

Evidence Discussion (Mesenteric Ischemia AB-6.1)

EviCore
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- Duplex ultrasound provides an excellent screening tool for mesenteric artery occlusive disease. Duplex ultrasound is recommended for regular evaluation of individuals treated for mesenteric ischemia. Duplex ultrasound requires no ionizing radiation and is readily available and portable. Duplex ultrasound findings help to determine the next most appropriate advanced imaging study if needed. Duplex ultrasound has a high negative predictive value of 99% with overall accuracy of 96% in ruling out significant stenosis.
 - CTA is recommended as an additional diagnostic tool in chronic mesenteric ischemia because it provides excellent image detail and helps to better define mesenteric lesions. Disadvantages of CTA include ionizing radiation, expense, and potential for contrast related complications. MRA is considered an alternative modality to CTA. MRA boasts sensitivity and specificity of over 95% for detection of significant stenosis. However, it is limited in its ability to characterize degree of calcification, requires contrast administration, is not as widely available, and presents limitation in patients with metallic implants.¹²

References

1. Fidelman N, Funaki BS, Ray CE , et al. Expert Panel on Interventional Radiology. ACR Appropriateness Criteria® radiologic management of mesenteric ischemia. American College of Radiology (ACR); 2011 (Revised 2016).
2. Menke J. Diagnostic Accuracy Of Multidetector CT In Acute Mesenteric Ischemia: Systematic Review And Meta-Analysis. *Radiology*, 2010; 256: 93-101.
3. Olivia IB, Davarpanah AH, Rybicki FJ, et. Al ACR Appropriateness Criteria- Imaging of Mesenteric Ischemia 2018. The American College of Radiology.
4. 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.
5. Bala M, Kashuk J, Moore EE, et al. Acute mesenteric ischemia: guidelines of the World Society of Emergency Surgery. *World Journal of Emergency Surgery*. 2017;12(1). doi:10.1186/s13017-017-0150-5.
6. Zierler RE, Jordan WD, Lal BK, et al. The Society for Vascular Surgery practice guidelines on follow-up after vascular surgery arterial procedures. *Journal of Vascular Surgery*. 2018;68(1):256-284. doi:10.1016/j.jvs.2018.04.018.
7. Peck MA, Conrad MF, Kwolek CJ, Lamuraglia GM, Paruchuri V, Cambria RP. Intermediate-term outcomes of endovascular treatment for symptomatic chronic mesenteric ischemia. *Journal of Vascular Surgery*. 2010;51(1). doi:10.1016/j.jvs.2009.06.064.
8. Cai W, Li X, Shu C, et al. Comparison of Clinical Outcomes of Endovascular Versus Open Revascularization for Chronic Mesenteric Ischemia: A Meta-analysis. *Annals of Vascular Surgery*. 2015;29(5):934-940. doi:10.1016/j.avsg.2015.01.010.
9. Alahdab F, Arwani R, Pasha AK, et al. A systematic review and meta-analysis of endovascular versus open surgical revascularization for chronic mesenteric ischemia. *Journal of Vascular Surgery*. 2018;67(5):1598- 1605. doi:10.1016/j.jvs.2017.12.046.
10. Björck M, Koelemay M, Acosta S, et al. Editor's choice – management of the diseases of mesenteric arteries and veins. Clinical practice guidelines of the European Society of Vascular Surgery (ESVS). *Eur J Vasc Endovasc Surg*. 2017;53:460-510.
11. 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.
12. Huber TS, Björck M, Chandra A, et al. Chronic mesenteric ischemia: Clinical practice guidelines from the Society for Vascular Surgery. *J Vasc Surg*. 2021;73:87S-115S.
13. Zierler RE, Jordan WD, Lal BK, et al. The Society for Vascular Surgery practice guidelines on follow-up after vascular surgery arterial procedures. *J Vasc Surg*. 2018;68(1):256-284.