A tricky case of pancreatic arteriovenous malformation: the role of endoscopic ultrasound in the diagnosis of this rare condition

A 77-year-old man was referred to our hospital for further evaluation of a symptomatic pancreatic mass. Almost a year before, he had experienced low back pain with irradiation to the left flank. Ultrasonography showed a hypoechoic mass at the pancreatic tail. He had no relevant past history, such as abdominal trauma, pancreatitis or other congenital abnormalities. His physical examination and laboratory test results were normal. Computed tomography (CT) revealed the presence of a nodular neoformation in the pancreatic tail, which was hyperintense in the arterial phase (Fig. 1). A neuroendocrine tumor was suspected and endoscopic ultrasound (EUS) was performed.

A 25-mm vascular lesion in the pancreatic tail was detected, close to the splenic artery, from which it appeared to receive vascularization, with arterial flow seen on the color and power Doppler study (Fig. 2, Video 1). On infusion of contrast agent (SonoVue 4.8 mL; Bracco Imaging, Milan, Italy) rapid capture and slow release was shown (Fig. 2, Video 1). Selective angiography of the celiac tripod confirmed the presence of an arteriovenous malformation (AVM) in the pancreatic tail, supplied by pancreatic branches of the splenic artery (Fig. 3, Video 1). Given the symptomatology and the size of the lesion, left pancreaticectomy and splenectomy was performed. Histological examination on the surgical sample confirmed the vascular origin of the lesion.

Pancreatic AVM is a very rare condition. It may be congenital or acquired in a neoplastic, traumatic or inflammatory context [1]. Most cases of pancreatic AVMs are symptomatic, most frequently presenting with abdominal pain and upper gastrointestinal bleeding, and only rarely with acute pancreatitis [2]. Diagnosis is usually made by ultrasonog-
raphy, CT, magnetic resonance imaging, and/or angiography [3]. The differential diagnosis is primarily hypervascular tumors such as islet cell tumor, neuroendocrine tumor, and hypervascular metastases [2]. In our case, EUS, which is not commonly performed in this condition, allowed the diagnosis to be made.

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Competing interests

None

The authors

Ilenia Barbuscio1, Alberto Fantin2, Matteo Ghisa2, Lucia Moletta2, Cosimo Sperti1, Fabio Farinati1

1 Department of Surgical, Oncological and Gastroenterological Sciences, Gastroenterological Section, University of Padua School of Medicine and Surgery, Padua, Italy
2 Department of Surgical, Oncological and Gastroenterological Sciences, Hospital of Padua, Padua, Italy

Corresponding author

Ilenia Barbuscio, MD
Department of Surgical, Oncological and Gastroenterological Sciences, Azienda Ospedaliera di Padova, Via Nicolò Giustiniani 2, Padova 35128, Italy
Fax: +39-049-8212887
ilenia.barbuscio@gmail.com

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Video 1 Endoscopic ultrasound examination with Doppler study and contrast-enhanced evaluation followed by angiographic study confirmed the presence of a pancreatic arteriovenous malformation.