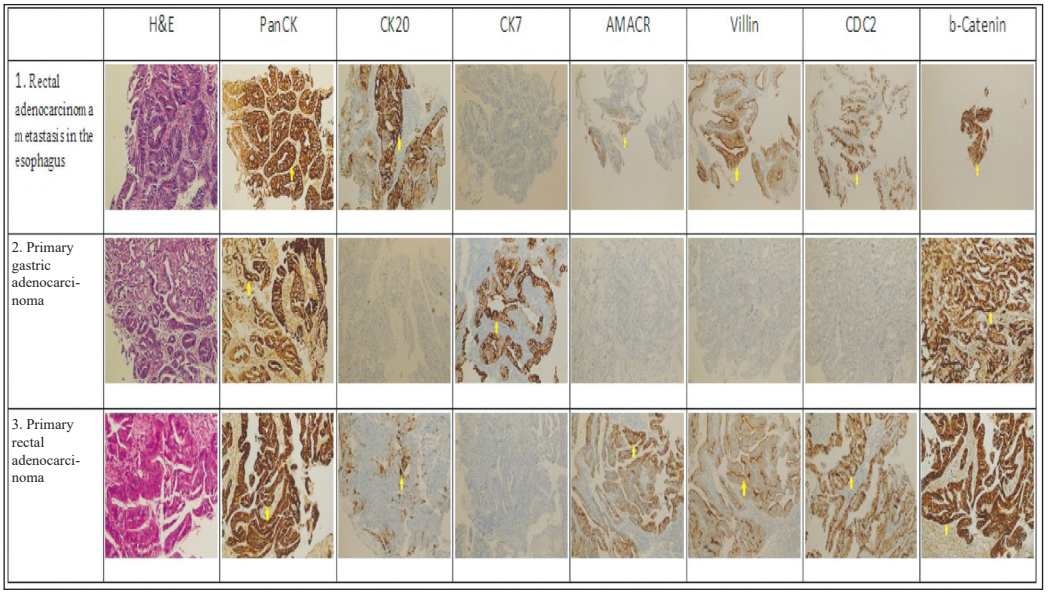

FIGURE 1: Images from rectal adenocarcinoma metastasis (1), primary gastric adenocarcinoma (2) and primary rectal adenocarcinoma (3) (H&E).

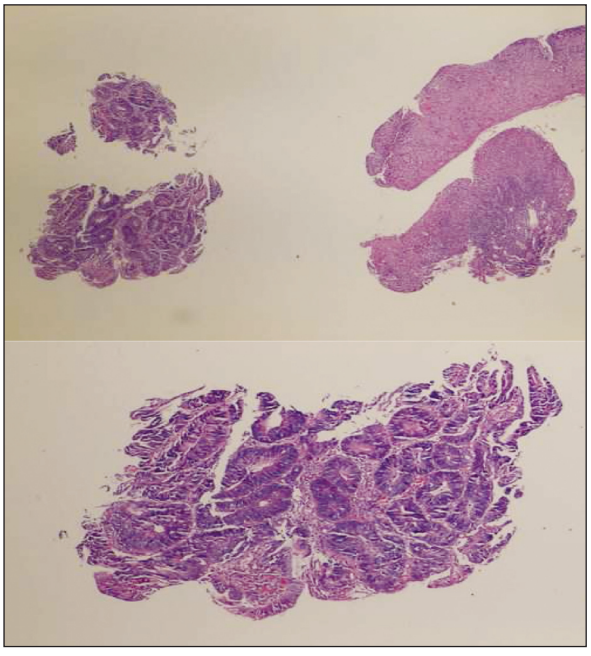

FIGURE 2: Esophageal registered material. Carcinoma in situ focuses on the squamous epithelium (H&E, x100).

In all of these cases, esophageal metastasis occurred with widespread metastatic disease. Interestingly, rectum cancer had an isolated metastasis to the esophagus without widespread metastasis in the present case report. Additionally, the presence of synchronous *in situ* esophageal cancer and early gastric cancer also makes the patient challenging to treat.

Distant metastasis from rectal carcinoma generally occurs in the liver, lungs, bone, and brain. In contrast, adrenal, testicular, laryngeal, and cutaneous metastasis have seldom been reported.[8]

Metastasis to the esophagus is rare and is most commonly caused by breast or lung cancer. Most of the esophageal metastatic lesions occur as submucosal tumors; therefore, they can be difficult to diagnose.[2] Mechanisms underlying metastasis to the esophageal wall may be of three types; direct invasion, hematogenous, or lymphatic spread from distant primary sites.[4]

In contrast to our asymptomatic case, patients with esophageal metastasis, frequently occurring due to widespread metastatic disease, are generally presented with dysphagia and upper gastrointestinal bleeding.[9] In our patient, endoscopy was performed due to wall thickening of gastric cardia on CT and increased ^{18}F-FDG uptake at gastric cardia on PET-CT. Thus, esophageal metastasis and *in situ* cancer were incidentally detected. Our case report is unique due to the presence of localized rectal adenocarcinoma with isolated esophageal metastasis and accompanying synchronous *in situ* esophageal cancer and early gastric cancer.

The incidence of synchronous cancer in patients with gastric cancer was detected to be 3.4% by Lee et al.[2] Moreover, colorectal cancers are the most commonly detected synchronous tumors in those with gastric cancer, followed by lung, esophagus, and liver cancers. Synchronous tumors are more common in elderly males. The majority of these patients have advanced colorectal cancer and early gastric cancer; therefore, generally, colorectal cancer is diagnosed before gastric cancer. Age at diagnosis, tumor differentiation, and preoperative stage are the risk factors for the presence of synchronous cancer in those with gastric cancer.[2]

Isolated esophageal metastasis from rectal cancer is a highly rare entity. It is useful to make a differential diagnosis of each lesion in the esophagus to determine if the tumor is primary cancer or metastatic disease. Histopathological tests involving immunohistochemical staining will help to identify the primary focus. Gastric and esophageal cancers can be observed simultaneously with colorectal cancers; therefore, we recommend performing routine EGD for patients diagnosed with colorectal cancer.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Aydın Aytekin;* ***Design:*** *Gülçin Miyase Sönmez;* ***Control/Supervision:*** *Aydın Aytekin;* ***Data Collection and/or Processing:*** *Gülçin Miyase Sönmez;* ***Analysis and/or Interpretation:*** *Aydın Aytekin, Abdullah Sakin;* ***Literature Review:*** *Gülçin Miyase Sönmez;* ***Writing the Article:*** *Gülçin Miyase Sönmez;* ***Critical Review:*** *Mehmet Naci Aldemir;* ***References and Fundings:*** *Remzi Erten, Ramazan Esen;* ***Materials:*** *Remzi Erten.*

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