

Mesenteric ischemia

Caroline Ewertsen
MD, PhD, Ass. prof.
Department of Radiology
Copenhagen University Hospital
Rigshospitalet
Denmark

email: caroline.ewertsen@regionh.dk

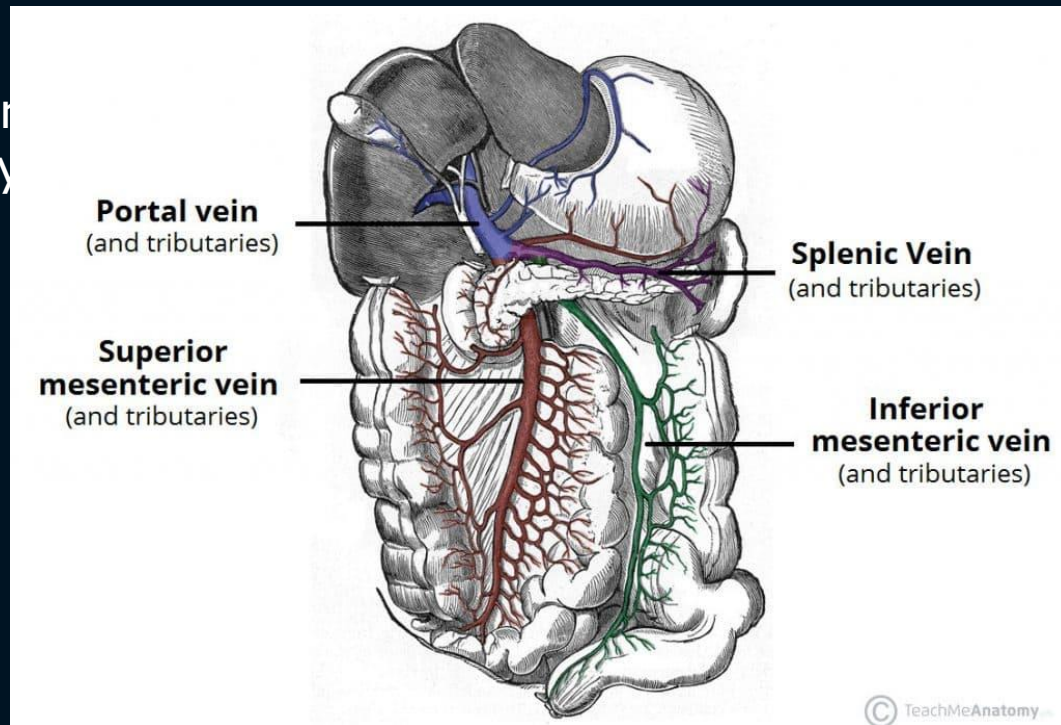


Disclosures

- Nothing to disclose

Mesenteric vessels

- Arteries
 - Superior mesenteric artery
 - Inferior mesenteric artery
- Veins
 - Superior mesenteric vein
 - Inferior mesenteric vein



Symptoms

- Sudden onset of pain
- Disproportionate pain unrelated to palpation
- Opioid resistant pain
- No reliable blood test
- Melena/bleeding per rectum



30 year old Male

Edit

Service: **Not Selected**

Edit

Indication(s):

Mesenteric ischemia, acute,
suspected, initial exam ✕

Appropriateness rankings for a 30 year old Male

Appropriateness	Service	Cost	RRL
9	CT, angiography, abdomen-pelvis, w iv contrast	€€€	
6	CT, abdomen-pelvis, w iv contrast	€€€	
5	INV, angiography, abdomen	€	
5	MR, angiography, abdomen-pelvis, wo/w iv contrast	€€€€	
5	XRAY, abdomen	€	
4	US, duplex doppler, abdomen	€€€	
3	CT, abdomen-pelvis, wo iv contrast	€€	
3	CT, abdomen-pelvis, wo/w iv contrast	€€€	
3	MR, angiography, abdomen-pelvis, wo iv contrast	€€€€	

How to scan?

