

Abdominal angina: an underrecognized cause of alarming symptoms

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Recurrent postprandial abdominal pain that is out of proportion to physical examination (angina) is the most characteristic symptom of chronic intestinal ischemia. Due to this, patients develop fear of eating which results in alarming weight loss. The remaining symptoms, including refractory diarrhea, are highly unspecific. Altogether, the clinical presentation might mimic other conditions, especially gastrointestinal malignancies. Hence, before reaching the final diagnosis, patients undergo extensive, often invasive, diagnostic evaluation. This includes endoscopic examinations, multiple imaging studies, and various laboratory tests.¹⁻⁴

We hereby present a case of a 80-year-old woman admitted to the emergency unit due to acute exacerbation of recurrent abdominal pain that reportedly occurred for the past year. As the pain occurred postprandially, the patient substantially limited her food intake, which resulted in alarming weight loss of 12 kg in 12 months. She reported refractory diarrhea as well. Prior medical record indicated numerous abdominal ultrasound examinations, gastroscopy and colonoscopy, all of which were performed due to an alarming clinical presentation and were negative for significant pathologies, except for severe atherosclerosis of the abdominal aorta. For this reason, Doppler ultrasound was performed, which indicated hemodynamically significant stenoses of the celiac trunk (TC) and superior mesenteric artery (SMA). These were further confirmed by computed tomography angiography, which additionally revealed stenosis of the inferior mesenteric artery (FIGURE 1A). The patient did not consent to the proposed endovascular treatment at the time.

The progressive course of the disease resulted in consecutive hospitalization within 3 months from the previous admission. Repeated Doppler ultrasound showed no flow through the SMA with concomitant critical TC stenosis, which were responsible for the aggravation of symptoms

(FIGURE 1B). The patient was qualified for emergency percutaneous angioplasty of the affected visceral arteries (FIGURE 1C–1F). Unfortunately, it was impossible to restore physiological splanchnic circulation because of long-segment occlusion of the SMA. Nonetheless, angioplasty facilitated collateral circulation via the TC. Pain symptoms resolved immediately after the procedure and were not observed following the first (1 hour from the procedure) or any subsequent meals. No complications were observed during 30-day follow-up. Control Doppler scan confirmed patency and proper blood flow across the stent.

The presented case depicts diagnostic problems encountered in patients with abdominal angina. Limited knowledge on the entity results in an extended diagnostic workup, which may preclude restoration of the physiologic circulation, or even expose the patient to risky open

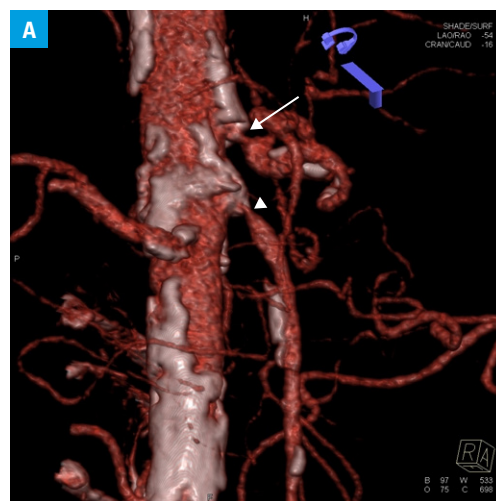


FIGURE 1 A – 3-dimensional volume rendering reconstruction of computed tomography angiography (performed at first admission) with visible critical stenoses of the proximal celiac trunk (arrow) and superior mesenteric artery (arrowhead)

