

## Acute arterial mesenteric ischaemia: CT features

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**Section:** Abdominal imaging

**Imaging Technique:** CT

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Case Type: Clinical Cases

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**Patient:** 85 years, female

### Clinical History:

Acute diffuse abdominal pain. History of hypertension, hiatal hernia and hysterectomy. Physical examination showed paleness, a distended and tender abdomen, and hypothermia.

### Imaging Findings:

The patient was admitted to the emergency department with acute diffuse abdominal pain. She had a history of hypertension, hiatal hernia and hysterectomy. Physical examination showed paleness, a distended and tender abdomen, and hypothermia. Laboratory investigation demonstrated elevated amylase, ASAT and LDH and a normal white blood cell count.

Computed tomography (CT) revealed small-bowel dilatation, lack of small-bowel wall enhancement, and pneumatosis. An emergency laparotomy was performed and confirmed mesenteric ischaemia with bowel necrosis.

### Discussion:

Acute mesenteric ischaemia with vascular occlusion could result from venous or arterial occlusion.

CT features of acute mesenteric ischaemia with arterial or venous occlusion are correlated with the results of published histopathological reports. In arterial mesenteric ischaemia, pathological findings demonstrate transmural infarction and the bowel wall is very thin. CT shows a dilated bowel segment, lack of bowel wall enhancement, thin bowel wall, and pneumatosis. In venous mesenteric thrombosis, there is oedema and vascular engorgement associated with varying degree of oedema and haemorrhage in the submucosa. CT shows concentric bowel wall thickening, and enhancement of bowel without evidence of pneumatosis.

It is important to differentiate arterial occlusion from venous occlusion in acute mesenteric ischaemia because treatment and prognosis are different. When venous thrombosis is diagnosed early, the ischaemia may be reversible with anticoagulant therapy and the prognosis is good; on the other hand, in arterial thrombosis, emergency surgery is required with resection of ischaemic bowel segments, if possible, and the prognosis is grave.

**Differential Diagnosis List:** Acute arterial mesenteric ischaemia

**Final Diagnosis:** Acute arterial mesenteric ischaemia

**References:**

Taourel PG, Deneuille M, Pradel JA, Regent D, Bruel JM.

Acute mesenteric ischemia: diagnosis with contrast-enhanced CT.

Radiology. 1996 Jun;199(3):632-6. (PMID: [8637978](#))

Rha SE, Ha HK, Lee SH, Kim JH, Kim JK, Kim JH, Kim PN, Lee MG, Auh YH.

CT and MR imaging findings of bowel ischemia from various primary causes.

Radiographics. 2000 Jan-Feb;20(1):29-42. (PMID: [10682769](#))

**Figure 1**

a



**Description:** Decubitus abdominal plain film showing bowel distension. **Origin:**

**Figure 2**

a



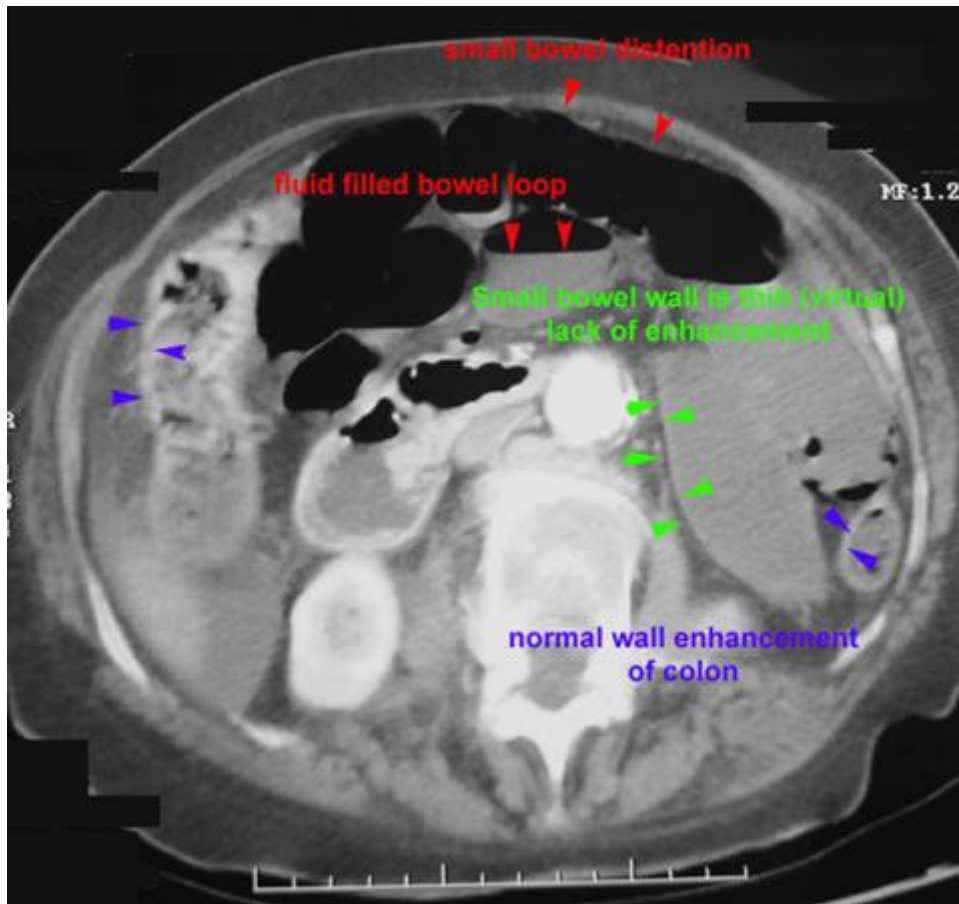
**Description:** Axial unenhanced CT demonstrating small-bowel distension and fluid-filled loops and air-fluid levels. **Origin:**

