Synchronous pancreatic and gastric metastasis from an ovarian adenocarcinoma diagnosed by endoscopic ultrasound-guided fine-needle aspiration

Metastasis of ovarian carcinoma to the stomach [1–5] or pancreas [6, 7] is uncommon. Furthermore, synchronous metastasis of ovarian adenocarcinoma to the stomach and pancreas has never been reported. We report here the detection of synchronous metastasis to both the stomach and pancreas from a resected ovarian papillary serous cystadenocarcinoma. At 25 months after gynecological surgery, a gastric submucosal mass and pancreatic masses were noted on follow-up computed tomography in an asymptomatic 51-year-old woman. Contrast-enhanced computed tomography showed a 4.6×4.2-cm intramural mass (yellow arrows) in the gastric antrum is suggestive of a gastric submucosal tumor. A 1.0×1.0-cm mass (yellow arrows) in the pancreatic body exhibits slight enhancement in the early phase.

Fig. 1 Follow-up abdominal contrast-enhanced computed tomography in an asymptomatic 51-year-old woman at 25 months after gynecological surgery. a A 4.6×4.2-cm intramural mass (yellow arrows) in the gastric antrum is suggestive of a gastric submucosal tumor. b A 1.0×1.0-cm mass (yellow arrows) in the pancreatic body exhibits slight enhancement in the early phase.

Fig. 2 Gastroscopy shows a 3.0-cm submucosal tumor covered with normal gastric mucosa at the antrum.

Fig. 3 Endoscopic ultrasound image of a heterogeneous antral mass of low echogenicity measuring 4.5×2.9 cm. The mass is surrounded by a demarcated hypoechoic rim emanating from the muscularis propria.

The serum cancer antigen 125 (CA-125) level was high (89 U/mL; normal < 35 U/mL). The patient underwent esophagogastroduodenoscopy (EGD), which showed a 3-cm subepithelial mass at the antrum (Fig. 2). Endoscopic ultrasound (EUS) demonstrated that the lesion was located mainly in the fourth layer (Fig. 3). In addition, two pancreatic lesions, measuring 7×5 mm and 4×3 mm, were identified in the pancreatic body (Fig. 4). EUS-guided fine-needle aspiration (EUS-FNA) of the gastric and pancreatic lesions was performed, and microscopic examination showed a group of cells with rounded borders and round to oval nuclei in a papillary arrangement (Fig. 5).
Immunohistochemical study revealed positivity for cytokeratin 7 (++), CA-125 (+), estrogen receptor (+), progesterone receptor (+), and negativity for cytokeratin 20 (-) and CDX-2 (-). The pathological features were similar to those of the previous ovarian lesion. The final pathological diagnosis was metastatic tumor from a primary ovarian carcinoma.

In conclusion, a possible diagnosis of gastric and pancreatic metastasis of ovarian papillary serous adenocarcinoma should be kept in mind in a patient with an unknown primary lesion, even one with a remote history of ovarian malignancy. EUS-FNA in conjunction with immunohistochemistry is a useful tool for diagnosing metastatic lesions.

Competing interests: None

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Fig. 4 Linear array endosonography shows multiple hypoechoic masses in the pancreatic body.

Fig. 5 Microscopic examination shows a group of cells with rounded borders and round to oval nuclei in a papillary arrangement (hematoxylin and eosin stain, × 400).