


CASE IMAGE

Invasive lobular carcinoma metastasis mimicking primary gastric signet ring cell carcinoma

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Abstract

The endoscopic findings of gastric metastases from breast carcinoma are non-specific, and often difficult to distinguish from primary gastric signet ring cell carcinoma. Therefore, pathological findings are key to diagnosis.

KEYWORDS

breast neoplasms, carcinoma, immunohistochemistry, neoplasm metastasis, signet ring cell

A 64-year-old woman was referred to our hospital for endoscopic investigation of early-stage gastric cancer (signet ring cell carcinoma) measuring 5 mm

Esophagogastroduodenoscopy (EGD) at our facility confirmed the presence of a known small elevated lesion (5 mm in size, Yamada–Fukutomi classification type II polyp) in the gastric greater curvature (Figure 1). Four negative biopsies were performed around the lesion, following which invasion of the adenocarcinoma into the muscularis mucosae was observed. As the endoscopic findings were not typical of signet ring cell carcinoma owing to different color and morphology, contrast-enhanced chest and abdominal computed tomography were performed for systemic investigation of lymph node and distant metastases on suspicion of breast cancer. In addition, immunohistochemistry was also performed during the pathological examination. An adenocarcinoma with signet ring cell morphologies infiltrating the gastric lamina propria mucosa was observed

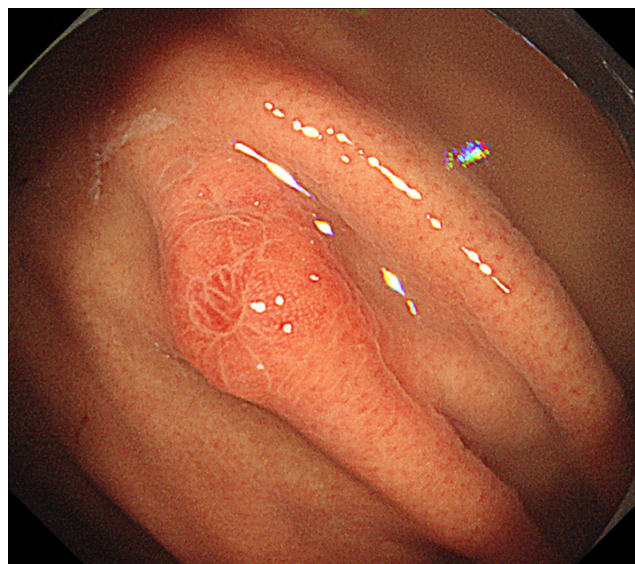


FIGURE 1 Endoscopic images. Single polyp (size: 5 mm) of Yamada–Fukutomi classification type II

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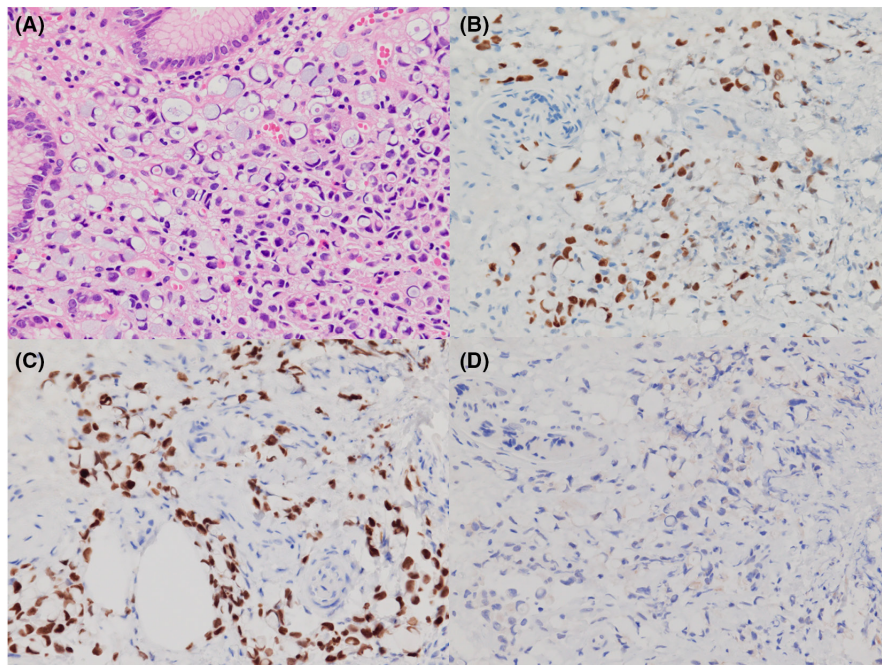


FIGURE 2 Metastasis of invasive lobular carcinoma to the stomach. (A) Poorly differentiated adenocarcinoma cells with signet ring cell morphologies invade the gastric lamina propria mucosa. (B–D) Immunohistochemically, estrogen receptor (B) as well as GATA binding protein 3 (C) show diffuse nuclear expression in the neoplastic cells, whereas E-cadherin (D) is absent in the neoplastic cell membranes

(Figure 2A). Immunohistochemically, the estrogen receptor (Figure 2B), as well as GATA binding protein 3 (Figure 2C), showed diffuse nuclear expression in the neoplastic cells; conversely, E-cadherin (Figure 2D) expression was absent in the neoplastic cell membranes.

As medical advances increase the average life expectancy of patients with cancer, an increasing number of cases of gastrointestinal metastases will be encountered in the future.¹ Metastatic gastric tumors are rare, with an incidence of 0.2%–1.7%; the most common primary tumors are malignant melanomas and lung and breast carcinomas.^{2,3} Breast carcinomas, in particular, progress slowly; there are reports of metastases being detected before the primary carcinoma is diagnosed. In the present case too, accurate endoscopic and pathological investigations led to a definitive diagnosis of metastasis of invasive lobular carcinoma to the stomach prior to a detailed examination of the breast carcinoma. The clinical symptoms of metastatic gastric carcinomas are nonspecific and varied, and include gastralgia, nausea, vomiting, and bleeding; thus, EGD is still key to diagnosis. Endoscopic findings are characterized by bull's eye, nodules, ulcers, and polyps, among others. Because the endoscopic findings are as varied as the clinical symptoms, it is advisable to include this disease as a differential diagnosis.¹

Furthermore, the endoscopist can provide the pathologist with appropriate patient information, leading to a more accurate diagnosis and avoidance of unnecessary surgical treatment. Although this case involved a single microscopic lesion in the stomach, it is valuable to existing literature because we were able to diagnose gastric

metastasis of breast carcinoma through appropriate endoscopic and pathological diagnostic methods (including immunohistochemistry).

AUTHOR CONTRIBUTIONS

Ryuhei Jinushi: Conceptualization; data curation; supervision; writing – original draft; writing – review and editing. **Tomoaki Tashima:** Writing – review and editing. **Ryo Sato:** Data curation; writing – review and editing. **Tomonori Kawasaki:** Writing – review and editing. **Shomei Ryozaawa:** Writing – review and editing.

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CONFLICT OF INTEREST

There are no competing interests to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding authors (RJ) upon reasonable request.

PATIENT CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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