Pancratic arteriovenous malformation as uncommon cause of acute pancreatitis

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Objective
Pancreatic arteriovenous malformation (PAVM) is a rare condition, first described by Halpern in 1968, and defined as a vascular anomaly that shunts blood between the arterial and venous systems in the pancreas. Once symptomatic, patients can present with abdominal pain, acute pancreatitis, gastrointestinal bleeding or portal hypertension. PAVM is either congenital or acquired (trauma, surgery, pancreatitis or tumor), and associated in some cases with Osler-Weber-Rendu disease.

Methods
We report a case of a symptomatic PAVM with spontaneous resolution after 3 months. Pathophysiology of PAVM is depicted in Figure 1.

Results
A 66-year-old patient presented in the emergency room with sudden, intense upper abdominal pain. Except for umbilical hernia repair no relevant past history such as abdominal surgery/trauma or pancreatitis were known. Physical examination revealed upper abdominal tenderness, no palpable abdominal mass, and no telangiectasia. Laboratory data showed slightly increased pancreatic enzymes (amylase 53U/l and lipase 61U/l) and leukocytosis (11.6G/l) with normal CRP and hepatic function. Abdominal CT-angiography revealed focal edema of the pancreas tail where a hypervascular lesion was located, which drained directly into the splenic vein (Fig. 2). Early opacification of the splenic and portal veins were obtained during the arterial phase thus confirming the diagnosis of a PAVM. As the symptoms improved under conventional treatment of pancreatitis, including analgesia and hydration, additional therapy was postponed and the patient could be discharged painless after 6 days. A transarterial embolization (TAE) was scheduled after 3 months, but the pre-operative abdominal CT showed a complete resolution of the PAVM (Fig. 3) and so no further treatment was mandatory. We assumed that the PAVM occluded by spontaneous thrombosis and the patient presented no recurrence of symptoms 12 months after the initial presentation.

Conclusion
With less than 100 cases described in the literature, PAVM remains a rarity. Nevertheless, not all PAVM resolve spontaneously like in our case and in symptomatic cases treatment is needed. Therapeutic options are guided by the size, the location and the accessibility of the PAVM. They include TAE, transjugular intrahepatic portosystemic shunt, vascular ligation, irradiation, or pancreatic resection.

References