Title

Chronic Mesenteric Ischemia

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CLINICAL VIGNETTE

Chronic Mesenteric Ischemia

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Case

An 88-year-old female with past medical history significant for coronary artery disease status post three vessel coronary artery bypass graft and perforated gastric ulcer presented to gastroenterology with abdominal pain.

She had presented with a perforated gastric ulcer to an emergency room in New York a few months prior to the onset of this abdominal pain. The ulcer was determined to be due to nonsteroidal anti-inflammatory use for chronic back pain. She underwent an exploratory laparotomy with repair. Surgical pathology was negative for *Helicobacter pylori*.

Two months post-operatively she presented with bloating and abdominal pain. A CT enterography was performed due to suspicion of necrotic bowel, which was negative. However, she continued to have non-radiating epigastric pain three months later, rated as a 6 out of 10 in severity. She described it as continuous without change in appetite or early satiety. She noted eructation postprandially with nausea and unintentional weight loss of 30 pounds. She denies any substernal pyrosis, and the pain seemed to be worse with movement. She also complained of constipation requiring milk of magnesia. She did not have any diarrhea, melena, hematochezia, acholic stools, dark urine, vomiting, dysphagia, odynophagia, or hematemesis.

Other past medical history included spinal compression fracture, hypertension, hyperlipidemia, osteoporosis, and gastroesophageal reflux disease. She was a lifelong nonsmoker with rare alcohol use and no history of illicit or recreational drug use. There was no family history of any gastrointestinal malignancies.

Medications included aspirin, calcium, clopidogrel, lidocaine patch, metoprolol, mirtazapine, nifedipine, omeprazole, sucralfate, and valsartan.

At the initial visit, her blood pressure was 106/64, pulse of 72, temperature 36.4, with body mass index of 18.6 kg/m^2. Her abdominal exam demonstrated normoactive bowel sounds without tenderness, masses, organomegaly, distention, rebound, or guarding.

An abdominal ultrasound demonstrated fatty infiltration of the liver. Given her significant cardiac history, an MR angiography was performed, which demonstrated occluded mesenteric artery with segmental reconstitution at the mid-abdominal level. The inferior artery was patent and not compromised. Her abdominal aorta was tortuous with high grade near occlusive stenosis of the proximal celiac axis.

She was referred to vascular surgery for recanalization and stenting of the SMA and celiac artery. At the time of follow up three months later, she had resolution of symptoms and was doing well.

Discussion

We present a case of chronic mesenteric ischemia causing abdominal pain due to occluded superior mesenteric and celiac arteries. Chronic mesenteric ischemia is characterized by postprandial abdominal pain, sitophobia (fear of food), and weight loss.[1] It is more prevalent in women (70%) with involvement of a mesenteric artery, most often the celiac artery.[2] The incidence is approximately 1/100,000. The most common etiology is due to atherosclerosis, but other etiologies include fibromuscular dysplasia, vasculitis, and aortic dissection.[3]

Diagnosis is made clinically and confirmed with imaging studies. Imaging options include duplex ultrasound, CT, or MR angiography. Duplex ultrasound is limited by the technician skill. If available, 24 hour gastrointestinal tonometry may also be used for diagnostic purposes.[4]

Conservative treatment includes statins, antiplatelet therapy, blood pressure control, improved diabetic control, and tobacco cessation. However, patients who are symptomatic from chronic mesenteric ischemia should undergo revascularization. Percutaneous revascularization has now largely replaced open surgical revascularization.[5] Percutaneous (endovascular) revascularization is safer in this patient population, which tends to be high risk due to comorbidities. One study reported 95% of patients were symptom free at 12 months and 78% at 24 months.[5] Another retrospective study showed a 1-year patency rate of 80% and 2-year patency rate of 50%.[6]

Summary

Chronic mesenteric ischemia is a rare cause of abdominal pain that requires a high index of suspicion. It is a clinical diagnosis characterized by abdominal angina, sitophobia, and weight loss. It is confirmed with noninvasive angiography or duplex ultrasound. For patients who are poor surgical

candidates, optimizing cardiac risk factors with medication and lifestyle changes should be undertaken. However, for those who are able, percutaneous revascularization should be considered as it has been shown to be successful in reducing symptoms in the short term with less morbidity than open surgical revascularization. More studies are required to determine the long-term efficacy of percutaneous procedures.

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