

Metachronous Bilateral Breast Invasive Lobular Carcinoma with Metastasis to an Unusual Site

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ABSTRACT

Breast cancer metastasis to stomach occurs rarely and generally derives from infiltrating lobular carcinoma rather than infiltrating ductal carcinoma. We report a case of metachronous bilateral breast infiltrating lobular carcinoma metastasis to stomach in a 46-year-old female, who experienced epigastric pain, intermittent vomiting and weight loss for the duration of four months. Upper GI endoscopy done showed a gastric fundal mass and a biopsy taken. Histopathological examination of a biopsy specimen revealed metastatic lobular carcinoma.

Key words: Breast cancer, Infiltrating lobular carcinoma, Gastric metastasis, Immunohistochemistry, Estrogen.

Key Messages:

Patient with a history of invasive lobular carcinoma of breast who present with dyspepsia and other upper gastrointestinal symptoms. Endoscopic examination should be performed to rule out metastasis from breast cancer to an unusual site like stomach. Diagnostic confirmation involves comparison of the histology of the primary tumor and the metastasis, with immunohistochemistry as an essential tool.

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INTRODUCTION

Breast cancer is the most common malignancy in women and it is the second most common cause of cancer related deaths in women. Gastric metastasis from primary breast cancer is a rare phenomenon. It is more prevalent in the invasive lobular type of breast cancer, although the most common histologic subtype of breast cancer is the invasive ductal type. Here we present a case of breast cancer metastasis to the stomach.

Case History

44-year-old female, presented in February 2011 with complaints of left breast mass. Clinically, there was a large mass in the left breast measuring 7×6 cm. Mammogram shows left breast mass measuring 3×4×7 cm. Trucut biopsy taken and histopathology was invasive lobular carcinoma. ER negative, PR positive and HER2 negative. CT scan chest and abdomen was done free of metastases. Received neo-adjuvant chemotherapy based on TEC regimen (Docetaxel, Epirubicin, Cyclophosphamide). MRI breast done after neo-adjuvant chemotherapy showed no mass in the breast. MRM done and histopathology showed focal areas of invasive lobular carcinoma. All surgical margins were free. Three out of fifteen nodes showed metastatic deposits. Received two cycles of adjuvant chemotherapy TEC regimen followed by adjuvant radiation therapy. Received Tamoxifen for five years from September 2011. The patient kept on follow up. In July 2018, she presented with epigastric pain, intermittent vomiting and weight loss for four

months. The patient underwent a gastroscopy, which demonstrated bulky, polypoidal mucosal changes involving the fundus and body of the stomach up to the antrum and multiple biopsies taken. Histopathology was metastatic lobular carcinoma. IHC done and tumor cells were positive for GCDFP-15, ER, PR, CK7 and negative for CK20 and CDX-2. CT scan chest-abdomen done showed right axillary lymphadenopathy, heterogenous left ovary, abdominal ascites, mesenteric stranding with lymphadenopathy and gastric wall thickening. Bilateral pleural effusion being moderate on right side and minimal left side. Bone scan revealed multiple active osseous deposits. Right breast mammogram reported as Birads V. Ultrasound guided trucut biopsy taken and histopathology revealed invasive lobular carcinoma, ER negative, PR moderate positive and HER2 negative.

DISCUSSION

The lobular subtype represents the second most frequent breast neoplasia and the majority of breast tumors arise in the ductal epithelium. The family history of breast carcinoma, estrogen receptor negativity, and human epidermal growth factor receptor-2 positivity are risk factors for the development of contralateral breast malignancy.^[1] Metachronous contralateral breast cancer in young patients is suggestive of a genetic predisposition. Remarkably, *BRCA* mutations are more frequent among patients with metachronous cancers.^[2,3] Lobular carcinoma is known multicentricity and for bilateral spread.

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Metastases to distinct sites such as gastrointestinal tract (e.g. colon and stomach), peritoneal surface, retroperitoneum, and uro-genital organs (e.g. ovaries) are known in ILC. Breast cancer is the second most common type of primary tumor capable of metastasis to the stomach next to malignant melanoma.^[4] Gastrointestinal metastases may be asymptomatic or may present with nausea, vomiting or abdominal pain. They may be seen as a bleeding ulcer, obstructing mass, Linitis plastica pattern or simply a nodule.^[5] Interestingly, the predominant histologic type of breast cancer with gastrointestinal (GI) metastases is a lobular type, which accounts for only 8% of all breast cancers.^[6,7] Metastatic breast cancer is positive for CK7, GCDFP-15, carcinoembryonic antigen, ER and PR, and it is negative for CK20.^[8,9] CK20 and CK7 expression are also important markers. Generally, CK20 is positive in gastric, colorectal, pancreatic, and transitional cell carcinoma, while it is not usually observed in any kind of breast carcinoma.^[10] CK7 is expressed positively in 90% of breast carcinoma and present in 50-64% of primary gastric adenocarcinoma.^[10,11] In our case, immunohistochemical markers were positive for GCDFP, PR, CK7 and negative for CK20. Systemic therapy with chemotherapy is routinely used for for gastric metastases from breast cancer. Patients with ER positive gastric metastases have a good response to hormonal therapy.^[12]

CONCLUSION

Clinicians need to keep in mind that gastrointestinal complaints can occur years later. Sometimes be the first signs of metastatic spread in patients with a history of breast cancer. Especially true for patients with lobular carcinoma due to its increased frequency of gastrointestinal metastases compared to ductal-type. Therefore, the possibility of gastric metastasis from breast cancer should be considered if a patient presents with a gastric lesion and a history of breast cancer. The history of breast

cancer and IHC can help with correct diagnosis and differentiation of metastatic breast carcinoma from primary gastric carcinoma.

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