Journal of Research in Applied and Basic Medical Sciences 2023; 9(1): 7-10

Case Report

RABMS Journal of Research in Applied and Basic Medical Sciences

Urmia University of Medical Sciences

Concurrent Gastric and Colon Adenocarcinoma, a Rare Clinical Presentation

Hengameh Mojdeganlou[1], Ata Abbasi[1*], Saeid Razavi[2], Mohammad Hosseiniazar[3], Rahim Asghari[2]

[1] *Department of Pathology, Faculty of medicine, Urmia University of Medical Sciences, Urmia, Iran*

[2] *Hematology, Immune cell therapy and stem cell transplantation research center, clinical research institute, Urmia University of Medical Sciences, Urmia, Iran*

[3] *Department of Internal Medicine, Faculty of medicine, Urmia University of Medical Sciences, Urmia, Iran*

***Corresponding author:** Ata Abbasi, **Address**: Department of Pathology, Faculty of medicine, Urmia University of medical sciences, Urmia, Iran, **Email**: aabbasi@alumnus.tums.ac.ir, **Tel**: +989124397395

Abstract

Synchronous (simultaneous) malignant lesions in different organs of a patient are very rare finding. Gastric and colon adenocarcinomas are the most common cancers worldwide but their synchronous occurrence is rare and only four percent of gastric cancer patients have simultaneous colon adenocarcinoma. Here, we report a 64-year-old woman with simultaneous gastric and colon adenocarcinoma presented by abdominal pain and hematemesis.

***Keywords*:** Colon Cancer, Gastric Adenocarcinoma, Synchronous Malignancy

Received 01 July 2022; accepted for publication 29 January 2023

Introduction

Synchronous (simultaneous) malignant lesions in different organs of a patient are very rare finding. As a definition, cancers are defined synchronous if two or more primary tumors occur in a same patient within six months (1). There are multiple reports of concurrent benign and malignant tumors in the literature. Gastric and colon adenocarcinomas are the most common cancers worldwide as separate tumors with high mortality and morbidity, but their synchronous occurrence is rare and only four percent of gastric cancer patients have simultaneous colon adenocarcinoma (2,3). Here, we report a 64-year-old woman with simultaneous gastric and colon adenocarcinoma presented by abdominal pain and hematemesis.

Case Report

A 64-year-old woman was referred to our gastroenterology clinic with recent history of abdominal and epigastric pain, abdominal distension, and recent constipation. The patient had the symptoms for few weeks and outpatient medications had not improved her symptoms. The patient was admitted for further investigations. During hospitalization, she had an episode of vomiting and hematemesis. So, upper gastrointestinal (GI) endoscopy was performed and revealed a large malignant ulcer at gastric lesser curvature measuring 5 cm in greatest diameter. Biopsies were obtained for pathologic evaluation. Additionally, considering patient's recent constipation and changes in bowel habits, colonoscopy was also performed which

revealed a large polypoid mass at descending colon. Tissue samples were also obtained.

Histopathological Evaluations:

Pathologic sections from the gastric biopsy specimen revealed malignant epithelial cells arranged in cellular sheets and also isolated signet ring cells within stroma, confirming the diagnosis of adenocarcinoma. Tissue samples from colon biopsy were also definitive for adenocarcinoma. To confirm the primary or secondary nature of these tumors, immunohistochemistry (IHC) staining for CK7, CK20, CDX2, and AMACR were performed. IHC staining for gastric tumor was positive for CK7 (diffusely positive) and CDX2 but negative for CK20 and AMACR, which was definitive for the diagnosis of primary gastric adenocarcinoma (Figure 1).

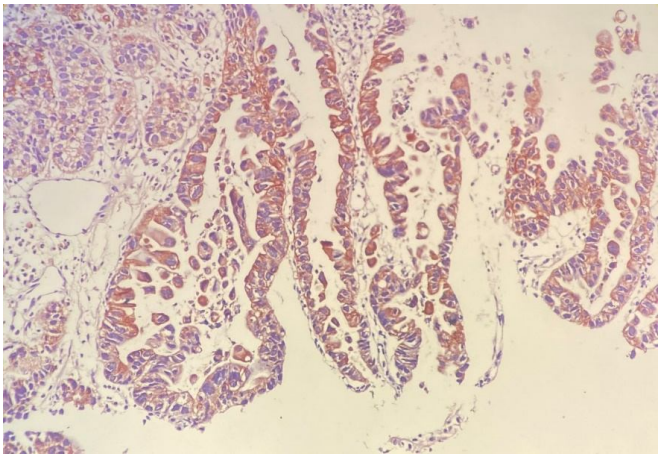

Fig. 1. Immunohistochemistry (IHC) staining for CK7 marker, showing strong positive staining in tumoral cells (IHC, 20x)

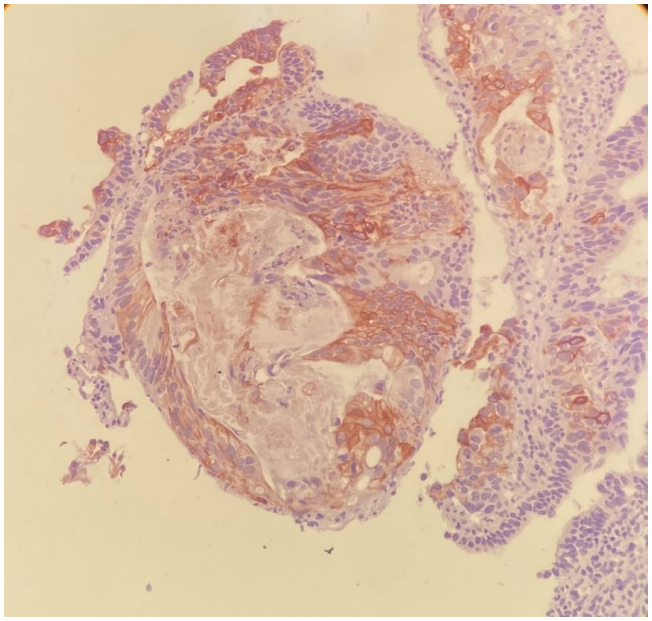

Fig. 2. Immunohistochemistry (IHC) staining for CK20 marker, showing strong positive staining in tumoral cells (IHC, 20x)

