

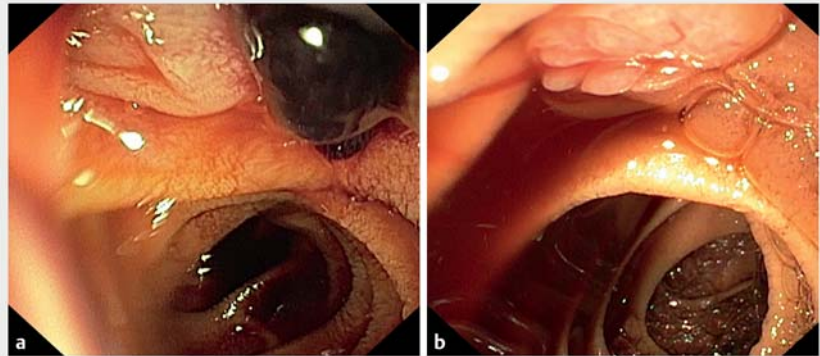
## Hemosuccus pancreaticus: an in-motion endoscopic ultrasound view

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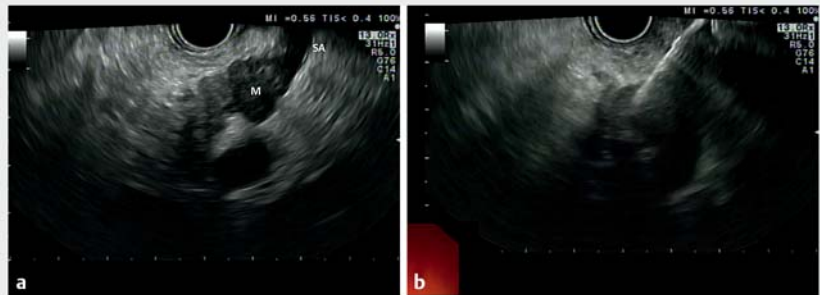
A 77-year-old man was transferred to our institution due to gastrointestinal (GI) bleeding of unknown origin. Bleeding had caused permanent melena during the preceding month, with consequent severe anemia (up to 5.3 g/dL hemoglobin) requiring blood transfusion. Because of his cardiovascular comorbidities (cardiopathy, atrial fibrillation, and type II diabetes), the patient was on anticoagulation therapy, which was paused after GI bleeding started. During his previous hospital stay at another institution, the patient underwent computed tomography scan, gastroscopy, colonoscopy, magnetic resonance imaging, magnetic resonance cholangiopancreatography, endoscopic ultrasound (EUS), and red blood cell scintigraphy. Despite these procedures, the site of GI bleeding was not clear, showing only diffuse blood in the duodenum and a suspected hypoechoic pancreatic area on EUS. Laboratory tests were normal, and neoplastic biomarkers were within the normal range.

Signs of GI bleeding persisted during his hospital stay at our institution, and a second gastroscopy was done, showing a mild and intermittent oozing bleeding from the major papilla (► **Fig. 1**). A pancreaticobiliary EUS was then performed, showing a hypoechoic lesion in the body of the pancreas, with irregular margins infiltrating the splenic artery, which underwent fine-needle biopsy (► **Fig. 2**). Furthermore, EUS clearly showed a mixture of isoechoic and hyperechoic material floating into the pre-papillary portion of the duct of Wirsung, and ejected into the duodenal lumen (hemosuccus pancreaticus) [1–3] (► **Video 1**), which was a mixture of blood and clots on the endoscopic view.

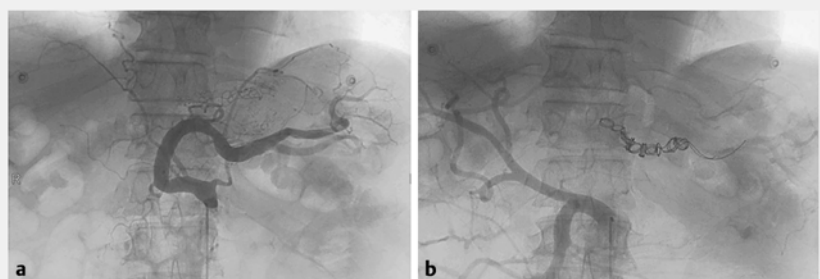
While waiting for the histology results, melena persisted, so the patient underwent arteriography with splenic artery