- Unenhanced phase
 - Dual energy?
- Arterial phase
 - Bolus triggering
 - 2ml ca/kg (max 150 ml)
 - 4-5 ml/s
- Portal venous phase
 - 60-70 seconds

Will also be recommended in ESGAR guidelines

REVIEW ARTICLE

Insights into acute mesenteric ischaemia: an up-to-date, evidence-based review from a mesenteric stroke centre unit

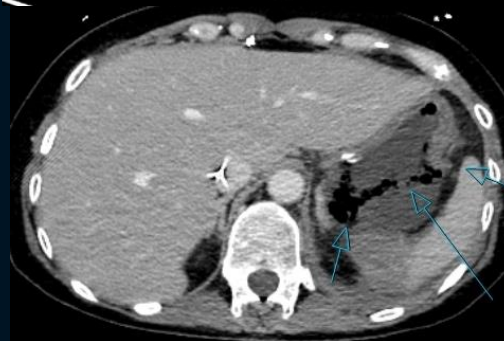
^{1,2}LORENZO GARZELLI, MD, ³IANNIS BEN ABDALLAH, MD, PhD, ⁴ALEXANDRE NUZZO, MD, PhD,
²MAGALY ZAPPA, MD, PhD, ⁴OLIVIER CORCOS, MD, ¹MARCO DIOGUARDI BURGIO, MD, PhD,
⁵DOMINIQUE CAZALS-HATEM, MD, ⁶PIERRE-EMMANUEL RAUTOU, MD, PhD, ¹VALÉRIE VILGRAIN, MD, PhD,
⁷PAUL CALAME, MD and ¹MAXIME RONOT, MD, PhD

Imaging of Bowel Ischemia: An Update, From the *AJR* Special Series on Emergency Radiology

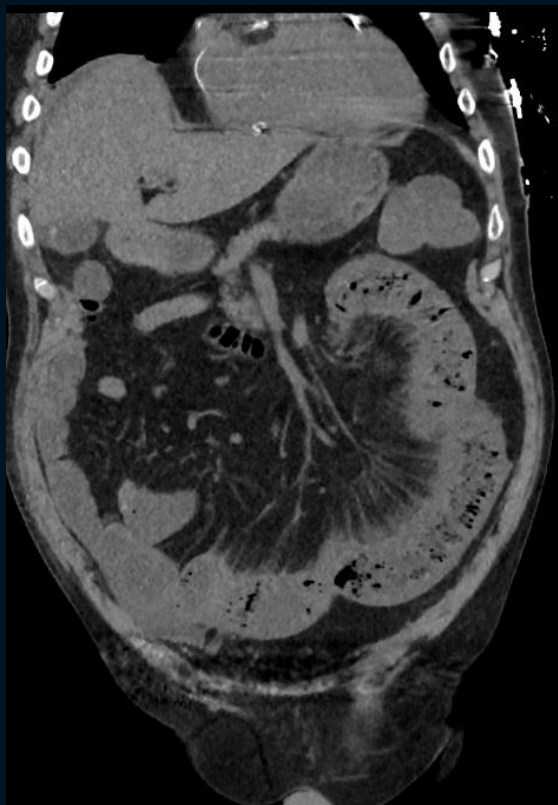
Michael C. Olson, MD¹, Corrie R. Bach, MD, Michael L. Wells, MD, James C. Andrews, MD,
Ashish Khandelwal, MBBS, MD, Christopher L. Welle, MD, Jeff L. Fidler, MD

Phases

- Unenhanced
 - Mural hematoma
 - Calcifications
 - Baseline to assess enhancement
- Arterial
 - Patency of arteries
 - Degree of stenosis
- Portal venous
 - Patency of vein
 - Assessment of bowel loops
 -