**b**



**Description:** Axial contrast-enhanced CT demonstrating thin bowel wall and lack of wall enhancement.  
**Origin:**

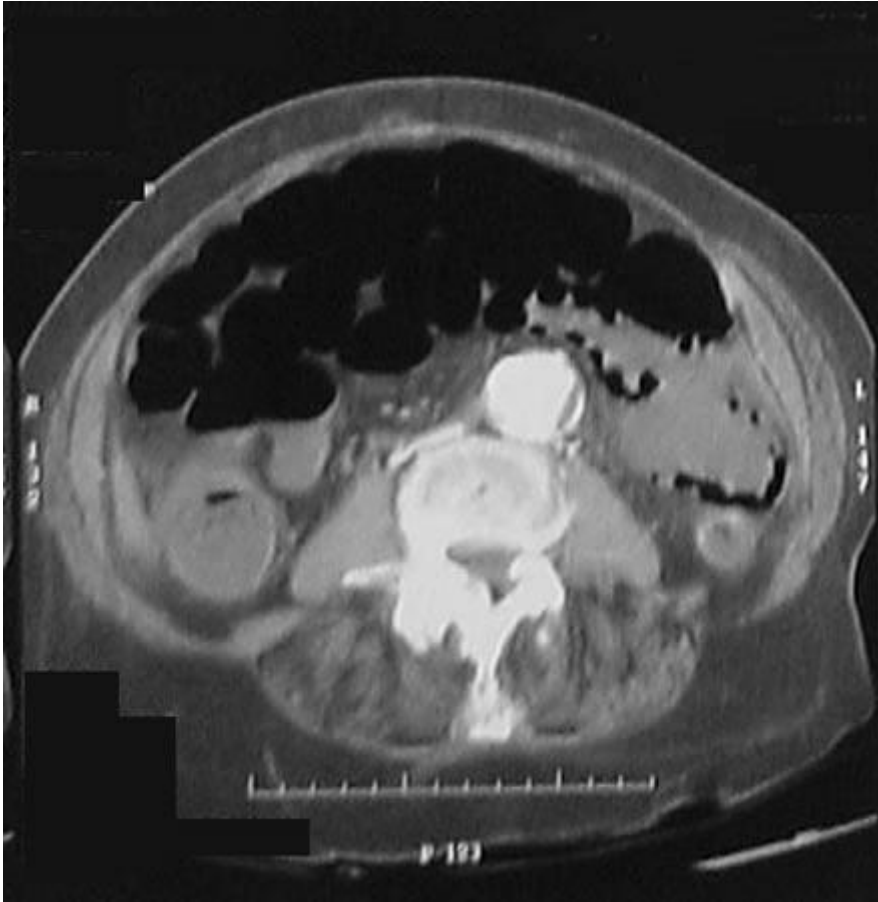
c



Description: Annotated image. Origin:

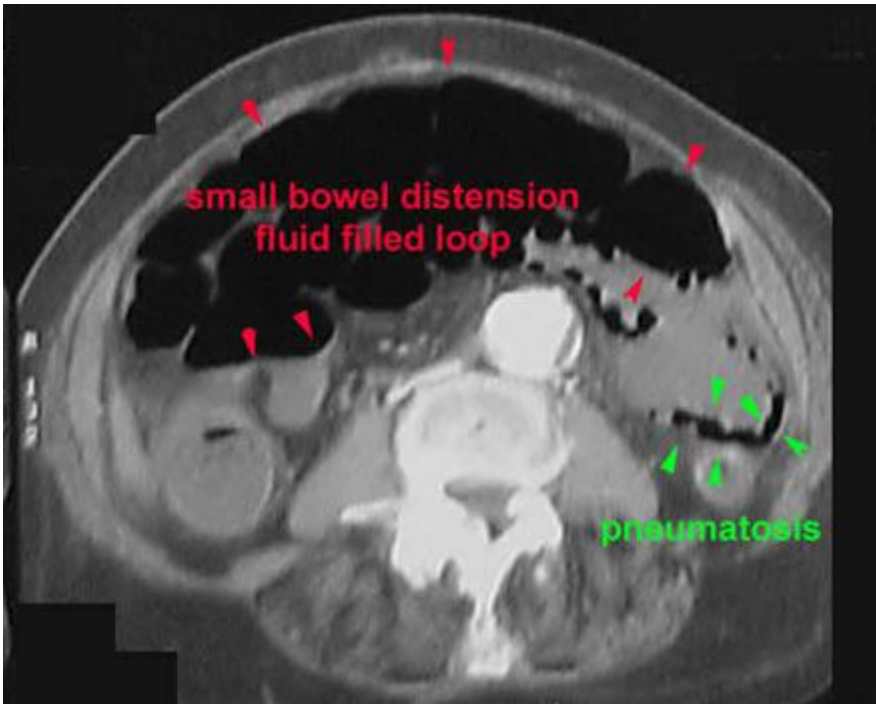
**Figure 3**

a



**Description:** Axial contrast-enhanced CT demonstrating pneumatosis. **Origin:**

b



**Description:** Annotated image. **Origin:**