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Pancreatic Cystic Lesion with Baffling Fluid Levels of CEA and Amylase

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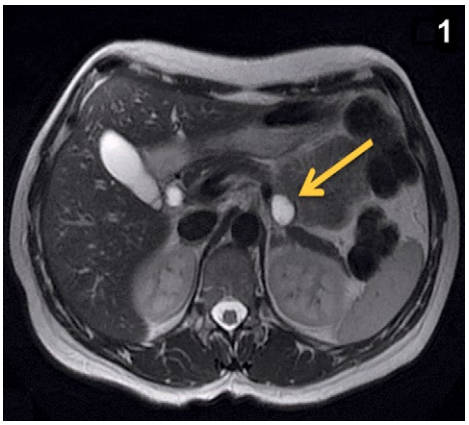

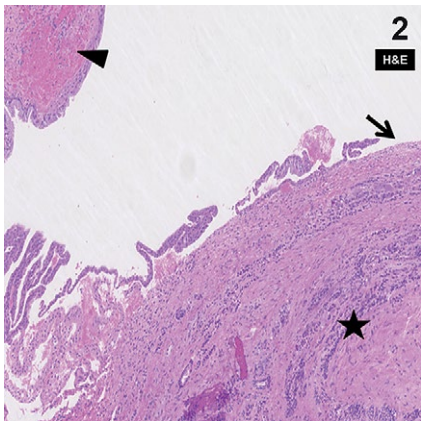

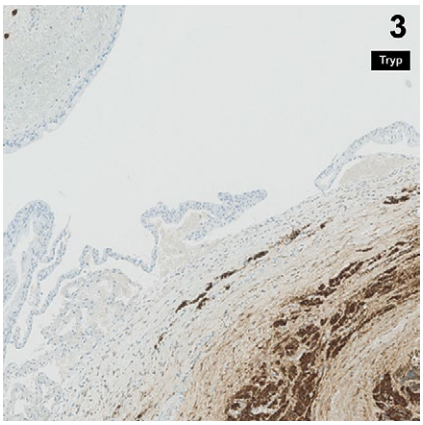

A 44-year-old woman presented with unspecific intermittent epigastric pain for five months. Her past medical history was unremarkable and physical examination was normal. Further workup including MRI/MRCP revealed a 30 mm solitary cyst in the pancreatic tail (Fig 1, arrow) without any connection to the pancreatic ducts. Aspiration of the cystic content during endoscopic sonography showed fluid with a carcinoembryonic antigen (CEA) level of 420 µg/L (normal serum level < 2.5 µg/L) and an increased amylase level of 28,000 U/L (normal serum range 40-140 U/L). No malignant cells were detected and serum levels of neither CEA nor amylase were elevated. A laparoscopic enucleation of the lesion was performed. The absence of communication with pancreatic ducts was confirmed.

Histopathological examination revealed a mucinous cystic neoplasm (MCN). Characteristic features included a typical ovarian-like stroma (Fig 2, arrowhead) with immunohistochemical positivity for estrogen receptors and CD10.

In addition to clinical and radiological findings [1, 2], the content of the cystic fluid may point to the correct diagnosis of pancreatic cystic neoplasms [3]. High CEA (>400 µg/mL) and CA-19.9 levels (>50,000 U/mL) are quite specific for the diagnosis of MCN [4]. Elevated amylase levels, however, are still intriguing since there is usually no communication between MCN and the pancreatic ducts.

Further microscopic examination of the specimen revealed exocrine pancreatic tissue located inside the cystic wall (Fig 2, asterix), highlighted by trypsin immunohistochemical staining (Fig 3). In some areas, the epithelium of the cyst was ruptured (Fig 2, arrow) and the nearby exocrine tissue was therefore in direct contact with the cystic fluid.

We assume that in the present case the exocrine tissue in the cystic wall might have secreted amylase at the area of the discontinued epithelium and thus caused the misleading increased intracystic amylase levels. This finding could explain why pancreatic amylase is not discriminant in the diagnosis of cystic pancreatic neoplasms.

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Conflicts of interest: None to declare.

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