

Journal of Gastroenterology and Hepatology Research

Online Submissions: <http://www.ghrnet.org/index./joghr/>
doi: 10.17554/j.issn.2224-3992.2020.09.963

Journal of GHR 2020 October 21; **9(5)**: 3351-3353
ISSN 2224-3992 (print) ISSN 2224-6509 (online)

CASE REPORT

Synchronous Esophageal and Colon Adenocarcinomas

Lindsey A. Bierle¹, DO; Shravani Reddy¹, MD; Varun Kesar², MD; Vikas Chitnavis², MD; Douglas J. Grider³, MD

1 Virginia Tech Carilion School of Medicine, Department of Internal Medicine, Roanoke, VA, the United States;

2 Virginia Tech Carilion School of Medicine, Division of Gastroenterology and Hepatology, Roanoke, VA, the United States;

3 Virginia Tech Carilion School of Medicine, Department of Basic Science Education, Roanoke, VA, the United States.

Conflict-of-interest statement: The authors declare that there is no conflict of interest regarding the publication of this paper.

Open-Access: This article is an open-access article which was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>

Correspondence to: Lindsey Bierle, Virginia Tech Carilion School of Medicine, Department of Internal Medicine, Roanoke, VA, the United States.

Email: lindseyabierle@gmail.com

Received: August 2, 2020

Revised: August 18, 2020

Accepted: August 20, 2020

Published online: October 21, 2020

ABSTRACT

Synchronous carcinomas were first characterized in the early 1930s, with increasing reports documented in the literature since this time period. Common gastrointestinal tract synchronous carcinomas include colon and appendiceal malignancies, however this case identifies synchronous primary esophageal and ascending colon adenocarcinomas in a patient who initially presented with lower gastrointestinal bleeding. While synchronous carcinomas within the gastrointestinal tract have been elucidated in the literature previously, the specific incidence of synchronous esophageal and colon cancers is currently unknown, highlighting the uniqueness of this case. Employing immunohistochemical analysis during histopathologic examination is key to distinguishing each primary malignancy once

multiple discrete lesions are identified. Early recognition of multiple primary neoplasms is of utmost importance, as accurate staging of each malignancy type is vital for overall prognosis and available therapeutic interventions.

Key words: Synchronous primary malignancy; Esophageal carcinoma; Colonic neoplasia

© 2020 The Authors. Published by ACT Publishing Group Ltd. All rights reserved.

Bierle LA, Reddy S, Kesar, V, Chitnavis V, Grider DJ. Synchronous Esophageal and Colon Adenocarcinomas. *Journal of Gastroenterology and Hepatology Research* 2020; **9(5)**: 3351-3353 Available from: URL: <http://www.ghrnet.org/index.php/joghr/article/view/2953>

INTRODUCTION

Synchronous carcinomas in the same patient were first elucidated in the early 1930s^[1]. Following this initial recognition, awareness of synchronous carcinomas coupled with advancements in medical technology have made diagnosis of two primary carcinomas from separate sites in the same time interval possible^[2]. We present a case of newly diagnosed synchronous primary esophageal and ascending colon adenocarcinomas in a patient presenting with lower gastrointestinal bleed.

CASE REPORT

A 74-year-old female with a history of abdominal aortic aneurysm repair on dual-antiplatelet therapy, chronic obstructive pulmonary disease (COPD) on continuous supplemental oxygen at four liters per minute, and tobacco abuse presented with complaints of bright red blood per rectum. Hemoglobin on presentation was 12.5g/dL, down-trending to 9.0g/dL the following day. Esophagogastroduodenoscopy (EGD) revealed a nodule in the proximal esophageal mucosa, a submucosal lesion in the esophageal body roughly 30 centimeters from the entry point, and a hiatal hernia with initial pathology showing high grade dysplasia in Barrett mucosa (Figure 1). The patient denied further symptoms and her hemoglobin stabilized after one transfusion of packed red blood cells. Several days later, repeat EGD with endoscopic mucosal resection and colonoscopy showed Barrett's esophagus, a distal esophageal mass at 30cm (Figure

