A Rare Metastatic presentation of Lobular Carcinoma of the Breast: Gastric Linitis Plastica

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ABSTRACT

The breast cancer-derived metastatic gastrointestinal diseases are not common and gastric metastases are very rare. Clinical presentation of linitis plastica caused by metastatic breast cancer is similar to that caused by primary gastric cancer but their treatments differ dramatically. Patients with breast cancer who apply with progressive upper gastrointestinal complaints must undergo a full physical examination, radiological and endoscopic evaluation by a clinician.

***Key words**: Linitis plastica , Lobular breast cancer , Gastric cancer*

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INTRODUCTION

The breast cancer can metastasize to any organ, lymph nodes, bones, lungs, liver and brain are the organs where the metastasis most frequently occurs. Gastrointestinal system involvement is observed less frequently. The frequency of gastric metastases of breast carcinomas is 0.3-18%[1-5] while this rate is higher in autopsy series. (% 4-35) [6-8] of breast carcinomas, lobular carcinoma has a higher frequency of gastric metastases. However, it is hard to distinguish linitis plastica caused by breast cancer and linitis plastica caused by primary gastric cancer using radiological and endoscopic methods. Their prognoses and treatments differ dramatically.

CASE REPORT

66 years old female patient presented to our outpatient clinic with abdominal distention, epigastric pain, weight loss and loss of appetite complaints present for three months. The patient underwent radical mastectomy 3 years ago due to locally advanced invasive lobular carcinoma (T3N1M0) and in the immunohistochemical evaluation the patient was 75% estrogen receptor (ER) positive, 25% progesterone (PR) positive, cerbB2 negative. The patient was treated with 6 cycles of docetaxel-cyclophosphamide chemotherapy followed by adjuvant radiotherapy.

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As hormone treatment, the patient has been using 20 mg/day oral tamoxifen for 2.5 years and abdominal ascites was detected in patient's physical examination. Gynecological examination was normal. Serum Ca-125: 2035 U/ml (1.7-32 U/ml) and Ca-15-3: 251 U/ml (4.5-29 U/ml) levels were high. Ascites fluid was exudate and malignant cytology was positive. Computed tomography of the thorax and ultrasonographic imaging of the right breast were normal. In abdominal tomography, it was found that there was 1 cm of diffused mural thickening on the greater curvature of the stomach and intraperitoneal diffuse fluid. No bone metastases was detected in whole-body bone scintigraphy. Diffuse hyperemia in stomach, infiltration 'linitis plastica' was detected and random biopsies were taken. (Figure 1) Pathology of the endoscopic biopsy was reported as invasive lobular carcinoma. (Figurel 2-5) Immunohistochemical evaluation showed that it was positive for ER, PR, cytokeratin 7 (CK7), low molecular weight cytokeratin (LMWCK) and gross cystic disease fluid protein-15 (GCDFP-15) while it was negative for, cerbB2 and cytokeratin 20 (CK20). ER, PR and GCDFP-15 positivity are the immunohistochemical evaluations that are predictive of breast cancer[9,10] Pathological examinations showed that the gastric metastasis of the breast invasive lobular carcinoma is 'linitis plastica'. Oral capecitabin treatment was started. The patient died in the third month of the treatment.

