Synchronous multiple pancreatic cancers developed long after severe postendoscopic retrograde cholangiopancreatography pancreatitis

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A 69-year-old female was referred to our hospital for workup of two pancreatic masses. The patient had no history of alcohol consumption or smoking. One of her brothers had had pancreatic cancer (PC). Six years before consultation, she had undergone endoscopic treatment of choledocholithiasis and had developed severe postendoscopic retrograde cholangiopancreatography pancreatitis (PEP) without a mass in the pancreas [Figure 1a]. Although PEP had improved, a pancreatic mass appeared in the pancreatic body (Pb) 2 months after PEP [Figure 1b]. As the mass remained unchanged for 2 years on computed tomography (CT) images, she was diagnosed with an inflammatory mass based on the clinical course without a pathological examination. Six years after PEP, her serum level of hemoglobin A1c was elevated, and she had left hypochondralgia. CT images revealed two hypodense pancreatic masses: one (35 mm × 27 mm) was in the Pb as described above and the other (23 mm × 18 mm) was in the pancreatic tail [Figure 1c] without lymphadenopathy and metastatic lesions. EUS showed two hypoechoic solid masses and atrophic pancreatic parenchyma between the two masses [Figure 2a]. EUS-guided fine-needle aspiration biopsies of both the masses with two needles (22- and 25-gauge needles, respectively) [Figure 2b and c] revealed similar cell nests consisting of adenocarcinomatous cells with hyperchromatic enlarged eccentric nuclei varying in size and amphophilic mucinous cytoplasm [Figure 2d and e]. We made a definitive diagnosis of synchronous multiple PCs. Since liver metastases appeared waiting for surgery, she underwent palliative chemotherapy.

Synchronous multiple PCs are extremely rare.[1,2] There are some possibilities regarding multiple PCs: (1) multifocal cancers; (2) a metastatic PC from another primary one;[3] and (3) a unique-shaped dumbbell-like PC as a whole. Based on the images and

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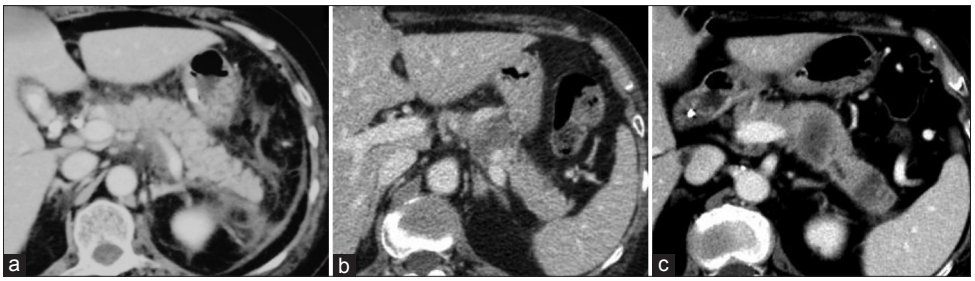

Figure 1. Contrast-enhanced computed tomography showing the pancreas just after severe postendoscopic retrograde cholangiopancreatography pancreatitis (PEP) (a), the hypodense mass in the pancreatic body 2 months after severe PEP (b), and the two separated pancreatic masses in the pancreatic body and tail, respectively, 6 years after severe PEP (c)

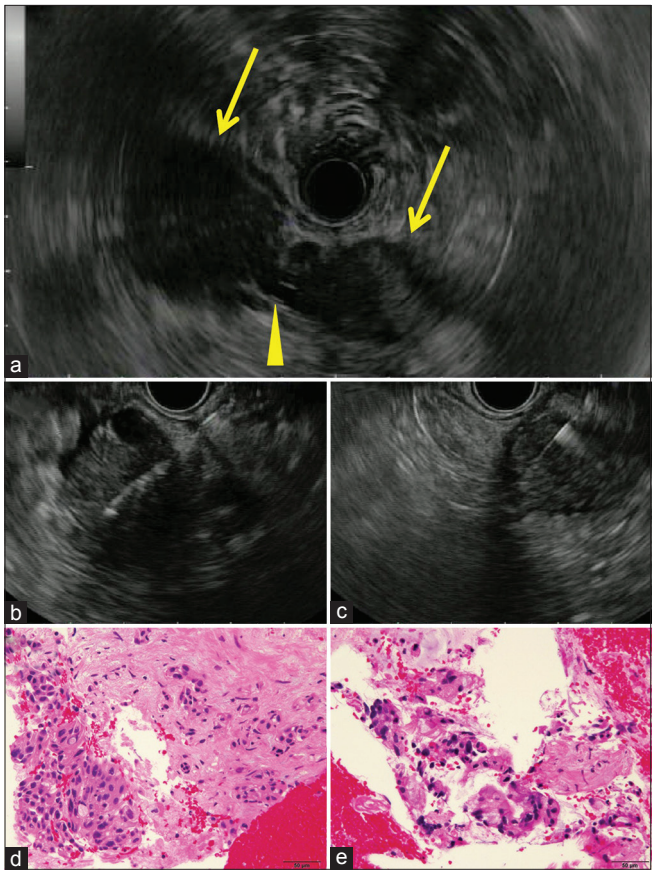

Figure 2. EUS showing two solid masses (arrows) separated by atrophic pancreatic parenchyma (arrowhead) (a), EUS-guided fine-needle aspiration biopsies of the mass in the pancreatic body using a 22-gauge needle (b) and pancreatic tail using a 25-gauge needle, (c) histologic images with hematoxylin and eosin staining showing similar cell nests consisting of adenocarcinomatous cells with hyperchromatic enlarged eccentric nuclei varying in size and amphophilic mucinous cytoplasm in the masses both in the pancreatic body (d) and pancreatic tail (e), respectively (×400)

pathological findings, we made a definitive diagnosis of synchronous multiple PCs.

Progression from acute to chronic pancreatitis is associated with a high risk of PC.[4] The risk is the highest in the first 2 years following acute pancreatitis, although it remains high throughout the follow-up period.[5] Thus, PEP might cause PC. However, it is a limitation of this case that it was difficult to prove the hypothesis based on the specimens from EUS-guided fine-needle biopsies alone.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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