

Back to Basics: History and Physical Examination Uncover Colonic Metastasis in a Patient With Remote History of Breast Cancer

Cory Higley, DO, MPH¹, Angela Hsu, MD¹, Byoung Uk Park, MD², and Maoyin Pang, MD, PhD³

¹Department of Internal Medicine, MedStar Georgetown University Hospital, Washington, DC

²Department of Pathology and Laboratory Medicine, MedStar Georgetown University Hospital, Washington, DC

³Department of Gastroenterology and Hepatology, Mayo Clinic Florida Hospital, Jacksonville, FL

ABSTRACT

We present the case of a 74-year-old woman with a remote history of recurrent localized breast cancer who presented with nonspecific gastrointestinal symptoms who was subsequently found to have metastatic breast cancer in the transverse colon. Nonspecific gastrointestinal complaints can be the first sign of cancer recurrence in these patients. Providers should maintain a high index of suspicion for disease recurrence when evaluating cancer survivors.

INTRODUCTION

Breast cancer is the second most common malignancy among women.¹ In the United States alone, there are more than 260,000 new cases diagnosed and almost 40,000 deaths annually.^{1,2} According to the American Cancer Society data, although some breast cancers remain in situ, the most common invasive breast malignancies are invasive ductal carcinoma, invasive lobular carcinoma, and lobuloductal carcinoma, the former being the most frequent.² The most common sites of breast cancer metastases include the lungs, bone, and liver, but metastases to the gastrointestinal (GI) system are exceedingly rare.^{3,4} When metastases to the GI tract occur, they typically appear in the stomach or small intestine and, less frequently, in the colon and rectum.⁵ We report a case of a breast cancer survivor who presented to our clinic with nonspecific GI symptoms and was subsequently found to have metastatic breast cancer in the transverse colon.

CASE REPORT

We present a 74-year-old woman who has a remote history of recurrent localized right-sided breast cancer initially managed with breast-conserving surgery and radiation therapy in the late 1980s. She was subsequently maintained on an estrogen receptor antagonist antineoplastic agent for many years before receiving a right mastectomy in the late 1990s for disease recurrence. She reported adherence to surveillance recommendations, receiving interval mammograms with the most recent being 3 months ago, which confirmed her remission for the following 2 decades.

On arrival at our clinic, she seemed quite anxious, toting several pages of notes describing her recent symptoms. She complained of changes in stool frequency and consistency, specifically describing a decreased stool caliber and episodes of constipation refractory to over-the-counter laxatives. Symptoms were present for the preceding 4 weeks and associated with nausea. She denied weight loss, abdominal pain, melanic stool, or bright red blood per rectum. She had a history of an ileocecal valve polyp which was surgically resected about 20 years ago, and her last colonoscopy was 4 years ago. Physical examination revealed a soft, nondistended abdomen with a firm focus in the periumbilical area without tenderness on palpation. As a result, both colonoscopy and abdominal computed tomography scan were recommended.

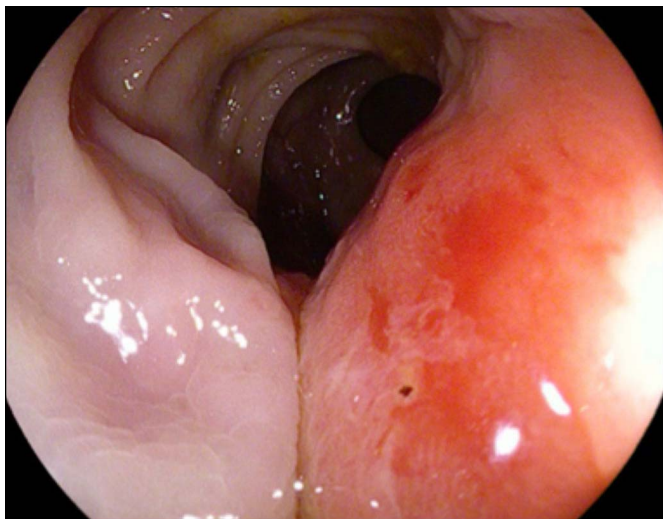


Figure 1. Endoscopic view of the transverse colon demonstrating erythematous friable mucosa with ulceration.

