A 62-year-old man with a complex medical history that included long-standing muscular dystrophy presented with moderate-to-severe epigastric and mid-back pain. Family history was noncontributory. The patient worked as a full-time computer instructor. He was a social drinker and denied a history of cigarette smoking or illicit drug use. At initial presentation, vital signs were normal except for a blood pressure of 148/105 mm Hg. Physical examination revealed moderate epigastric tenderness without rebound or guarding. Laboratory findings were unremarkable, and the hemoglobin was 12.4 g/dL (hematocrit, 37%). A computed tomography of the abdomen and pelvis demonstrated a retroperitoneal hemorrhage that involved the mesenteric circulation. A mesenteric arteriogram (Fig 1) was performed that revealed high-grade stenosis of the celiac artery origin with retrograde filling via superior mesenteric artery (SMA) collaterals as well as aneurysms of the celiac artery trifurcation and inferior pancreaticoduodenal artery (IPDA) without evidence of active bleeding. No therapeutic intervention was undertaken, and the patient was stabilized and discharged home. Three weeks later, he was admitted with recurrent abdominal pain, and a repeat arteriogram (Fig 2) showed significant increase in the size and number (13 in total) of
splanchnic artery aneurysms that involved the celiac trunk, branches of the SMA that include the anterior and posterior branches of IPDA, and gastroepiploic arteries, as well as splenic and right renal arteries. No risk for splanchnic artery aneurysms was identified, and evaluation for vasculitis or mycotic etiology was negative. Also, we could not identify any reports of an association between our patient’s muscular dystrophy and the development of splanchnic artery aneurysms. Therapeutic intervention was neither feasible nor attempted given the patient’s vascular anatomy and overall health. At follow-up, 4 months since the last arteriogram, the patient remains hemodynamically stable in his usual state of health.

The incidence of splanchnic artery aneurysms is as high as 10% in autopsy series. Although mostly asymptomatic, some splanchnic artery aneurysms may present with abdominal pain and/or intra-abdominal or gastrointestinal bleeding. Splanchnic artery aneurysms most commonly involve the splenic and the hepatic arteries, and they rarely involve the gastroduodenal and pancreaticoduodenal arteries. Conditions commonly associated with visceral artery aneurysms are arteriosclerosis, fibromuscular dysplasia, and cystic medial necrosis. Collagen vascular diseases, vasculitides, and infections may also be rare etiologic causes. Celiac artery stenosis can cause increased blood flow and altered hemodynamics in the collateral splanchnic arterial network, which may be related to aneurysm formation.

Celiac artery stenosis may occur because of an intraluminal pathology or because of external compression of the celiac trunk, by the median arcuate ligament, which is referred to as celiac axis compression syndrome, median arcuate ligament syndrome, or Dunbar syndrome. The advent of 64-slice multidetector computed tomography equipped with 3-dimensional imaging software allows precise visualization of the abdominal aorta and its branches, as well as the detection of splanchnic artery aneurysms and the median arcuate ligament. Nevertheless, angiography is used most commonly because it also offers the potential for therapeutic intervention. In general, therapeutic intervention is considered for asymptomatic splanchnic aneurismal diameter of more than 2 cm given the high morbidity and mortality associated with rupture. Symptomatic splanchnic artery aneurysms may be managed by endovascular, laparoscopic, or open surgical procedures. In comparison with open procedure, an endovascular technique that involves stent-graft placement and percutaneous transcatheter arterial coil embolization has met with significant success. If median arcuate ligament is the cause of celiac artery stenosis, then its surgical division is recommended to correct the hemodynamic imbalance in the splanchnic arterial network and, thus, to prevent recurrence of aneurysms.

A total of 7 splanchnic artery aneurysms were previously reported by Contini et al. Our case presents a total of 13 splanchnic artery aneurysms.

REFERENCES