

Evidence Discussion (AB 6.2)

Colonic Ischemia (Including Ischemic Colitis)

- Based on ACG Clinical Guideline: “In contrast to AMI (acute mesenteric ischemia) in which conventional mesenteric angiography or CTA plays an essential role, vascular imaging studies are not indicated in most patients with suspected CI (colonic ischemia) because by the time of presentation, colon blood flow has usually returned to normal and the observed changes are not from ongoing ischemia but rather reflect the ischemic insult with or without reperfusion injury”¹
- CT scan is recommended as first-line imaging for patients with ischemic colitis. CT allows for identification and/or exclusion of other causes of abdominal pain; may suggest diagnosis of colonic ischemia, including distribution of disease; and may allow assessment of disease severity¹
- CT-angiogram (CTA) is generally not recommended, since in most cases, blood flow has returned to normal by the time of clinical presentation.¹ CTA may be helpful in distinguishing between acute mesenteric ischemia (AMI) and ischemic colitis.¹ In diagnosing AMI, sensitivity and specificity are reported to be over 90%.² Isolated right sided colonic ischemia (IRCI) carries a worse prognosis than other distributions of colitis and may represent evidence of significant SMA disease; as such, CTA is recommended to fully evaluate the vasculature and potentially prevent catastrophic associated complications.¹
- Radiation and contrast related complications are risks associated with CT and CTA²
- MRA also allows for evaluation of the proximal celiac artery and SMA. Advantages include high sensitivity and specificity. Disadvantages include poor visualization of distal vessels and nonocclusive ischemia, long acquisition times, and motion susceptibility artifact which could potentially delay treatment. In contrast to CTA, MRA is “less likely to show ischemic findings within the bowel itself”²
- Alternative imaging studies include noncontrast CT scan, ultrasound, and barium enema:
 - noncontrast CT scan – there is a lack of literature related to this imaging modality; however, signs of ischemia, including evaluation of bowel and vasculature, rely on use of contrast.²
 - Ultrasound – Experience “in the setting of CI is very limited”¹, also, there is a low specificity, high false negative rate.¹
 - Duplex US (arterial study) – there may be a role; however, various factor, including difficulty evaluating distal vessels and nonocclusive ischemia, as well as acquisition time, and patient discomfort do limit utility in evaluating for acute mesenteric ischemia.²
 - Barium enema – originally described in diagnosis of CI in the 1960s. Very limited role today, as CT and colonoscopy are preferred. Modern usage is mainly to follow ischemic strictures (chronic setting).¹

References:

1. Brandt LJ, Feuerstadt P, Longstreth GF, et al. Epidemiology, Risk Factors, Patterns of Presentation, Diagnosis, and Management of Colonic Ischemia. American College of Gastroenterology. 2015; 110: 18- 44
2. Ginsburg M, Obara P, Lambert D, et al. Expert Panels on Vascular Imaging and Gastrointestinal

Imaging: ACR Appropriateness Criteria® Imaging of Mesenteric Ischemia. *J Am Coll Radiol.* 2018;15(11S):S332-40.