Colonoscopy revealed a normal-appearing ileocolonic anastomosis from previous polyp resection and a region of erythematous friable mucosa with ulcerations at the transverse colon measuring 3 cm wide (Figure 1). Pathology of the biopsies from ulcer revealed a poorly differentiated carcinoma associated with inflammation and fibrosis of the lamina propria (Figure 2). Immunohistochemistry confirmed suspected breast primary to colon. Colonic marker CDX-2 and CK20 were negative and neuroendocrine markers chromogranin and synaptophysin (Figure 3). GATA3, a breast carcinoma marker, was strongly positive supporting breast origin of this metastatic carcinoma (Figure 4). In addition, E-cadherin was performed which was negative indicating that this is most likely lobular carcinoma. Estrogen receptor, progesterone receptor, and HER-2 were all

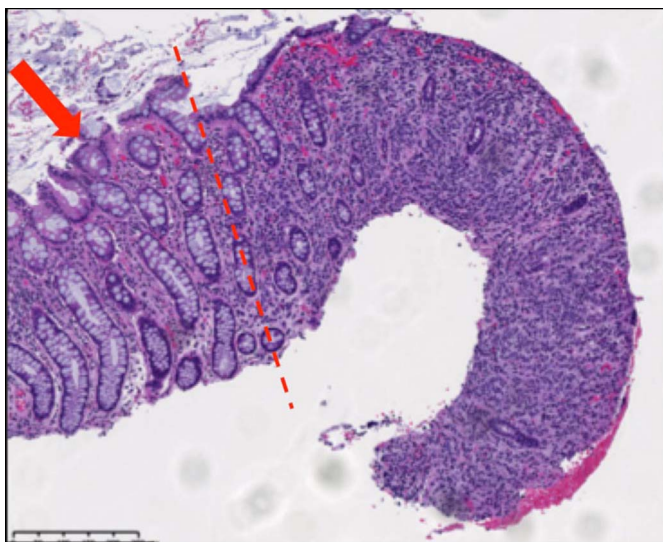


Figure 2. Hematoxylin and eosin stain—ulcerated mucosa with underlying dense infiltrate of poorly differentiated neoplastic cells in the lamina propria. Of note, non-neoplastic colonic mucosa with unremarkable colonic glands/crypts are seen on the left of the dotted red line (arrow).

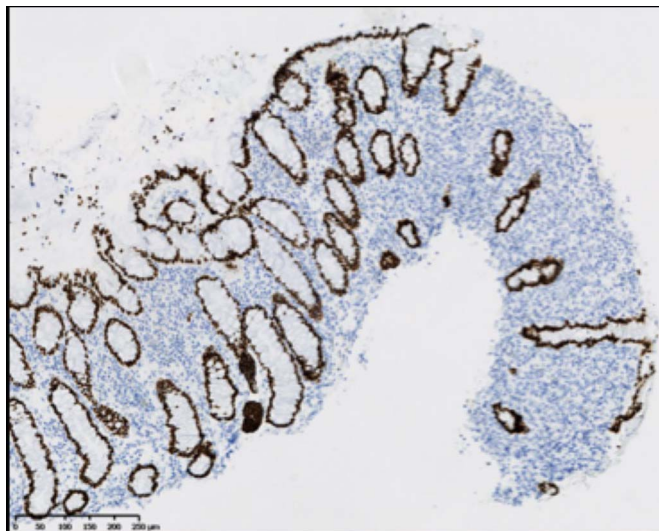


Figure 3. Immunohistochemistry for CDX-2—the neoplastic cells are negative for CDX-2, ruling out the possibility of adenocarcinoma of the gastrointestinal tract.

negative as well as PD-L1. Subsequent cross-sectional imaging revealed metastases to the omentum and retroperitoneum, specifically surrounding the left ovarian vein and left ureter. Because of these findings, our patient established care with oncology. She has since been initiated on a Nab-paclitaxel-based regimen and has completed cycle 1 (Figure 5).

