

## Clinical Image

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# A rare cause of small bowel bleeding

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### Abstract

We present a rare cause of gastrointestinal bleeding resulting from fistulae between the mesenteric artery and portal venous system, caused as a late complication of sleeve gastrectomy. A high index of suspicion, based upon venous engorgement without an occluding thrombus, enabled prompt diagnosis and occlusion of the fistulae with coils, leading to marked clinical improvement.

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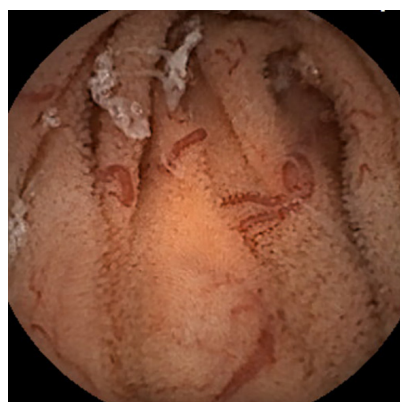
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### Description

A 42-year-old woman presented with intermittent melena. Surgical history included sleeve gastrectomy complicated by massive arterial bleeding from the insufflation needle 2 years previously. Physical examination revealed pallor, laparotomy scar, an abdominal bruit and rectal melena. Hemoglobin levels were 5.5 g/dL. Upper and lower endoscopies were normal. Capsule endoscopy (Figure 1) followed by push enteroscopy (Figure 2) showed a segment in the jejunum with edematous mucosa, venous engorgement, blood oozing and serpentine vessels.

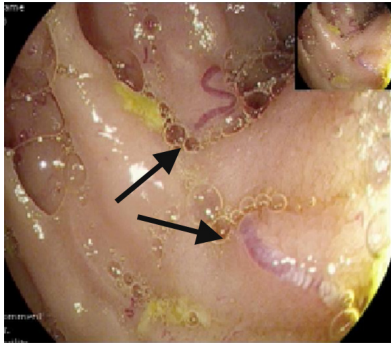
CT scan (Figure 3) demonstrated marked engorgement of the portal and superior mesenteric veins but no portal thrombus. Importantly, superior mesenteric vein filling occurred in the arterial phase, indicating a connection with the arterial system. Angiography (Figure 5) confirmed several fistulae connecting the superior mesenteric artery and portal vein. Occlusion of the fistulae with coils lead to marked clinical improvement.



**Figure 1:** Video capsule endoscopy image demonstrating engorged veins in the jejunum.

## Diagnosis

Arterio-portal fistula complicating sleeve gastrectomy.



**Figure 2:** Push enteroscopy image demonstrating granular jejunal mucosa with venous engorgement and serpentine vessels (black arrows).



**Figure 3:** CT scan demonstrating a dilated superior mesenteric vein (black arrow) compared to the superior mesenteric artery (gray arrow) and aorta (white arrow).



**Figure 4:** CT scan demonstrating early filling of the portal veins (white arrow) during the arterial phase.



**Figure 5:** Mesenteric arteriogram. The catheter is in the superior mesenteric artery. Simultaneous filling of the superior mesenteric artery and the portal vein is shown (white arrow). Several AV fistulae are also noticed (black arrows).

## Discussion

Fistulae between the mesenteric artery and portal system are rare and are usually a sequel of earlier trauma or abdominal surgery [1]. This is the first reported case following sleeve gastrectomy. Clinical signs and symptoms originate from portal hypertension or ischemia. Bleeding may be acute, massive variceal bleeding, or chronic oozing from engorged veins or ischemic mucosa, as in this case. Other manifestations include ascites, diarrhea or abdominal pain. The diagnosis can be made by CT/MR angiography or Doppler [2] and should be suspected in patients with portal vein dilation with no thrombus and a compatible history. Early diagnosis and treatment by interventional radiology or surgery can be crucial [3].

## References

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