Rare Gastrointestinal Manifestations of Metastatic Breast Cancer

Nairuti Shah, MD[1]; Lisa Ganjhu, DO, FACG[2]
[1] NYU Langone Hospital Long Island; Department of Internal Medicine, [2] NYU Langone; Department of Gastroenterology

INTRODUCTION

Breast cancer is the most common cancer and a leading cause of mortality among women. Breast cancer commonly metastasizes to the lung, liver, bones, and adrenal glands. However, there are rare instances where breast cancer can metastasize to the GI tract, most commonly the stomach. We present a case of a 65-year-old woman diagnosed with breast cancer in 1997 and found to have metastases to the stomach and cecum 19 and 21 years later, respectively.

CASE PRESENTATION

- A 65 y/o F with a PMHx of infiltrating lobular breast carcinoma (ER-positive) s/p resection and chemotherapy and PUD presented 19 years later with refractory nausea
- EGD showed localized moderate inflammation characterized by congestion, erythema, and friability in the stomach (Figure A)
  - Pathology (IHC staining) revealed tumor cells that were ER- and CAM5.2-positive and PR-negative (Figures B,C). These findings were consistent with metastatic carcinoma with a breast primary
- The patient had a subsequent PET scan that was positive for metastasis to the bone, spine, and pelvis and was restarted on hormonal-based chemotherapy
- Two years later the patient presented with nausea, vomiting, and loss of appetite
- CT A/P with contrast showed a new finding of a 1.2 cm metastasis to the cecum
- Colonoscopy showed altered vascular, atrophic, ulcerated mucosa in the cecum and thickening of mucosal folds in the proximal ascending colon (Figure D)
  - Pathology (IHC staining) revealed neoplastic cells positive for GATA-3 and negative for CDX-2, which support the diagnosis of infiltrating carcinoma from breast primary (Figures E,F)
- The patient was continued on several different lines of chemotherapy, however the patient did not respond to therapy

FIGURES

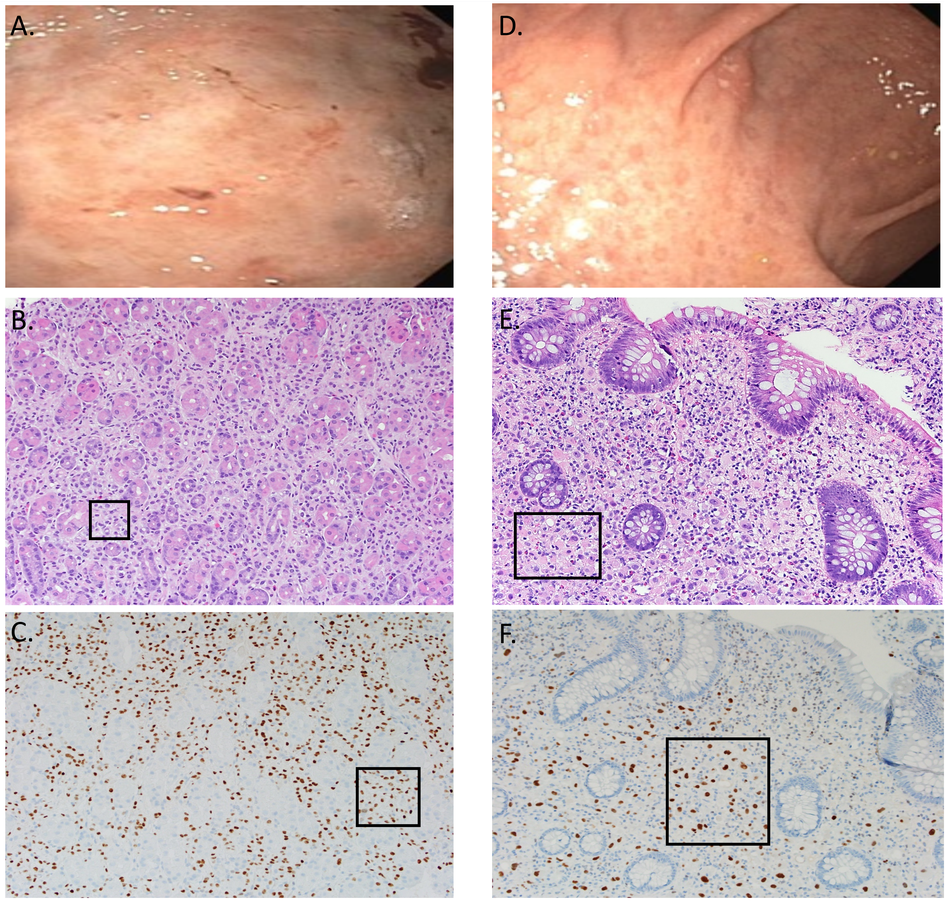

Figure A. EGD findings in stomach **Figure B.** Gastric oxyntic mucosa with lamina propria expansion by infiltrating cells **Figure C.** Immunohistochemical stain for estrogen receptor. The normal oxyntic glands are negative while the infiltrating cells exhibit expression **Figure D.** Colonoscopy findings in ascending colon **Figure E.** Colonic mucosa with lamina propria markedly expanded by infiltrating cells **Figure F.** Immunohistochemical stain for GATA-3, marker of breast differentiation. The normal crypts are negative while the infiltrating cells exhibit expression.

DISCUSSION

- Metastatic disease of the breast to the GI tract is a relatively rare presentation and can present several years after the primary cancer
- Often GI symptoms are attributed to chemotherapy or a primary GI disease, this can delay the diagnosis and treatment
- An EGD was performed to evaluate her complaints of nausea, findings revealed gastritis however the biopsy confirmed metastatic disease
- A colonoscopy was performed to evaluate CT findings concerning for metastatic disease to the cecum and ascending colon. Colonoscopy findings showed mucosal changes and the biopsies confirmed metastatic carcinoma consistent with a primary breast cancer
- Case reports in the past have shown that metastatic breast cancer to the GI tract can be diagnosed up to 30 years later
- This highlights the importance of including primary breast cancer metastasis in the differential diagnosis of gastrointestinal symptoms in patients with history of breast cancer

REFERENCES

1. Ambroggi M, Stroppa EM, Mordenti P, Biasini C, Zangrandi A, Michieletti E, Belloni E, Cavanna L. Metastatic breast cancer to the gastrointestinal tract: report of five cases and review of the literature. Int J Breast Cancer. 2012;2012:439023. doi: 10.1155/2012/439023. Epub 2012 Oct 4. PMID: 23091732; PMCID: PMC3471430.
2. Blachman-Braun R, Felemovicius I, Barker K, Kehrberg E, Khan F. Widespread metastatic breast cancer to the bowel: an unexpected finding during colonoscopy. Oxf Med Case Reports. 2019 Feb 16;2019(2):omy133. doi: 10.1093/omcr/omy133. PMID: 30800329; PMCID: PMC6380529.
3. Nazareno J, Taves D, Preiksaitis HG. Metastatic breast cancer to the gastrointestinal tract: a case series and review of the literature. World J Gastroenterol. 2006 Oct 14;12(38):6219-24. doi: 10.3748/wjg.v12.i38.6219. PMID: 17036400; PMCID: PMC4088122.