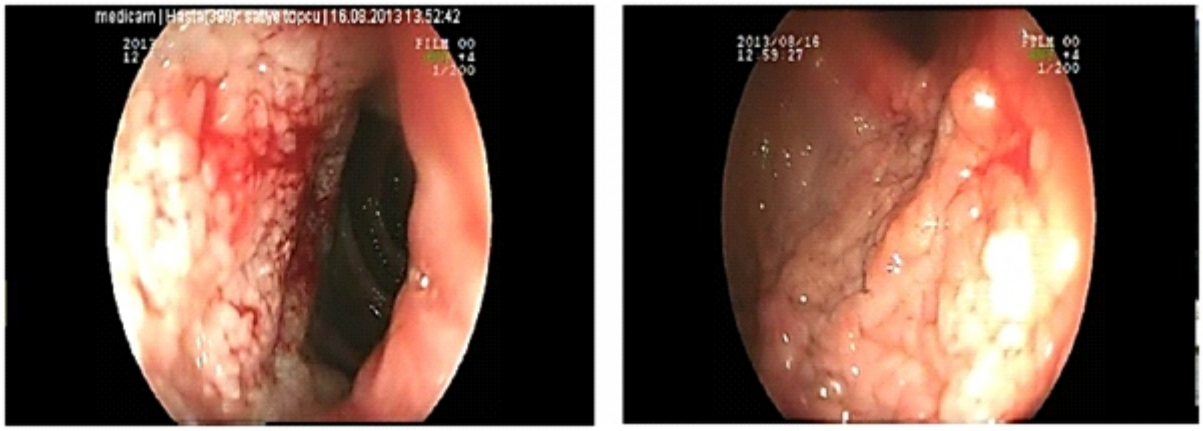


Figure 1. Gastroscopic images of linitis plastica in the patient

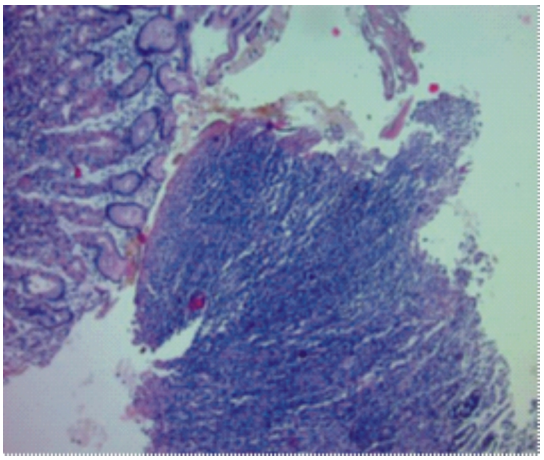


Figure 2

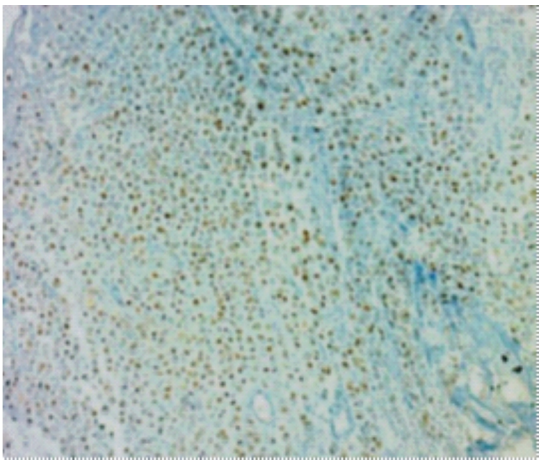


Figure 3

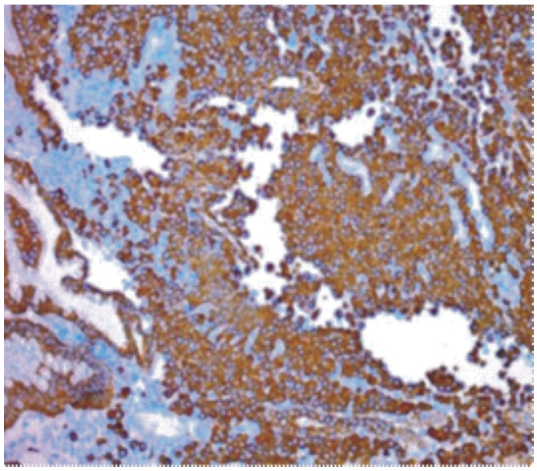


Figure 4

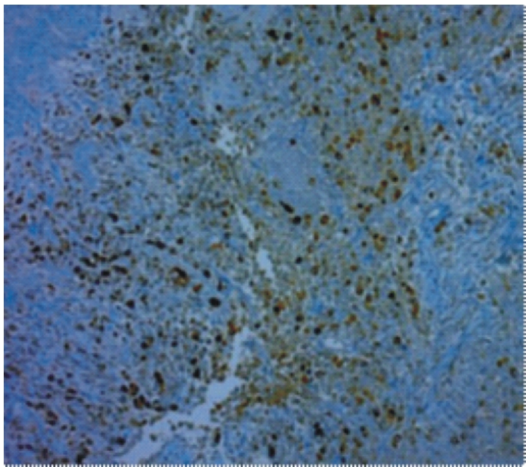


Figure 5

Figure 2. Diffused carcinoma infiltration at the corpus mucosa of the stomach (H&E;X100)
Figure 3. Immunohistochemical positivity for diffused estrogen receptor(ER) in tumor cells (B-SA, DAB; X100)
Figure 4. Immunohistochemical positivity for low molecular weight cytokeratin (LMWCK) in tumor cells (B-SA, DAB; X100)
Figure 5. Immunohistochemical positivity for GCDFP-15 in tumor cells (B-SA,DAB; X100)

DISCUSSION

While breast cancer metastasis to gastrointestinal system is the second most common metastasis of breast cancer, it is less compared to the breast cancer metastases to other organs. Lobular histological subtype of breast carcinomas is the most common breast carcinoma to cause gastric metastasis. (11, 12) Metastatic breast carcinomas can manifest as polyps or nodules in the stomach or diffused thickening of the stomach wall. Invasive lobular carcinoma has an unusual pattern of metastasis and atypical metastases to bone, genital tract, peritoneum, retroperitoneal space and gastrointestinal system are frequently observed. (13) Invasive lobular carcinomas more often spread in the form of linitis plastica in the gastrointestinal tract and the presence of signet-ring cells and diffused infiltration of tumor cells make it hard to distinguish it from primary gastric carcinomas. Has metastatic lobular carcinoma of the breast. The tendency of invasive lobular carcinoma to metastasize to gastrointestinal system is not fully clarified, and this distinct clinical characteristic can be explained by the reduced expression of intracellular adhesion molecule E-cadherin. (14)

Clinical presentation is similar in both cases and the symptoms are non-specific such as dysphagia, dyspepsia, anorexia, abdominal pain, nausea and vomiting, but treatment modalities differ dramatically. The treatment of metastasis of breast lobular carcinoma to the stomach in the form of linitis plastica is hormone therapy and/or chemotherapeutic agents.

CONCLUSION

Patients with a history of breast cancer who applied with persistent upper gastrointestinal complaints should undergo a full physical examination, radiological and endoscopic evaluation by the clinician. It should be kept in mind that breast cancer, particularly invasive lobular carcinoma can cause linitis plastica through gastric metastasis and can mimic a primary gastric cancer.

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