Unenhanced – Arterial – Portal venous



Phases - unenhanced



Unenhanced

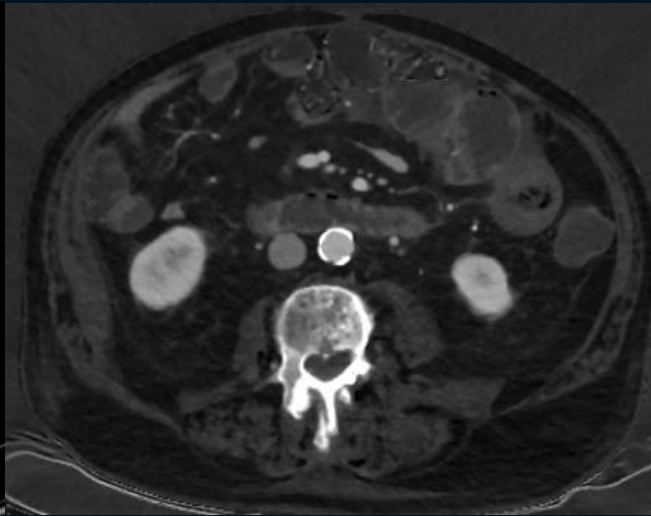


Virtual unenhanced

Phases - venous



40 keV



Iodine map



Venous



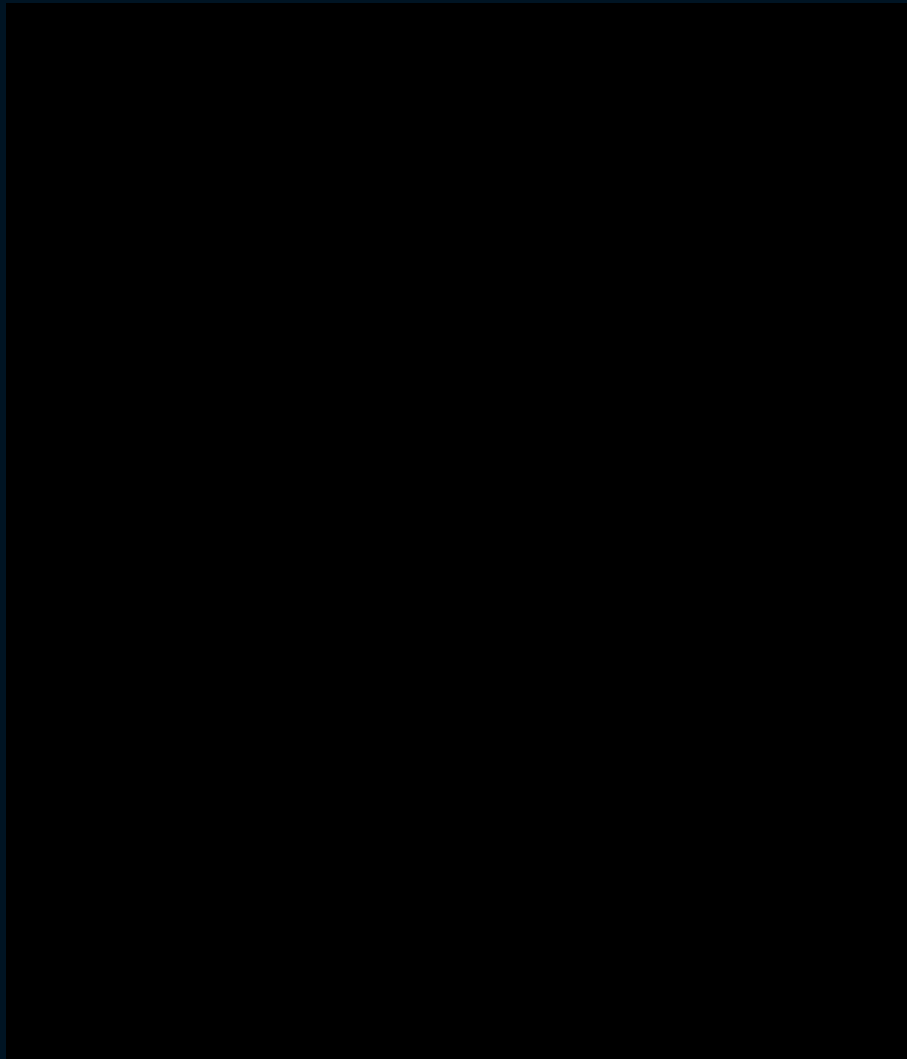
- SMV/SMA ratio < 1 indicates occlusion of the SMA
- Measure at the level of the upper part of the kidney

