CASE REPORT

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

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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.

Key words
breast cancer, gastrointestinal metastases, lobular carcinoma.

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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 Fki collected the data. Laila Belaid: pathological study; Afef Khanfir: revision. All authors read and approved the final manuscript.

Introduction

Breast cancer is the most common tumor affecting women. Invasive lobular carcinoma presents the second-most-common subtype of invasive breast cancer. It accounts for 10–15% of all breast cancers. 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. 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 of 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 and ulcerated pan-gastropathy with a polypoid appearance. 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%. Lobular carcinoma is characterized by the loss of E-cadherin and is more likely to metastasize to peritoneum, pleura, and ovaries. 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. In our patient, both gastric and colonic metastases were affected at the same time. Because of its asymptomatic character
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. Endoscopic features of gastrointestinal metastases from breast lobular carcinoma include mucosal rigidity, nodularity, and thickening of intestinal wall. 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. 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.
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