DISCUSSION

We present this case not only to highlight an atypical presentation of a common malignancy but also to emphasize that providers should maintain a high index of suspicion for disease recurrence when evaluating cancer survivors. Nonspecific GI

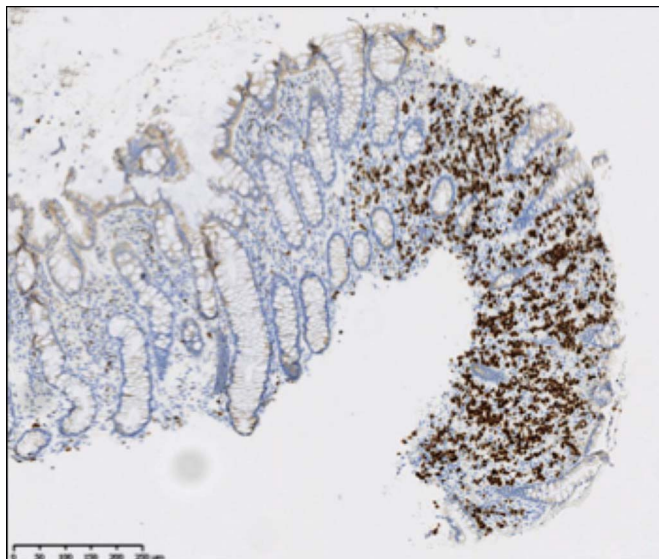


Figure 4. Immunohistochemistry for GATA3—the neoplastic cells are positive for GATA3, suggesting breast origin of these neoplastic cells.



Figure 5. Abdominal and pelvic computed tomography showing extensive irregular soft tissue density in the left retroperitoneum with encasement of the left ovarian vein and some involvement of the left ureter (arrow).

complaints can be the first sign of cancer recurrence in these patients.⁴ Being mindful of patients' cancer history and being aware of the likelihood and timing for potential metastases is important for all clinicians.

Although breast cancer metastases to the GI tract are a rare finding, when they do occur, they are typically to the stomach or small intestine; colonic metastases are far more uncommon.⁵ The frequency at which metastases occur, as well as the time at which they present, depends heavily on histologic subtype and hormone receptor status, respectively.^{4,6} Typically, cases of lobular carcinomas, such as our patient, tend to metastasize more than other subtypes.⁶ In addition, hormone receptor-negative disease tends to present earlier than hormone receptor-positive disease, with the former typically appearing within 5 years after initial diagnosis of localized breast cancer and the latter presenting well beyond that, with some cases reporting up to 30 years later.⁴ Although our patient has lobular carcinoma, interestingly, she also has triple-negative disease confirming exceptions to these rules.

This case also highlights the importance of routine care for cancer patients even after achieving remission. The American Society of Clinical Oncology suggests that cancer patients be seen every 3–6 months during the first 3 years after completing therapy, broadened to every 6–12 months for the next 2 years, and then, annually thereafter.⁷ It is important to pay close attention to detail to both history and physical examination components because anchoring and confirmation bias about a patient's history may mislead

clinicians down an incorrect diagnostic path. Physical examination clues such as weight loss, temporal wasting, pallor, lymphadenopathy, and masses such as the abdominal firmness found on our patient's examination can provide objective clues that cancer may have recurred and should be evaluated thoroughly including using cross-sectional imaging if colonoscopy is negative. Without attention to these small but significant findings on examination, our patient's irritable bowel syndrome-like symptoms and anxious persona may have led to the presumptive diagnosis of a non-malignant etiology and a missed opportunity for early oncologic intervention.

Routine history taking and careful physical examination are imperative with all patients with a history of cancer and even in the setting of nonspecific GI symptoms. Providers should maintain a high index of suspicion for disease recurrence when evaluating cancer survivors.

DISCLOSURES

Author contributions: C. Higley and A. Hsu wrote the manuscript. BU Park provided the pathology images. M. Pang edited the manuscript and is the article guarantor.

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Informed consent was obtained for this case report.

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