

CASE REPORT

An uncommon case of synchronous gastric and colonic metastases from breast cancer

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Author contribution: Wala Ben Kridis drafted the manuscript, and analyzed and interpreted the data. Mayssa Lajnef conceived and designed the project. Ameni Feki collected the data. Laila Belaid: pathological study; Afef Khanfir: revision. All authors read and approved the final manuscript.

Abstract

Invasive lobular carcinoma is the second-most-common subtype of breast cancer. It is characterized by a different metastatic pattern with a propensity to metastasize to pleura, peritoneum, gastrointestinal tract, and ovary. We report a woman with known metastatic disease outside the gastrointestinal tract who had endoscopy and colonoscopy for gastrointestinal symptoms. Extensive metastases were found in the stomach and colon with a diffuse infiltration of signet ring-like cells at histology and immunohistochemical findings consistent with breast carcinoma. To the best of our knowledge, this is the first report of such a case from Africa.

Introduction

Breast cancer is the most common tumor affecting women.¹ Invasive lobular carcinoma presents the second-most-common subtype of invasive breast cancer. It accounts for 10–15% of all breast cancers.² Breast cancer is diagnosed at a metastatic stage in 5–15% of cases. Mostly, the primary areas of metastasis from breast cancer are lungs, bones, liver and brain.³ Gastrointestinal metastases from breast cancer are rarely seen. We report here an exceptional case of both gastric and colonic metastases in a woman with invasive lobular cancer.

Case Report

A 69-year-old woman with no previous medical history was diagnosed with invasive lobular breast cancer associated with bone and lymph node metastases in 2017. On immunohistochemistry, hormone receptors were positive, and her2 status was negative. The patient was treated with chemotherapy based on anthracyclines then she received hormone therapy with an aromatase inhibitor. In July 2020, clinical and radiological progression with orbital metastases occurred. She was initiated on chemotherapy based on vinorelbine. After five cycles, a computed tomography (CT) scan showed segmental thickening involving the transverse colon. The patient had a history of recent constipation with epigastralgia. Total colonoscopy documented extensive

congestive colitis involving the transverse and right colon. Biopsy with histological study revealed colon infiltration by diffuse signet ring cell-like carcinoma (Fig. 1). Immunohistochemistry staining was positive to estrogen receptor, cytokeratine 7, and GATA3 and negative for CK20 and CDX2 (Fig. 2). To explore the upper gastrointestinal tract, endoscopy was performed and demonstrated infiltrated and ulcerated pangastropathy with a polypoid appearance. The pathological study concluded a diffuse proliferation of signet ring-like cell (Fig. 1). The final diagnosis was colonic and gastric metastases from breast cancer. Subsequently, the patient received chemotherapy with docetaxel but died 3 months after the diagnosis of gastrointestinal metastases.

Discussion

Gastrointestinal metastases from breast cancer are found in 0.7%, but in autopsy series, its incidence was 6–18%.⁴ Lobular carcinoma is characterized by the loss of *E*-cadherin and is more likely to metastasize to peritoneum, pleura, and ovaries.³ The propensity to metastasize to gastrointestinal tract is still unclear. It may be explained by the affinity between the tumor cells in the bloodstream and the microcirculatory environment of the intestinal epithelium. Metastases to the gastrointestinal tract are much more likely to involve the stomach and small bowel than the colon.⁵ In our patient, both gastric and colonic metastases were affected at the same time. Because of its asymptomatic character

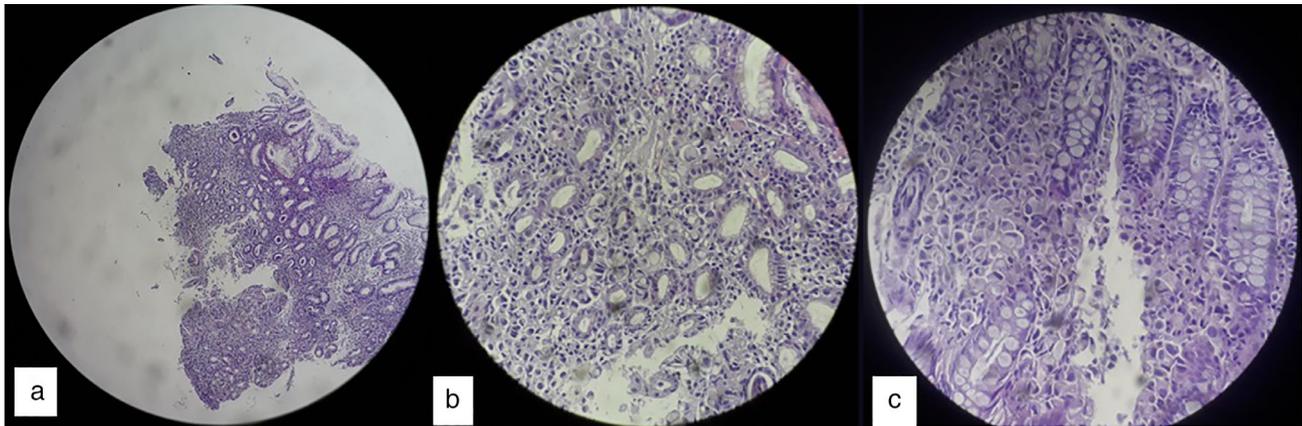


Figure 1 (a) Infiltration of the submucosa by a carcinomatous proliferation of diffuse architecture (HE, $\times 100$). (b) Tumor cells are globoid with a fairly abundant cytoplasm and an eccentric nucleolus presenting a focal ring-like appearance (HE, $\times 400$). (c) Infiltration of the submucosa of the colonic mucosa by a carcinomatous proliferation of diffuse architecture, with globoid cells with fairly abundant clear cytoplasm sometimes occupied by a large vacuole pushing back the nucleus at the periphery and achieving the appearance of a signet ring (HE, $\times 400$).

