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EDITOR'S CORNER

Chronic Mesenteric Ischemia: More Common Than Reported and Often Misdiagnosed

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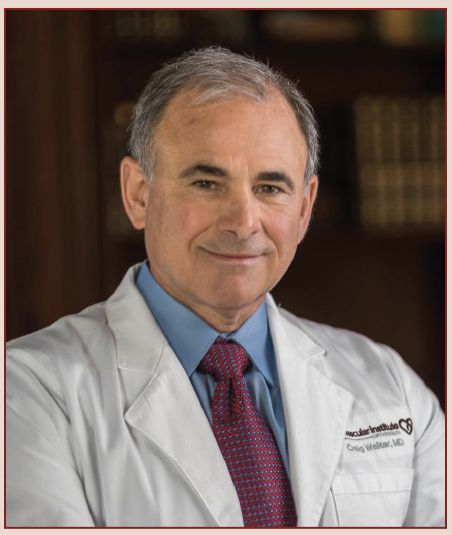

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Hello and welcome to the July issue of *Vascular Disease Management*. In this issue there are many interesting articles, which made it difficult for me to decide upon which to provide commentary. I chose to comment on Dr. Sitaram Barath and colleagues' case series, "Techniques of Mesenteric Artery Recanalization for Chronic Mesenteric Ischemia." I have chosen to comment on this article as I strongly believe that this condition is more common than reported, is often misdiagnosed, and is a source of unnecessary pain and suffering, particularly in the era of endovascular intervention.

Chronic mesenteric ischemia occurs whenever there is inadequate arterial blood supply to the gut. Mesenteric blood supply is via the celiac artery, superior mesenteric artery (SMA), and inferior mesenteric artery (IMA). Because this is an extensive collateral pathway network, ischemia typically does not occur until 2 of these 3 vessels have critical obstructive disease, although occasionally a single vessel obstruction can result in symptoms. The obstructive lesions are commonly at the aortic origins of these vessels.

The hallmarks of mesenteric ischemia are postprandial abdominal pain (which can result in "food fear"); weight loss (which can be massive); and malnutrition. Endoscopic studies usually do not show signs of chronic ischemia unless there is resultant tissue necrosis. The diagnosis relies on a careful history (including questioning about atherosclerotic risk factors), physical examination, listening for abdominal bruits and evaluating for abdominal tenderness, abdominal ultrasound, and CTA or angiography. It has been my personal experience that most of these patients have undergone extensive workups evaluating for cancer or other gastrointestinal disorders with multiple negative endoscopic studies. The possibility of intestinal ischemia is simply overlooked.

Surgical bypass of highly stenotic or occluded vessels has historically been shown to provide significant relief of symptoms with reasonably good patency. Unfortunately, by the time the diagnosis of mesenteric ischemia is made, often these patients are profoundly malnourished and frail. Interventional therapy consisting of stenting of the ostial stenoses of the mesenteric vessels has been shown to have high rates of procedural success, low procedural morbidity, and good patency.

The celiac artery, SMA, and IMA arise from the anterior surface of the aorta. The SMA and IMA typically have inferior sloping origins with a relatively acute angle, and the main vessel has no proximal branches. The celiac artery also has inferior angulation (typically less acute than the SMA or IMA), but it usually divides within the first 2 cm into the hepatic and splenic arteries. The celiac artery can be compressed by the median arcuate ligament. The most encountered pathology is

atherosclerotic obstruction at the origin of the vessels, but fibromuscular dysplasia and dissection have been reported. There are cases of ischemia secondary to diffuse disease involving the small branch vessels supplying the gut, where interventional therapy is not an option. It has been my experience that the SMA and celiac arteries are typically 1-2 mm larger than the renal arteries in the same patient.

In this case series, the authors predominately utilized the brachial approach to provide greater support in the downward-sloping vessels. I typically prefer a femoral approach when treating the celiac and SMA vessels, but I use brachial or radial access when treating the IMA. I prefer femoral access for 3 reasons: there are fewer bleeding complications than brachial; I can utilize true lateral fluoroscopic imaging, allowing me to ideally and precisely place the stent at the origin with only 1-2 mm of stent extending into the aorta; and I can utilize larger sheaths, facilitating placement of larger stents or in cases of recurrent stenosis or single vessel patency of the gut within critical stenosis involving that lone vessel to place covered stents, which were shown by Dr. Gustavo Oderich to result in better long-term patency. I typically utilize renal artery guiding catheters for this purpose, but occasionally utilize guiding sheaths when using higher cross-sectional profile devices such as covered stents. It has been my experience that stents can almost always be delivered via this approach if guidewires are placed distally. Celiac artery stenting is more challenging, as one must avoid jailing of the early dividing branches, and the median arcuate ligament compression can result in crushing of the stents. Reported series of mesenteric stenting have generally shown that long-term patency is lower in celiac artery stenting as compared with SMA stenting. There are far fewer reported series of IMA stenting, as IMA stenting is far less commonly performed. I prefer a superior access such as brachial when treating the IMA, as the downward-sloping angle of the vessel is profoundly acute, the vessel is typically slightly smaller than the other mesenteric vessels, and true lateral imaging with this vessel is not as helpful. I presently have 12 cases where I've performed stenting of high-grade IMA stenoses where the celiac artery or SMA vessels were totally occluded and the entire blood flow to the gut was via that critically stenotic IMA. I follow these cases very closely, and at this time have had only one that required reintervention for restenosis. One of these cases has now been patent for 16+ years. I have found that intravascular ultrasound is extremely helpful in determining the size and length of stent to choose and to ensure adequate stent expansion and vessel apposition.

Routine follow-up of patients following mesenteric stenting is mandatory. It is important to follow the status of the stent but also treat the global risk of atherosclerosis, as these patients often have diffuse atherosclerotic cardiovascular disease.

I personally do not believe that chronic mesenteric ischemia is nearly as rare as review articles have suggested. I believe that it is underdiagnosed and undertreated. This disorder deserves far more attention. ■

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