- 81-year-old male
- 4 days after CABG
- Abdominal pain

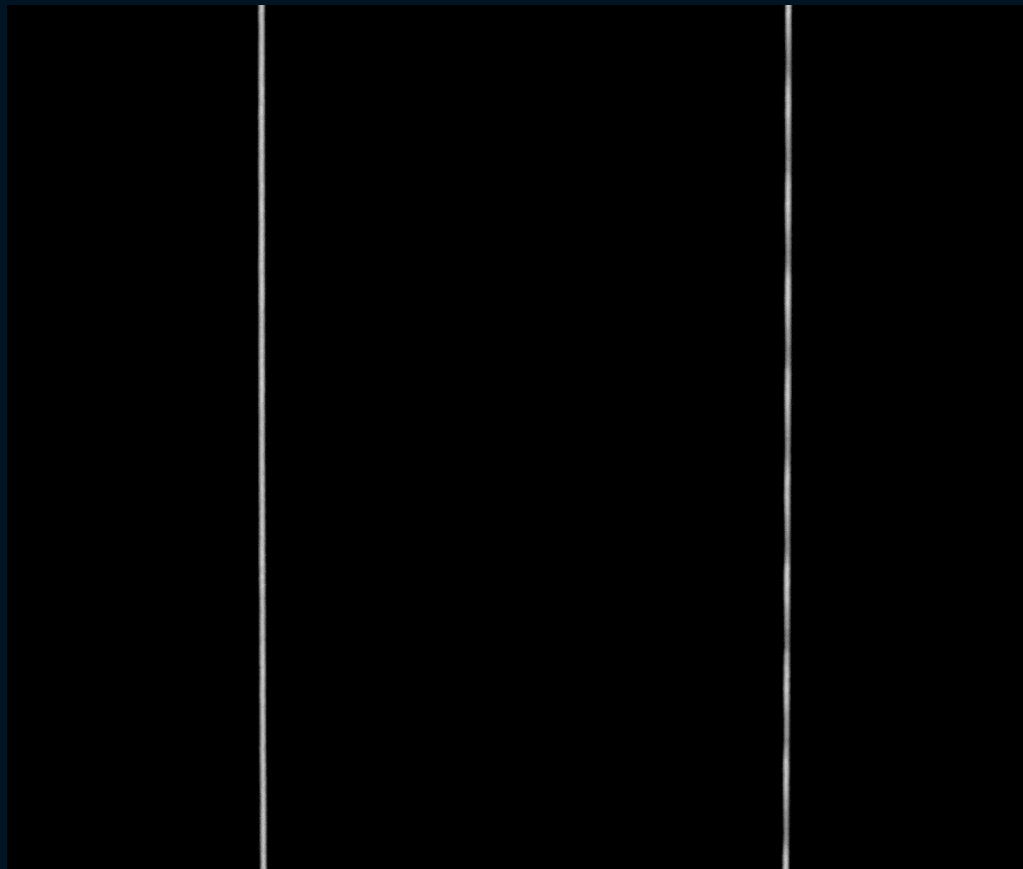


Small bowel obstruction?

