

# Gastric Metastases of Invasive Ductal Breast Carcinoma: Case Report and Review of the Literature

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## Abstract

Breast cancer is the most common malignancy in women and the main cause of cancer death in China. Breast cancer metastatic to the gastrointestinal tract is rare. The metastatic patterns of invasive lobular carcinoma (ILC) and invasive ductal carcinoma (IDC) have been shown to differ considerably. Liver, lung and brain metastases are more common in IDC. Here We present a 60-year old woman who was diagnosed with metastatic carcinoma of the stomach.

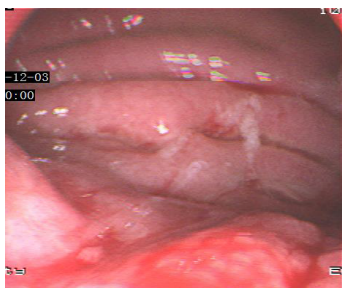
**Keywords:** Breast cancer; Metastatic carcinoma; Malignancy

## Introduction

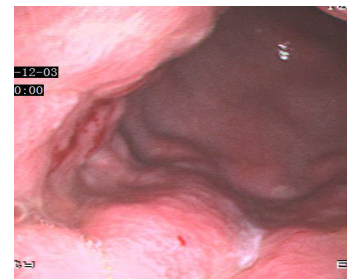
Breast cancer is the most documented malignancy in women and an important factor leading towards the morbidity and mortality in women [1]. It accounts for more than 25% of all newly diagnosed cancers in females and is responsible for 15% of the cancer-related deaths in women [1]. The metastatic disease usually develops in 75% of breast cancer patients with or without treatment of the primary malignancy. Common sites of breast cancer metastasis include the lungs, liver, bones, soft tissue, and adrenal glands [2,3]. Gastrointestinal (GI) tract metastasis and carcinomatosis from primary breast cancer are rare. One autopsy series reported an occurrence rate of 8% to 35% [4-8]. It may be very important to distinguish metastatic gastric tumors from primary gastric cancers based on clinical, endoscopic, radiological, and histopathological features.

## Case History

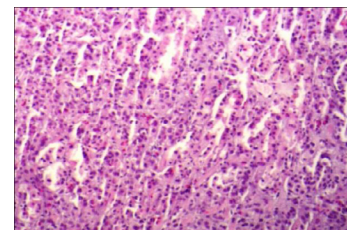
We present a 60-year-old woman who was diagnosed with metastatic carcinoma of the stomach. Ten years earlier she had been treated for a grade 2 invasive ductal carcinoma that was ER (++) PR (+) HER-2 (-), not involve the nipple, skin chest fascia, Ipsilateral axillary lymph node no cancer metastasis (0/10). She underwent left mastectomy and axillary clearance, followed by adjuvant chemotherapy (epirubicin/cyclophosphamide /fluorouracil), adjuvant chest wall and supraclavicular radiotherapy and adjuvant hormonal therapy with 5 years of anastrozole. There was no relevant family history. The patient had presented to the gastroenterologist with anorexia, diet reduced, with nausea and vomiting and slight weight loss. Gastroscopy examination found (Figures 1 and 2). The whole body mucous membrane diffuse thickening, thick folds, stiff feeling, peristalsis, from the cardia dentate line down to the junction of gastric sinus, which was biopsied. Histology



**Figure 1:** Endoscopic image of metastasis gastric cancer.



**Figure 2:** endoscopy revealed the whole body mucous membrane diffuse thickening, stiff feeling, peristalsis.



**Figure 3:** Infiltration of the gastric wall by the ductal breast carcinoma(HEX40).

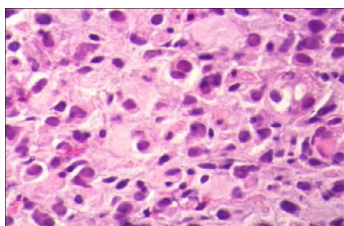
demonstrated metastatic invasive lobular cancer that was oestrogen/progesterone receptor positive, HER2 negative, CK7 positive, CD56 negative, GCDFP-15 positive, GATA-3 positive, CK20 negative and Ki-67 15% (Figures 3 and 4). Computed tomography (CT) confirmed diffuse thickening of the gastric mucosa in the gastric body (Figures 5 and 6). The patient underwent six cycles of paclitaxel and cisplatin chemotherapy and subsequently started exemestane and remains asymptomatic.

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**Figure 4:** Infiltration of the gastric wall by the ductal breast carcinoma (HEX90).



**Figure 5:** The abdominal CT of the patient, domenstrating the diffuse thickening of the gastric mucosa in the gastric body.



**Figure 6:** The abdominal CT of the patient, domenstrating that diffuse thickening of the gastric mucosa in the gastric body.

## Discussion

Metastatic tumors in the gastric are quite rare and approximately 300 cases of gastric metastases from extra mammary sites have been reported [9]. The most frequent primitive tumors are lymphoma, leukaemia, and malignant melanoma [9,10]. Though breast cancer metastases to the gastrointestinal tract being less common than to other sites, because breast cancer is extremely common, it may be responsible for a high proportion of metastatic gastric tumors [11]. Most reports reviewing secondary tumors of the GI tract have been autopsy series or single case reports of rare tumors or unusual presentations [12-15]. Borst and Ingold [16] analyzed 2604 cases of breast cancer with subsequent metastatic disease over an 18-year period. When compared with other breast cancer subtypes, infiltrating lobular carcinoma was found to metastasize more frequently to the GI tract, gynecological organs, peritoneum, retro peritoneum, adrenal glands, or bone marrow. Only 17 patients (<1%) were found to have metastasis to the GI tract: this reflects the rare nature of metastases to this site. Taal and colleagues [17] from the Netherlands. Cancer Institute published reports in 1992 of two series of patients with GI metastasis secondary to breast cancer. The first series presented 27 patients with breast carcinoma metastatic to the stomach (Figures 5 and 6). The second series presented 17 patients with colorectal metastases secondary to breast cancer. Both reports noted a greater frequency of primary infiltrating lobular carcinoma (88%) compared with infiltrating ductal carcinoma (74%).

In the present study, tumor histology may become one of the predictors of metastatic spread, lobular carcinoma is more likely to metastasize to the gastrointestinal tract, although metastatic gastric tumors are less common than ductal carcinoma and the mechanisms involved are not clear [8,10]. These results emphasize the importance of considering metastatic gastric cancer, especially in patients with a previous history of breast cancer. In such cases, clinicians should undertake additional immunohistochemical examinations, Immunohistochemical markers for the estrogen receptor, gross cystic disease fluid protein, and the differential expression of cytokeratin 7 and 20 can facilitate an accurate diagnosis and prompt initiation of appropriate antineoplastic therapy.

## Conclusion

Despite breast cancer metastases to the gastrointestinal tract being less common than to other sites, clinicians should be aware of the possible existence of metastatic gastric cancer from other malignancies of solid organs, especially in breast lobular carcinoma.

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