2), and synchronous colon masses in the ascending colon (Figure 3). Initial pathology from EGD biopsies revealed Barrett mucosa leading to esophageal adenocarcinoma (Figure 4) with MLH1 and PMS2 mismatch repair (MMR) proteins intact, demonstrating nuclear positivity. Histopathologic analysis of the ascending colon mass revealed BRAF mutation positivity (Figure 5) along with loss of MLH1 and PMS2 MMR proteins, confirming a sporadic microsatellite unstable colonic adenocarcinoma. The patient was staged at T2N0 by endoscopic ultrasound with recommendations for esophageal resection and T2N0 colon adenocarcinoma with recommendations for hemicolectomy. Given the patient's comorbid COPD with significant supplemental oxygen requirements and chronic hypercarbia, she was deemed not a candidate for esophagectomy, however successfully underwent elective right hemicolectomy with subsequent discharge home.

DISCUSSION

Common synchronous carcinomas within the gastrointestinal tract include colon and appendiceal malignancies, followed by small bowel, gastric, and esophageal carcinomas^[3,4]. Colonic neoplasias (up to 20%) are the most common synchronous cancers in patients with primary gastric cancer^[5]; the incidence of esophageal and synchronous colon cancers is unknown. The colonic microsatellite

instability seen in this case is distinct from the instability recognized in Lynch Syndrome. Additionally, the presence of MMR proteins in the esophageal adenocarcinoma juxtaposed with the loss of MMR proteins in the colonic adenocarcinoma help to confirm the individual mechanisms by which these two carcinomas evolved, highlighting the uniqueness of this patient's presentation. Upon discovering

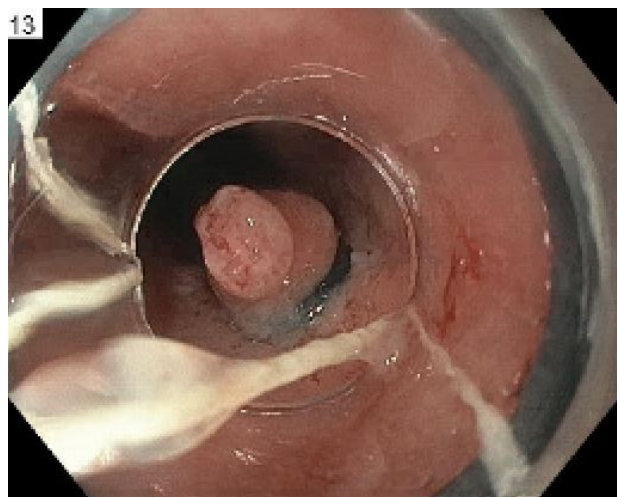


Figure 1 EGD revealing a distal esophageal mass at 30 cm.

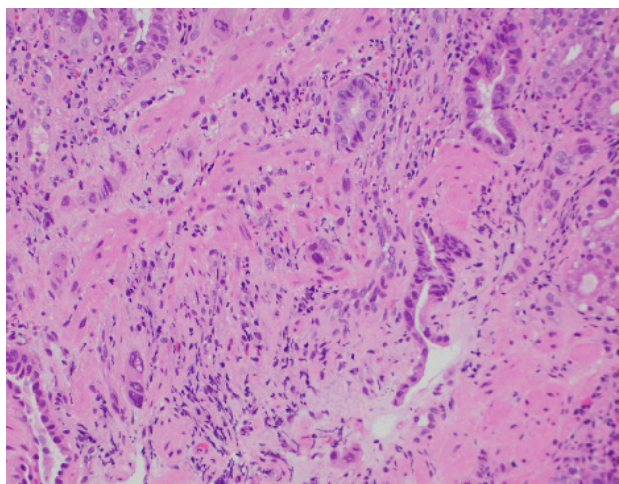


Figure 4 Invasive adenocarcinoma with infiltrative small groups of highly atypical cells, 20X.

