

Endoscopic ultrasound of gastroduodenal artery pseudoaneurysm

A 28-year-old man was referred from a hospital with recurrent episodes of acute pancreatitis over a 7-month period. The last episode was 2 weeks before we saw him. Results of routine blood tests, and ultrasonography and computed tomography (CT) of the abdomen were normal. He was diagnosed with idiopathic recurrent acute pancreatitis. Linear endoscopic ultrasonography (EUS) was planned for the evaluation of the condition. Linear EUS from the duodenal bulb revealed a 17.4×14.6 mm cystic-appearing lesion in the head/neck region of the pancreas. The cystic lesion was mixed echogenic, with hypoechoic and anechoic regions giving a donut-like appearance (► Fig. 1 a, b, ► Video 1). The surrounding pancreatic parenchyma was edematous with peripancreatic fluid collection (► Fig. 1 c), consistent with an acute attack of pancreatitis. On color-flow and Doppler imaging, vascular flow was seen in the anechoic area (► Fig. 1 d, ► Video 1), which confirmed the vascular nature of the lesion. The origin of the vascular lesion appeared to be the gastroduodenal artery (GDA; ► Fig. 1 b, d, ► Video 1). The patient underwent CT angiography, which revealed a GDA pseudoaneurysm. The pseudoaneurysm was successfully embolized and, at 1-year follow-up, the patient remained asymptomatic. The most common artery affected by pseudoaneurysm is the splenic artery. GDA aneurysms are rare but potentially fatal if rupture occurs. They represent about 1.5% of visceral artery aneurysms. The most common etiology of GDA pseudoaneurysms is acute/chronic pancreatitis. The most common clinical presentation is gastrointestinal hemorrhage secondary to rupture of the aneurysm

(52%); only 7.5% of GDA aneurysms remain asymptomatic [1]. Mortality after rupture is up to 40%. Such a complication is not always related to the size of the aneurysm and therefore treatment should be planned as soon as a diagnosis is made [2]. The aneurysms had a characteristic donut-like appearance at EUS: a thick outer wall with a central anechoic area [3].

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Competing interests

None

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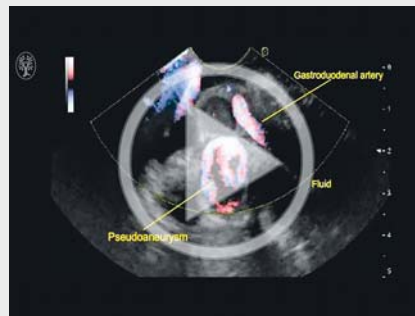
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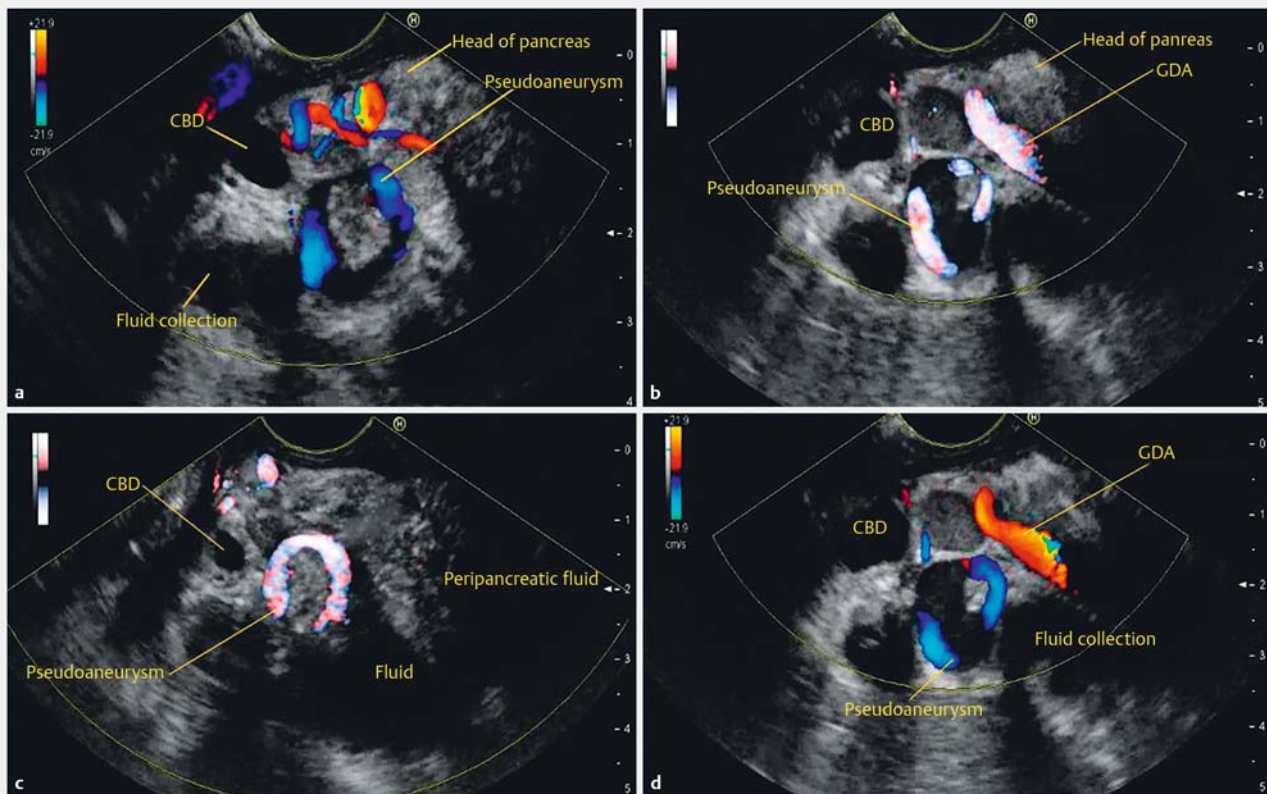
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► VIDEO 1



► Video 1: Linear endoscopic ultrasound from the duodenal bulb revealed a 17.4×14.6 mm cystic-appearing lesion in the head/neck region of the pancreas. The cystic lesion was mixed echogenic, with hypoechoic and anechoic regions giving a donut-like appearance. The surrounding pancreatic parenchyma was edematous with peripancreatic fluid collection, lobularity, hyperechoic foci, and stranding, consistent with an acute attack of pancreatitis. On color-flow and Doppler ultrasound imaging, vascular flow was seen in the anechoic area, which confirmed the vascular nature of the lesion. The origin of the vascular lesion appeared to be the gastroduodenal artery.



► **Fig. 1** Endoscopic ultrasound (EUS) of gastroduodenal artery pseudoaneurysm. **a, b** Linear EUS from the duodenal bulb revealed a 17.4 × 14.6 mm cystic-appearing lesion in the head/neck region of the pancreas. The cystic lesion was mixed echogenic, with hypoechoic and anechoic regions giving a donut-like appearance. **c** EUS showed edematous pancreatic parenchyma with peripancreatic fluid collection, lobularity, hyperechoic foci, and stranding, consistent with an acute attack of pancreatitis. **d** On color-flow and Doppler ultrasound imaging, vascular flow was seen in the central anechoic area. CBD, common bile duct; GDA, gastroduodenal artery.

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