

65 year old male with persistent abdominal pain for more than two weeks elevated LFTs and multiple visits to the ER with no definitive diagnosis.

Elena G. Violari M.D. and Alex Merkulov M.D.



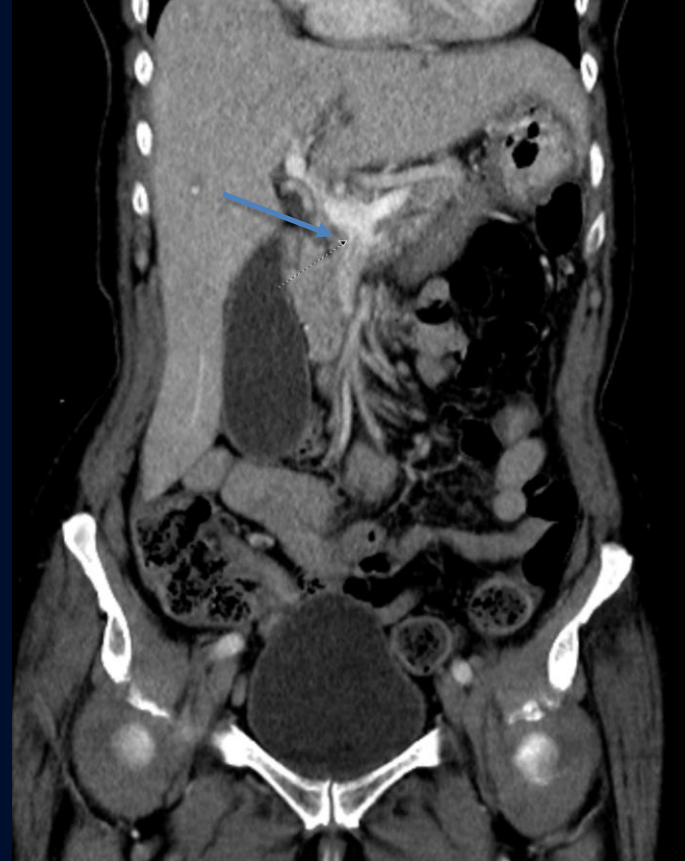




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# Superior Mesenteric Vein Thrombosis

# Axial and coronal CT



Axial CT and coronal CT demonstrate filling defect in the superior mesenteric vein compatible with superior mesenteric vein thrombosis.

# Sagittal CT



Sagittal CT demonstrates a large filling defect within the superior mesenteric vein that extends to the proximal portal vein.

# Superior mesenteric vein thrombosis

## Epidemiology:

- 5-15% of all cases of acute mesenteric ischemia.
- Despite thrombosis of the SMV, small bowel necrosis is rare presumably due to persistent arterial supply and multiple collaterals.

## Etiology:

- Hypercoagulable states.
- Recent abdominal surgery.
- Sepsis.
- Portal hypertension.
- Mechanical narrowing.
- 20-40% of cases idiopathic.



# Superior mesenteric vein thrombosis

## Clinical presentation:

- Vague abdomen pain with gradually worsening diffuse, colicky pain.
- Symptoms may have been present for a few days.
- If ischemia progresses, eventual necrosis, perforation, sepsis/shock ensue.
- Imaging is the only reliable way of making the diagnosis.
- CT with contrast (portal venous phase timing) is the most accurate test, with excellent sensitivity (up to 100%).

# Superior mesenteric vein thrombosis

## CT findings:

- Filling defect in the superior mesenteric vein and branches (seen in 90% of cases)
- Mesenteric congestion and stranding
- Bowel wall (if ischemic):
  - thickening up to 8-9 mm
  - density (variable): hypo-attenuating due to edema
  - enhancement (variable): absent once infarcted
  - pneumatosis intestinalis: due to transmural infarction
- Ascites

# Superior mesenteric vein thrombosis

## Differential Diagnosis:

- Vascular
  - Acute superior mesenteric artery occlusion
  - Ischemia due to hypotension
  - Submucosal hemorrhage or hematoma
- Inflammation/infection
  - Crohn's disease
  - Radiation enteritis
  - Typhlitis
- Neoplasm
- Pseudo-thickening related to incomplete distention and residual fluid

# References:

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- 3. Klar E, Rahmanian PB, Bücken A, Hauenstein K, Jauch KW, Luther B. Acute mesenteric ischemia: a vascular emergency. *Dtsch Arztebl Int*. 2012;109(14):249-256.
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