Additionally, IHC staining results for colon mass showed positive staining for CK20 (diffusely positive), CDX2 (focally positive), and AMACR, but negative for CK7 which confirmed the diagnosis of primary adenocarcinoma of colon origin (Figure 2).

Finally, considering morphologic and IHC findings, the patient was diagnosed with synchronous gastric and colon adenocarcinomas. The patient underwent thoracoabdominal computed tomography (CT) and bone scans for metastasis detection and the results were negative.

Conclusion

Concurrent malignancies are rare conditions. There are multiple reports of concurrent malignancies from different organs in the literature, which include carcinomas and sarcomas of lung, breast, prostate, etc. (4-7). In this paper, we reported a 64-year-old woman with synchronous gastric and colon adenocarcinomas. Although gastric and colon cancers are the most common malignancies in human (8), but their simultaneous occurrence in rare. According to literature, the incidence of concurrent gastric and colon carcinoma ranges from 0.8 to 4% (9). Since there are significant differences between treatment of colon and gastric cancers, detection of simultaneous malignancy in these two organs would be of therapeutic value.

Additionally, considering morphologic similarities of gastric and colon adenocarcinomas, further histologic evaluations such as implementation of differentiating histologic markers and IHC may be mandatory for definite diagnosis. Also, pathologists need to be aware of the patients' simultaneous malignancies to be able to make accurate diagnoses. Coexistence of malignancies in different organs can lead to both diagnostic and therapeutic challenges, and considering the nature and pathogenesis of cancer, this may raise multiple questions. Malignancies of different organs have different prognoses and in our case, colon adenocarcinoma has a more favorable prognosis than gastric adenocarcinoma (10), so choosing the correct and effective therapeutic plan would be challenging. Additionally, detection and diagnosis of a simultaneous malignancy in another organ could be always difficult and a missed concurrent malignancy may have a great impact on patient prognosis and treatment outcome.

Our report is important from clinical point of view. As mentioned, presence of a synchronous tumor significantly changes therapeutic plans. Considering the high prevalence of these two malignancies, it is worthy to recommend performing screening colonoscopy in gastric cancer patients before performing surgery and also upper GI endoscopy in the patients with colon cancer before making therapeutic plans.

Acknowledgments

None declared.

Conflict of interest

The authors have no conflict of interest in this study.

Ethical statement

The patient provided written informed consent for anonymized information and images to be published in this article.

References

1. Cao C, Parikh P, Moezardalan K, Anantharaman A, Azarm A, Lai J. synchronous primary pancreatic ductal carcinoma and colonic adenocarcinoma present in a patient with history of skin squamous cell carcinoma. Anticancer Res 2020;40(7):4029-32.
2. Carbone F, Pace U, Albino V, Leongito M, Delrio P. Synchronous robotic right hemicolectomy and subtotal gastrectomy. Updates Surg 2020;72(4):1273-7.
3. Saito S, Hosoya Y, Togashi K, et al. Prevalence of synchronous colorectal neoplasms detected by colonoscopy in patients with gastric cancer. Surg Today 2008;38(1):20–25
4. Liu B, Shiraga S, Mortenson MM, Lai J. Small Cell Lung Carcinoma and Synchronous Rectal Adenocarcinoma and Jejunal Gastrointestinal Stromal Tumor Present in a Patient With History of Laryngeal Squamous Cell Carcinoma. Anticancer Res 2020;40(12):7053-6.
5. Vasilakaki T, Koulia K, Tsavari A, Arkoumani E, Kouroumpas E, Pavlis A, et al. Synchronous gastric

gastrointestinal stromal tumor and colon adenocarcinoma: a case report. Case Rep Oncol Med 2014;2014.

6. Nemes C, Rogojan L, Surdea-Blaga T, Seicean A, Dumitrascu DL, Ciuce C. Gastrointestinal stromal tumor (GIST) associated with synchronous colon adenocarcinoma-a case report. J Gastrointestin Liver Dis 2012;21(1):101-3.
7. Abbasi F, Abbasi A, Alizadeh M, Modarresi P. Concurrent Oncocytoma and Two Angiomyolipomas in a Diabetic Kidney: A Very Rare Condition. Acta Med Iran 2017:470-3.
8. Suh BJ, Oh SJ, Shin JY, Bae DS, Park JK. Simultaneous robotic subtotal gastrectomy and right hemicolectomy for synchronous adenocarcinoma of stomach and colon. J Robotic Surg 2017;11(3):377-80.
9. Wei H, Fang J, Chen T et al. Simultaneous laparoscopy assisted resection for rectal and gastric cancer. J Soc Laparoendosc Surg 2014;18(2):323.
10. Rawla P, Sunkara T, Barsouk A. Epidemiology of colorectal cancer: incidence, mortality, survival, and risk factors. Prz Gastroenterol 2019;14(2): 89-103.