Diagnosis of Exclusion: MALS in a Patient with Underlying Crohn’s Disease
Erica Becker MD, MPH, Turab Mohammed MD, John Wysocki MD
1Department of Internal Medicine, University of Connecticut Health Center
2Department of Gastroenterology, Hartford Hospital
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Introduction
- Median arcuate ligament syndrome (MALS) is a rare clinical condition, in which the celiac trunk is compressed by the median arcuate ligament during expiration
- Few cases have been reported of MALS in the setting of inflammatory bowel disease
- Triad of symptoms: postprandial abdominal pain, bowel function disorder, and weight loss
- More likely to affect young, thin, adult females (F:M ratio of 4:1)
- Mimics life-threatening causes of abdominal pain and presents with a wide variety of clinical symptoms

Clinical Presentation
- 35-year-old, non-Hispanic white man
- 5-year history of nausea with intermittent vomiting
- Diarrhea with urgency
- At least a 90lb weight loss
- Malnutrition secondary to severe postprandial epigastric pain

Work-up
- Initial GI work-up (CBC, BMP, stool studies, H. pylori, and celiac biopsy) was negative
- Biopsies of the esophagus, stomach, and duodenum were non-revealing
- Repeat endoscopic evaluation demonstrated evidence of Crohn’s disease
- Treatment with both prednisone and infliximab were ineffective
- Normal gastric emptying study
- Underwent cholecystectomy due to biliary dyskinesia with continued progression of symptoms

Imaging
- Figure 3a and b. Celiac artery stenosis of more than 50% shown on the computed angiography.
- Figure 4a. Abdominal ultrasound doppler showed a patent celiac artery with turbulent, elevated velocities of 344cm/s in the proximal segment with normal respiration.
- Figure 4b. Waveforms normalized to velocities of 168cm/s with inspiration and in the upright position.

Final Diagnosis
- Findings consistent with compression of the celiac artery (MALS)

Follow-up
- Patient underwent diagnostic celiac plexus block and was noted to have a positive response to the injection
- Later underwent surgical decompression of the median arcuate ligament and removal of the celiac ganglion
- He reported a definitive relief of abdominal pain, nausea, and vomiting
- Now gaining weight post-procedure and weaning off the opioid medications

Discussion
- MALS is often a diagnosis of exclusion
- Most patients have had extensive workup and surgical procedures before the diagnosis of MALS is even considered
- Clinicians should consider MALS even in patients diagnosed with other abdominal disease as it could be contributing significantly to symptoms
- In the presence of an underlying abdominal illness, a high index of suspicion is needed among patients with persistent symptoms despite adequate treatment of the primary illness

Conclusions
- Prompt diagnosis is required to prevent unnecessary medical intervention and for a favorable clinical course
- The diagnosis significantly relies on reviewing the patient’s symptoms, medical history, and correlating imaging findings with patient symptoms and resolution of symptoms with treatment
- References available upon request