

A Case of Spontaneous Celiac Artery Dissection

Aashish Katapadi, MD¹; Louie Kostopoulos, MD¹

¹Aurora Health Care Internal Medicine Residency Program

Introduction

Spontaneous isolated celiac artery dissection (SICAD) is a rare manifestation of non-atherosclerotic peripheral arterial disease that can mimic other causes of abdominal pain. Occasionally, it can present as an incidental finding. Once identified, management is directed by hemodynamic instability but few cases in literature inform our understanding and management. We present a case of SICAD in a healthy, middle-aged male with no significant risk factors.

Case Description

Initial Presentation

46-year-old male with mild dyslipidemia presented to the primary care physician's (PCP) office with new, sudden-onset, epigastric pain with associated diaphoresis and nausea that spontaneously resolved after 4 hours. Empirically started on proton-pump-inhibitors with continued waxing and waning abdominal discomfort and fullness. He had acute recurrence of symptoms a few days later and was instructed to present to the emergency department (ED).

ED Presentation

In the ED, BP was 172/95. Physical exam was notable for mild epigastric tenderness without guarding. EKG was normal sinus rhythm. CMP and CBC, and LA and lipase, were all unremarkable.

Subsequent CT Chest, Abdomen, Pelvis demonstrated dissection with sub-total occlusion of celiac axis extending into hepatic and splenic arteries. Hepatic arterial flow was reconstituted from a widely patent superior mesenteric artery. No additional visceral arterial or aortic dissections or aneurysms. Figures 1 and 2.

Management

The patient was transferred to our center for further management.

Echo demonstrated LVEF 58% and unremarkable valves and aorta. US Duplex demonstrated elevated celiac artery velocities (307 cm/sec) and normal proper hepatic and splenic arteries. Figure 3. Labs notable for mildly elevated CRP (1.1; ref. ≤ 1.0 mg/dL), fibrinogen (482; ref. 180-425 mg/dL), and D-dimer (1.87; ref. < 0.57 mg/L). Autoimmune workup was negative.

Patient was initially started on Heparin infusion and Aspirin in the ED. He was started on Plavix and Labetalol for BP control. He remained stable and anticoagulation was discontinued. Labetalol was transitioned to Metoprolol and he was discharged with a limited exercise regimen.

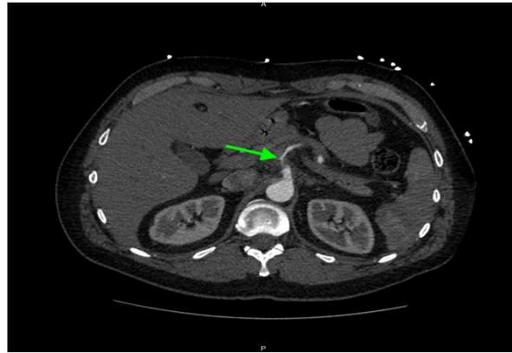


Figure 1. Transverse view of the abdomen at the level of the celiac artery. There is severe narrowing of the celiac artery followed by complete occlusion.

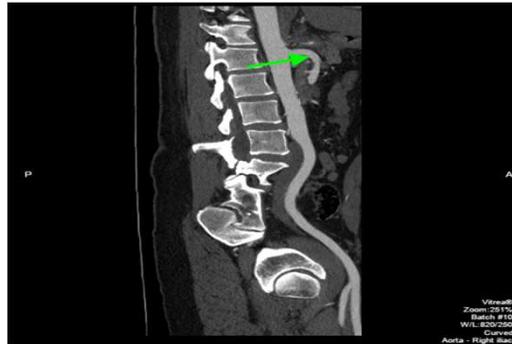


Figure 2. Sagittal view of the celiac artery and abdomen. There is a brief glimpse of the false lumen.



Figure 3. Duplex US of the distal celiac artery. Velocities are elevated to 307 cm/sec, suggestive of narrowing of vessel and intimal flap creation.

Follow Up

Subsequent course remained stable without recurrent symptoms on DAPT and anti-hypertensive medication. Metoprolol was transitioned to Carvedilol and Terazosin was added to the regimen. Exercise restrictions were lifted following exercise stress test and non-propagating dissection on US Duplex.

Discussion

There are < 200 known case reports of SICAD since 1959 in literature¹.

SICAD is a rare cause of abdominal pain with various presentations, including epigastric pain with or without nausea and vomiting, hypertension or hypotension, pancreatitis, jaundice, and malabsorption.

Differential includes aortic dissection, mesenteric ischemia, pancreatitis, peptic ulcer disease, cholelithiasis, malabsorption syndromes, atypical cystitis²⁻³.

Risk factors for SICAD include hyperlipidemia, hypertension, atherosclerosis, autoimmune vasculitis, and connective tissue disorders, and male gender. Hypertension and smoking appear to be the main risk factors⁴.

The patient's ASCVD 10-YR risk score was 2.4% and CT Calcium score was 0. Family history notable for coronary heart disease.

Diagnosis is made with CT Angiography or Duplex US.

Open surgical repair or endovascular stent is the treatment if hemodynamically unstable. Otherwise, can treat conservatively with antiplatelet monotherapy or DAPT, antihypertensives, and serial monitoring at 1 and 4 month.

References

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Contact info: aashish.katapadi@aah.org