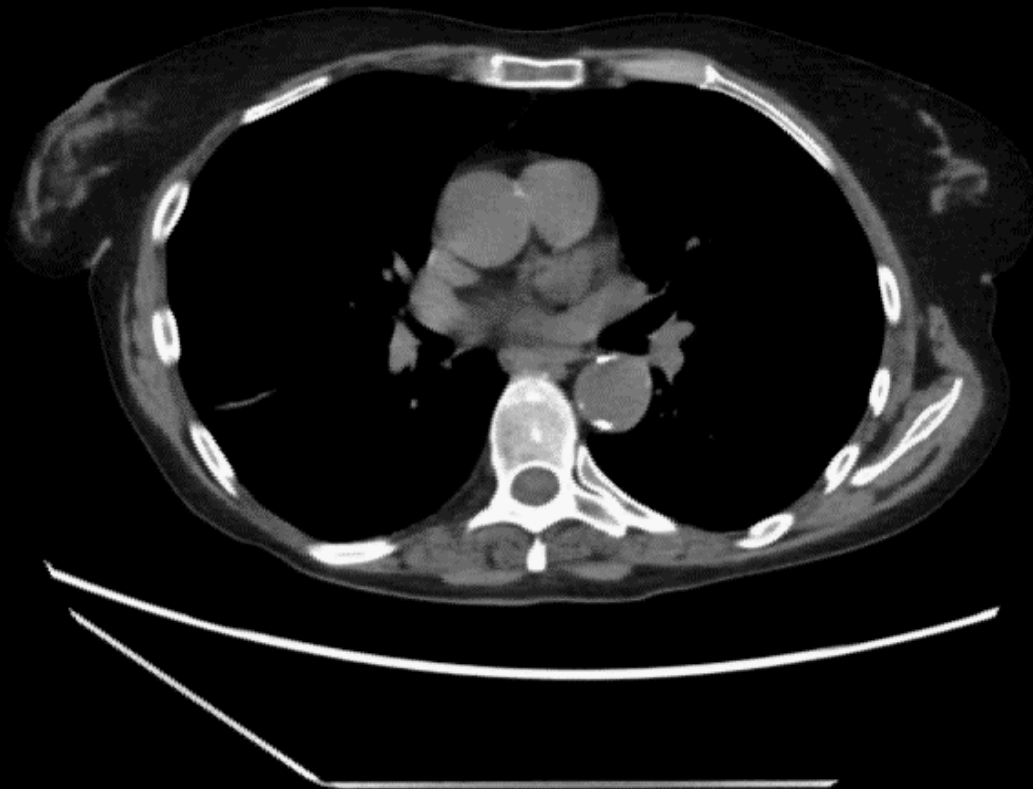
- 57-year-old female
- 1.5 months after extensive surgery for ovarian cancer
- Infectious complications
- Suspicion of small bowel obstruction