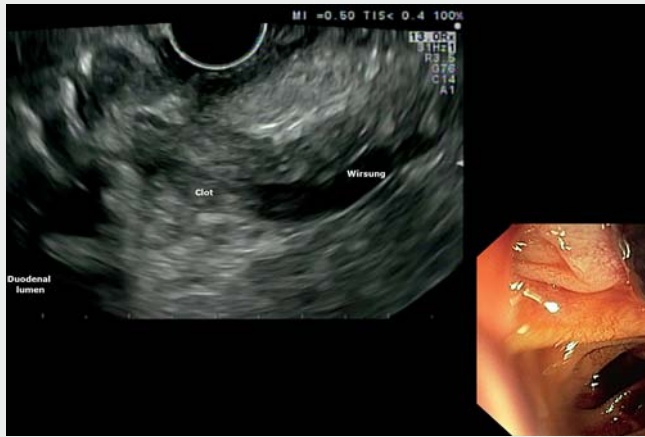
► **Fig. 1** Hemosuccus pancreaticus. **a** A clot covering the papillary area. **b** Mild bleeding from the papilla of Vater after clot removal.



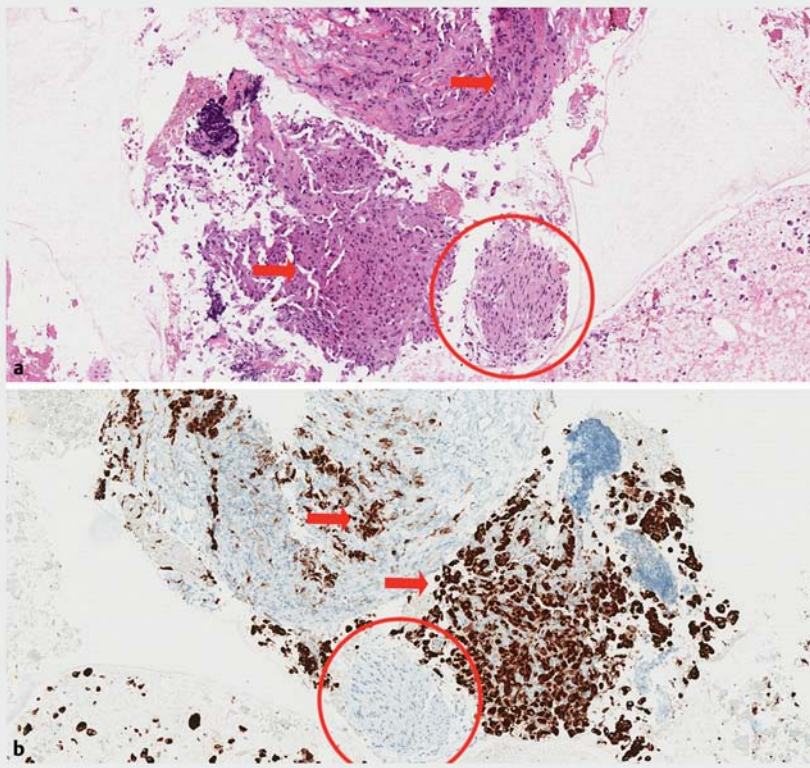
► **Fig. 2** Endoscopic ultrasound images. **a** The irregular and hypoechoic mass of the pancreatic body, infiltrating the splenic artery. **b** Fine-needle biopsy of the pancreatic mass using a 22-gauge Franseen-tip needle. M, mass; SA, splenic artery.



► **Fig. 3** Arteriography with splenic artery embolization. **a** Arteriography, showing a slight and thin irregular sign of extravascular diffusion in the middle side of the splenic artery, next to the pancreatic body. **b** Embolization of the splenic artery.



**▶ Video 1** Endoscopic ultrasound findings of hemosuccus pancreaticus, its cause, and the consequent management of the gastrointestinal bleeding.



**▶ Fig. 4** Histological results. **a** Neoplastic cells infiltrating fibrous tissue and forming small solid aggregates (arrow), nerve fascicle (circle) present in the cytoinclusion material (hematoxylin and eosin stain, original magnification [OM]  $\times 10$ ). **b** Same area: tumor cells showing epithelial origin, with strong and diffuse positivity for cytokeratin 7 stain (OM  $\times 10$ ).

embolization (**▶ Fig. 3**), which stopped the GI bleeding. Finally, the histology revealed a pancreatic adenocarcinoma (**▶ Fig. 4**), and the patient then underwent surgery (distal pancreatectomy), with no complications or any further GI bleeding.

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## Competing interests

The authors declare that they have no conflict of interest.

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## Bibliography

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