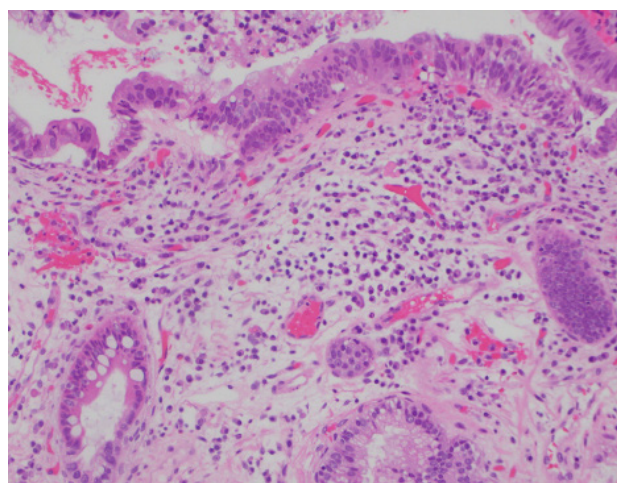


Figure 2 Barrett mucosa with low grade and focal high-grade dysplasia 20X.

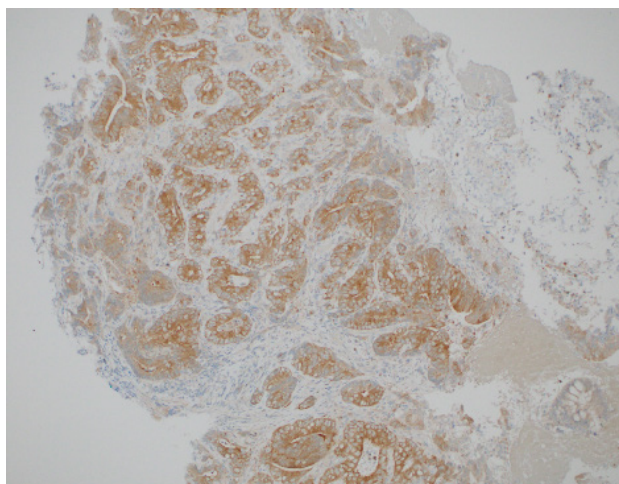


Figure 5 Ascending colon adenocarcinoma with BRAF positivity on immunohistochemical analysis, 10X.

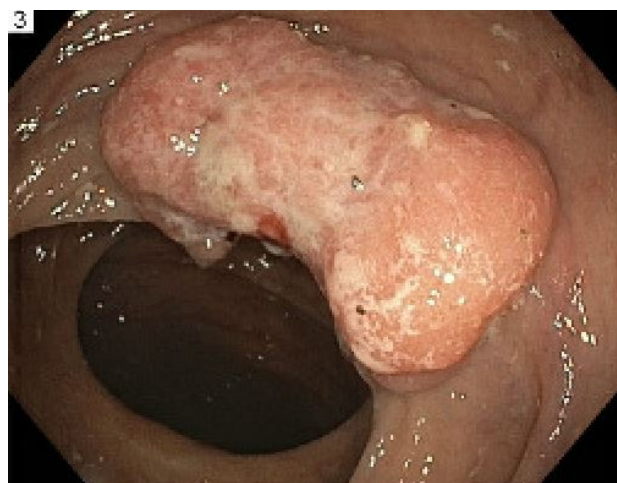


Figure 3 Colonoscopy revealing an ascending colon mass.

multiple primary malignancies, accurate staging along with immunohistochemical analysis is key to distinguish each primary cancer and determine appropriate therapy.

REFERENCES

1. Warren S, Gates O. Multiple primary malignant tumors: a survey of the literature and statistical study. *American Journal of Cancer* 1932; **16**: 1358-1403.
2. Yoshida N, Tamaoki Y, Baba Y, et al. Incidence and risk factors of synchronous colorectal cancer in patients with esophageal cancer: an analysis of 480 consecutive colonoscopies before surgery. *Int J Clin Oncol* 2016; **21**(6): 1079-84. [PMID: 27368336]
3. Tziris N, Dokmetzioglou J, Giannoulis K, et al. Synchronous and metachronous adenocarcinomas of the large intestine. *Hippokratia* 2008; **12**(3): 150-52. [PMCID: PMC2504401]
4. Nofal M, Awaysheh MM A, Yousef AJ. Synchronous colonic and ovarian tumors: a case report. *Am J Case Rep* 2019; **7**(20): 655-8. [PMCID: PMC6523991]
5. Jo Suh B. Synchronous and metachronous colon cancers in patients with gastric cancer: report of 2 cases. *Case Rep Oncol* 2016; **9**(3): 752-9. [PMCID: PMC5156887]