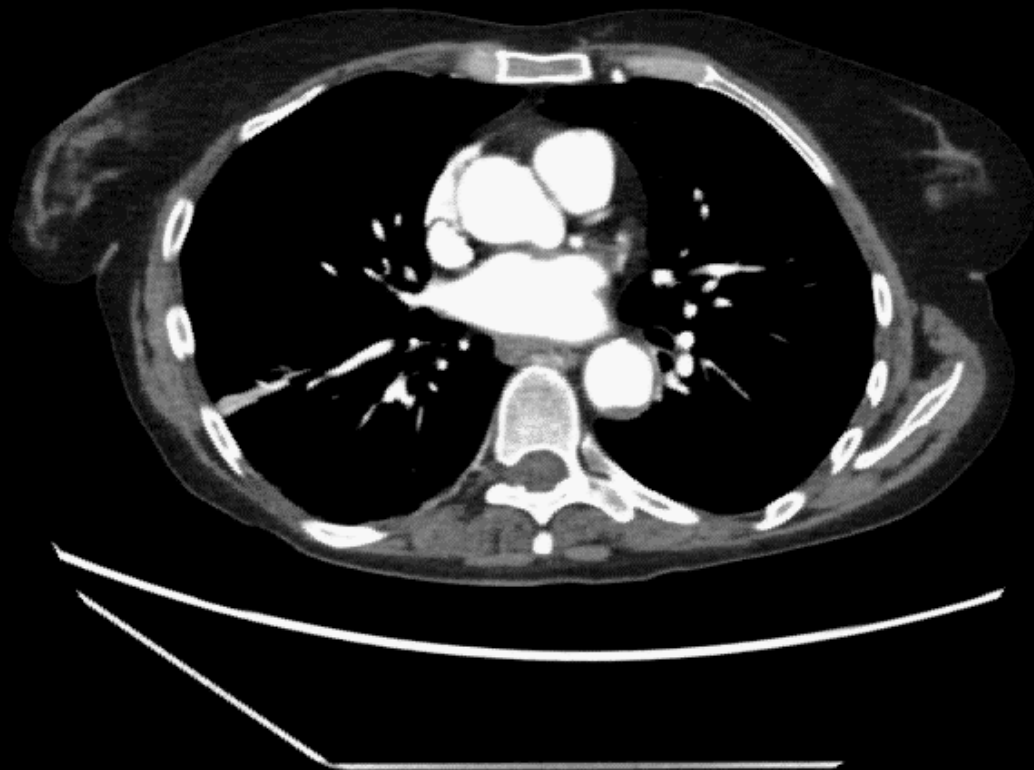


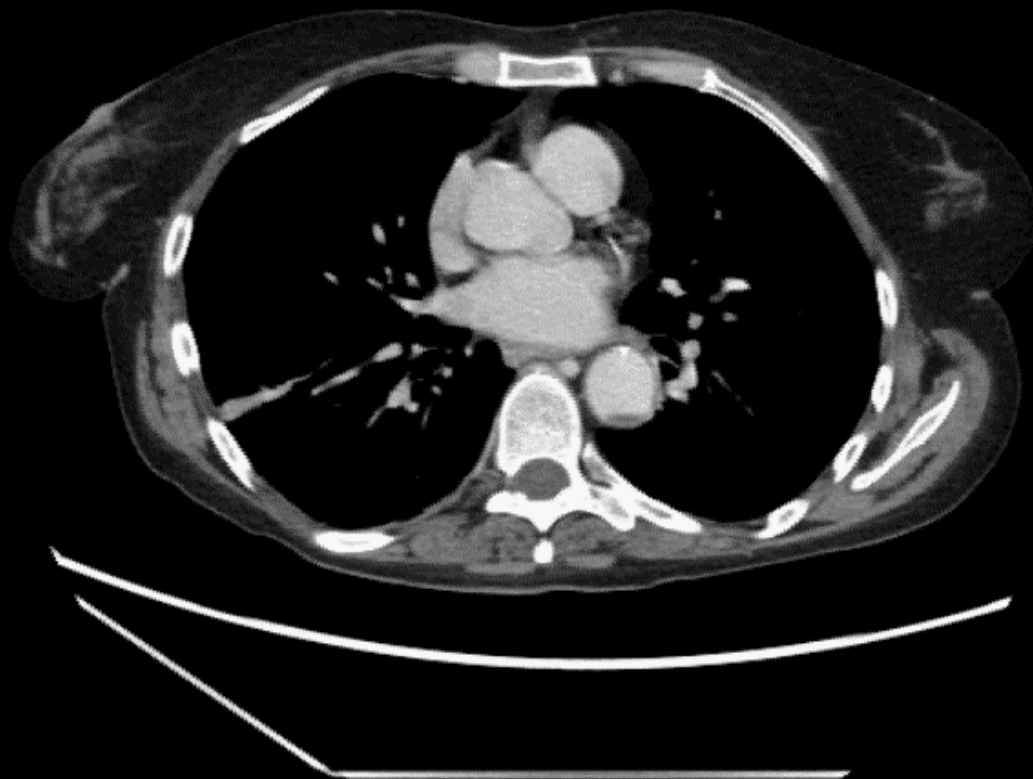
- 56-year-old female
- Chronic patient transferred for PTA of the SMA
- Increase in white blood cell count
- Increasing pain











Summary

- Perform abdominal CT angiography with 3-phases
 - Unenhanced
 - Arterial
 - Portal venous
- Mesenteric ischemia is an emergency
- Sudden onset of resistant pain
- Be liberal in elderly patients
- Remember the vessels and the bowel

