Gastric linitis plastica due to metastatic lobular breast carcinoma

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HUGO J FREEMAN, U KUUSK, J DAVIS. Gastric linitis plastica due to metastatic lobular breast carcinoma. Can J Gastroenterol 1993;7(1):55-57. A 35-year-old female with previously diagnosed lobular breast carcinoma presented with clinical radiographic and endoscopic features of a diffuse gastric infiltrative process. Multiple gastric biopsies revealed characteristic histological features of a metastatic lobular breast carcinoma. In patients with a history of breast carcinoma, distinction between primary and secondary gastric malignancy is important as treatment options may differ substantially. Recognition that the scirrhou s changes in the stomach are due to metastatic breast carcinoma, particularly of the lobular histological type, may lead to further palliative pharmacologic therapy that could benefit the patient and improve survival.

Key Words: Cancer of the stomach, Chemotherapy, Gastric cancer, Linitis plastica, Lobular breast carcinoma, Signet ring cell

BREAST CARCINOMA IS THE MOST common malignancy in women and metastases occur frequently, particularly to lymph nodes, bones, lung, liver and brain. Although previously considered to be rare (1) gastric metastasis from breast carcinoma has been increasingly recorded (2-7). Radiologic and pathological patterns of gastric metastatic disease include: microscopic or macroscopic disease without detectable radiographic change; solitary or multiple nodules, often with ulceration, that may appear as a radiographic filling defect; and diffuse gastric infiltration that simulates more typical linitis plastica of the stomach. In these patients, the characteristic histologic features of lobular carcinoma may be present (8). Recognition of this histologic subgroup and its ability to mimic primary gastric linitis plastica may be important because of the recent developments in the role of palliative chemotherapy and hormonal treatment in improving quality of life and survival of patients with metastatic breast carcinoma.

CASE PRESENTATION

A 35-year-old female was referred in March 1991 for investigation of a seven-month history of progressive nausea, vomiting and a 16 kg weight loss...
Examination at referral in March 1991 revealed a cachectic woman with a left mastectomy scar and a left breast prosthesis but no lymphadenopathy. Abdominal examination was normal. An erythematous area on the left chest wall was biopsied and showed infiltrating lobular breast carcinoma (Figure 3). Laboratory studies including hemogram, multichannel blood chemistry analysis and abdominal ultrasound were normal. Abdominal computerized tomography suggested enlarged para-aortic lymph nodes and possible gastric wall thickening. Upper gastrointestinal endoscopy revealed narrowing and rigidity of the gastroesophageal junction; the patient experienced discomfort with air insufflation of the stomach. Gastric fundic, body and antral mucosa were abnormally thickened, typical of a diffuse infiltrating process. Multiple endoscopic gastric mucosal biopsies revealed the lamina propria to be expanded by an infiltrate composed of malignant cells with histologic characteristics similar to the previously defined lobular infiltrating breast carcinoma (Figure 4); the gastric epithelium was normal and intestinal metaplasia was not present. A barium swallow revealed a thickened and rigid stomach characteristic of the typical radiologic features of gastric limitis plastica (Figure 5). A feeding jejunostomy was inserted because of her inability to eat and a course of chemotherapy was initiated using 5-fluorouracil, doxorubicin and etoposide.
bicin and cyclophosphamide. She had a good clinical response with a 10 kg increase in weight and resolution of chest wall disease. By July 1991, she was able to tolerate a normal diet and her jejunostomy tube was removed. She completed her eighth and final course of chemotherapy in August 1991. She has been able to maintain her original weight on a normal diet since that time and repeat barium radiographic studies in December 1991 revealed evidence for improved gastric wall distensibility (Figure 6). At this time, she is clinically well on tamoxifen alone.

DISCUSSION

Breast carcinoma is the most common malignancy in women and metastatic involvement of distant sites—especially lymph nodes, bone, liver, lung and brain—is frequent. Previous reports, however, have also regularly documented the occasional patient with breast carcinoma and gastric metastases (1-8). Although some autopsy series (5,6) have reported an incidence as high as 15%, definitive premortem diagnosis of metastatic breast carcinoma with gastroscope mucosal biopsy is much less common. This may reflect limited clinical recognition that gastric limitis plastica in a female, especially with a previously diagnosed breast carcinoma, can be due to metastatic breast carcinoma. In addition, distinct histological features of breast carcinoma may be difficult to define, especially if the characteristic "single file" adenocarcinoma cells of the lobular variety of breast carcinoma are difficult to recognize (8); this is not a typical microscopic feature of gastric cancer. In addition, smaller biopsies obtained at the time of endoscopic evaluation may not permit differentiation of a primary gastric carcinoma from a metastatic lesion. Specific diagnosis, however, may be critical as evaluation for chemotherapy and/or hormonal treatment may be worthwhile particularly if metastatic breast carcinoma is present. Diagnosis of metastatic lobular carcinoma of the breast may be aided by definition of hormonal receptors, breast specific antigens or other markers, such as cytoplasmic globules (9).

Although a number of reports have described limitis plastica due to metastatic carcinoma of the breast, the histologic subtype has been only occasionally detailed. Choi et al (3) described the primary histological features in six cases as "poorly differentiated rows of small anaplastic cells" and the diffuse involvement in these cases as distinguished from "medium differentiated carcinomas" with nodular or ulcerative gastric involvement. Cormier et al (8) described 31 patients with lobular breast carcinoma and limitis plastica due to metastases seen during a 30-year interval at the Mayo Clinic; of these, 14 had gastric involvement alone or concurrent with other metastases, similar to the current patient, providing evidence of tumour dissemination. Limitis plastica due to gastric metastases from primary ductal carcinoma was not observed; this type of breast carcinoma metastases appears to cause discrete nodules in the stomach, sometimes with mucosal ulceration or serosal implants as the dominant feature (8). As chemotherapeutic and hormonal treatment regimens have significantly improved survival in patients with metastatic breast carcinoma, recognition and accurate diagnosis of the protean presentations of disseminated disease, particularly in the gastrointestinal tract, may be critical to successful management.

REFERENCES