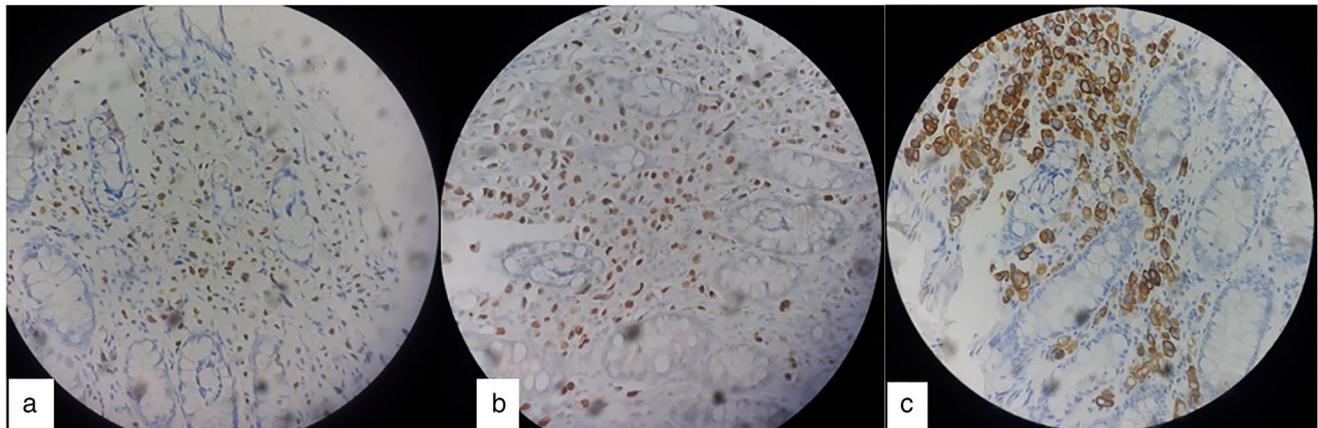


Figure 2 (a) Positivity of estrogen receptors. (b) Positivity of tumor cells to GATA-3. (c) Labeling with cytokeratin-7.

at an early stage, most cases of gastrointestinal metastases are diagnosed at an advanced stage after the onset of symptoms such as abdominal pain, hematemesis, constipation, and bloody stool.⁴

Endoscopic features of gastrointestinal metastases from breast lobular carcinoma include mucosal rigidity, nodularity, and thickening of intestinal wall.⁶ Since they can simulate primary colon cancer and several other pathologies like Crohn's disease, the diagnosis of colonic metastases of breast cancer is challenging and needs to include biopsies for histology. One of the histological features of colonic metastases from breast cancer is that the tumor largely involves the muscle layer while the mucosal layer can be near-normal. As a consequence, it is necessary to perform deep sampling during endoscopy.⁴ Invasive lobular carcinoma is characterized by the presence of the mucus in the intracellular region, thus histological appearance may indicate signet ring cell-like carcinoma. Immunohistochemical staining is very useful to confirm the mammary origin. Concerning the management of gastrointestinal metastases from breast cancer, there is no consensus. Surgery has a place in case of complications

such as stenosis or bleeding. Otherwise, the treatment is based on specific systemic therapy for metastatic breast cancer.

Ethics Statement

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and the national research committee of Habib Bourguiba and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed consent was obtained from the patient.

Data Availability Statement. Data sharing is not applicable to this article as no new data were created or analyzed in this study.

References

- 1 DeSantis CE, Ma J, Gaudet MM *et al.* Breast cancer statistics, 2019. *CA Cancer J. Clin.* 2019; **69**: 438–51.
- 2 Molina-Barea R, Rios-Peregrina RM, Slim M, Calandre EP, Hernández-García MD, Jimenez-Rios JA. Lobular breast cancer metastasis to the colon, the appendix and the gallbladder. *Breast Care.* 2014; **9**: 428–30.
- 3 Galanopoulos M, Gkeros F, Liatsos C *et al.* Secondary metastatic lesions to colon and rectum. *Ann. Gastroenterol.* 2018; **31**: 282–7.
- 4 Kobayashi M, Tashima T, Nagata K, Sakuramoto S, Osaki A, Ryozaawa S. Colorectal and gastric metastases from lobular breast cancer that resembled superficial neoplastic lesions. *Clin. J. Gastroenterol.* 2021 Feb; **14**: 103–8.
- 5 Tsujimura K, Teruya T, Kiyuna M *et al.* Colonic metastasis from breast carcinoma: a case report. *World J. Surg. Oncol.* 2017; **15**: 124.
- 6 Lortholary A, Humeau B, Castanié H, Zgarni-Guillaumet L, Kouri CE. Lobular breast cancer metastasis to the colon. *Presse Med.* 2017; **46**: 126–8.