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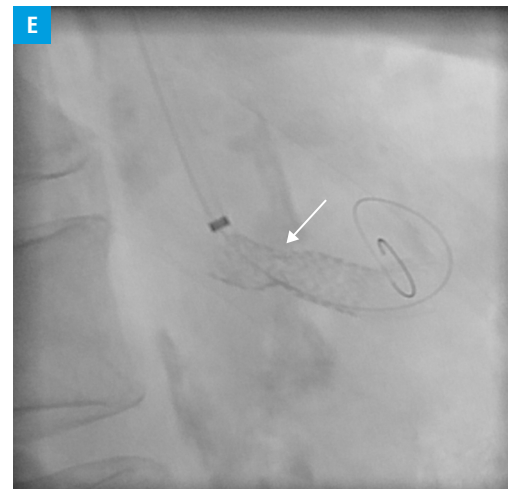
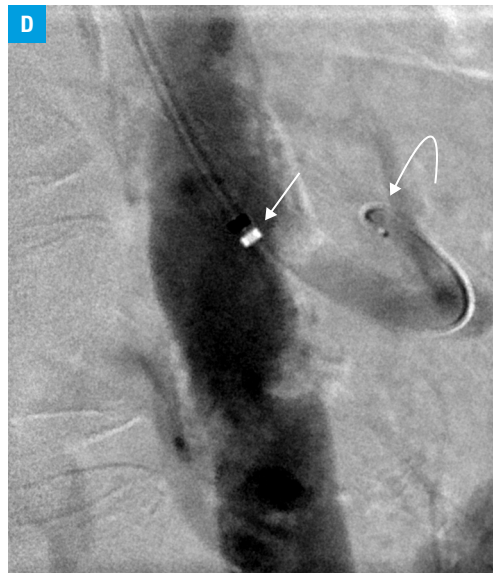
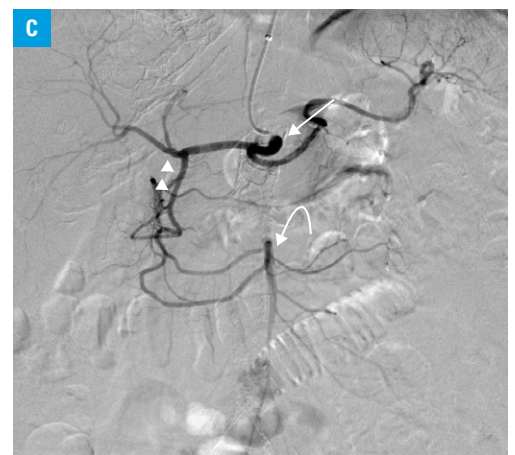
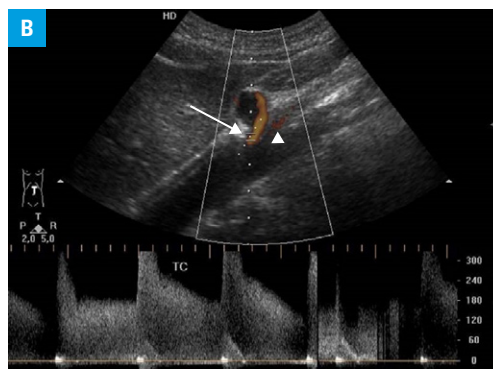


FIGURE 1 **B** – Doppler ultrasound examination performed after 3 months showing critical stenosis of the celiac trunk (arrow); individual flow signals/artifacts in the proximal part of the occluded superior mesenteric artery (arrowhead); **C** – digital subtraction angiography performed from the level of the critically stenosed celiac trunk (arrow) depicting distal filling of the superior mesenteric artery (curved arrow) via collateral flow through the gastroduodenal artery (arrowheads). A proximal segment (4–5 cm) of the superior mesenteric artery is completely occluded. Lesser degree stenosis of the inferior mesenteric artery is not visible at this level. **D** – as the first attempt to revascularize the superior mesenteric artery proved to be ineffective due to lacking vascular stump and long-segment occlusion, a decision was made to treat the celiac axis. Vascular sheath is visible in the proximal celiac trunk (arrow) with the guide wire passing distally through the stenosis (curved arrow); **E** – after initial predilatation, a balloon-expandable stent (arrow) was placed at the lesion site with subsequent implantation of the self-expandable cone-shaped stent (stent-in-stent technique) to prevent fracturing; **F** – final angiography showing good stent positioning and patency, with an effective dilatation of the celiac trunk, resulting in improved blood inflow to its branches and distal superior mesenteric artery.



surgical procedures. Extensive abdominal ultrasound with Doppler evaluation of major abdominal vessels should be included in the diagnostic protocol of each patient with acute abdominal pain and significant weight loss to exclude possible vessel occlusion (especially in the setting of atherosclerosis). High efficacy and low complication rates compared with a classic surgery, make endovascular treatment a primary choice for patients with chronic intestinal ischemia. Assessment of the long-lasting efficacy may pose a problem that can be readily resolved by repeated Doppler ultrasound examinations at set time points, which enable detection of patients requiring reintervention.

ARTICLE INFORMATION

CONFLICT OF INTEREST None declared.

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