

A long time concealed bleeder

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Section: Interventional radiology

Area of Interest: Gastrointestinal tract Interventional vascular

Procedure: Arterial access

Procedure: Embolisation

Imaging Technique: Catheter arteriography

Special Focus: Embolism / Thrombosis Case Type: Clinical Cases

Authors: Bibek K.C 1, Asha Shrestha 2

Patient: 84 years, male

Clinical History:

84 years old gentleman presented with the complaint of easy fatiguability and shortness of breath on regular works. He has episodic black tarry stool which resolves spontaneously. On examinations, pallor was present with tachycardia. He was found to be normochromic and had haemoglobin of 5.8mg/dl. UGI endoscopy was within normal limits, no obvious source of bleeding could be identified in UGI endoscopy. He was sent to the radiology department for contrast-enhanced CT of abdomen with CT angiography of the abdomen.

Imaging Findings:

On arterial phase of the imaging, a tangle of submucosal vessel was seen in the distal jejunal loop in the right upper quadrant of abdomen. This vessel is a branch from the ileocolic artery. No early draining vein was recognized draining the tangles of the vessels. On maximal intensity projection, the seeding vessel was seen to be from the right colic branch of the superior mesenteric artery. The dilated and tortuous tangle of the vessel was not identified in the subsequent portal or venous phases of the scan. The patient was sent for angio embolisation of the submucosal arterial focus. Diagnostic conventional angiogram revealed contrast blush at the end of one of the branches from the right colic artery, which is a branch from the superior mesenteric artery. No early draining veins were seen draining the submucosal plexus.

Selective catheterization of the vessel was performed under digital subtraction angiography. Embolisation of the vessel was performed with the mixture of the cyanoacrylate glue and iohexol. Contrast blush of the vessel disappeared following angioembolisation.

Discussion:

Gastrointestinal bleeding is a common encounter in day-to-day practice, accounting for 50-150 cases in 100,000 population. Mortality following upper gastrointestinal bleeding can range up to 5-10%. Gastrointestinal bleeding can be differentiated anatomically into upper gastrointestinal, i.e., from the segment supplied by the celiac artery up to the 4th part of the duodenum demarcated by the Ligament of Treitz. There on, up to the splenic flexure can be considered middle GI bleeding which is an area supplied by the superior mesenteric artery. Parts distal is defined as lower GI bleeding [1,2,3]. Vascular cause of bleeding accounts for up to 2-3% of all the GI bleeding. Most common cause of lower GI bleeding on patients over the age of 40 years are NSAID enteropathy, vascular ectasia, Dieulafoy lesion and malignancy [4]. Angioectasia of the small bowel is the most common cause of the mid-small bowel bleed and is also most common cause for obscure GI bleeding [5]. Dieulafoy lesion is uncommon and rare but potentially fatal cause of bleeding being arterial in origin. The rarity of the disease is due to its obscure nature and diagnostic difficulty [6].

Dieulafoy are the concealed lesion of the arterial origin otherwise also known as “calibre persistent artery”. They are dilated aberrant submucosal artery that do not taper or branch to form capillary like the normal does. They can protrude into the mucosa with small 3-5mm defect and lead to fatal hemorrhage [7].

Early arterial visualization of the lesion is the key. CT protocols not involving the arterial phase might miss the lesion and jeopardise the diagnosis. The lesion are typically 3-5mm in dimension with no draining vein in contrary to the arteriovenous malformation. They are not visualized in the late or enteric phases like the arteriovenous malformation. Active contrast extravastion is generally seen in case of active bleeding. However, in case of non-active bleeding, there may not be active extravastion of the contrast within the bowel lumen. Normal or ectatic vessel leading to the extravastion site may be demonstrated in CT angiography or conventional angiographic images [4,6,8].

Outcome

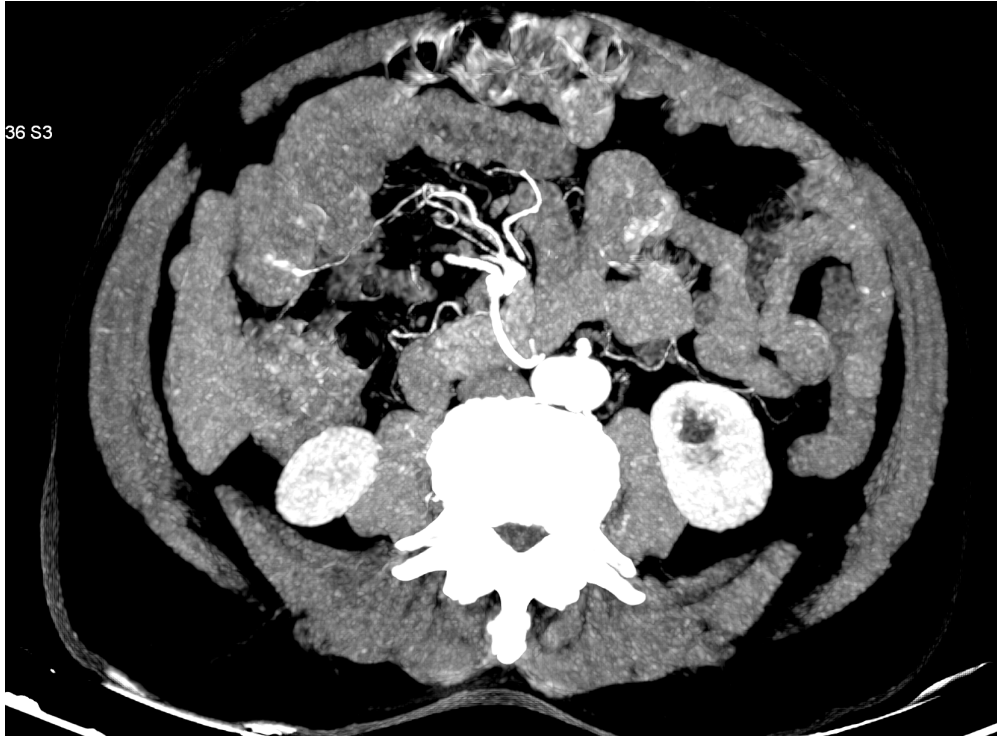
Patient was admitted under GI surgery. No further imaging procedure was performed. His 4 days of stay post-embolisation were unremarkable. Adequate hydration was maintained, antipyretic was advised if the patient was to develop fever as a part of post-embolisation syndrome. He was discharged with hematinics, on follow-up after 1 month there was no complaint of black tarry stool. His haemoglobin in 1 month follow-up was 9.2 mg/dl, symptomatic improvements were seen in the patient.

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Figure 1

a



Description: Axial CT angiographic image in the arterial phase demonstrates the submucosal ectatic vessel of 1.3mm diameter in jejunum. The vessel is a branch from ileocolic artery. There are no early opacification of the venous system. **Origin:** Department of Radiology, Tribhuwan University Teaching Hospital, Kathmandu, Nepal

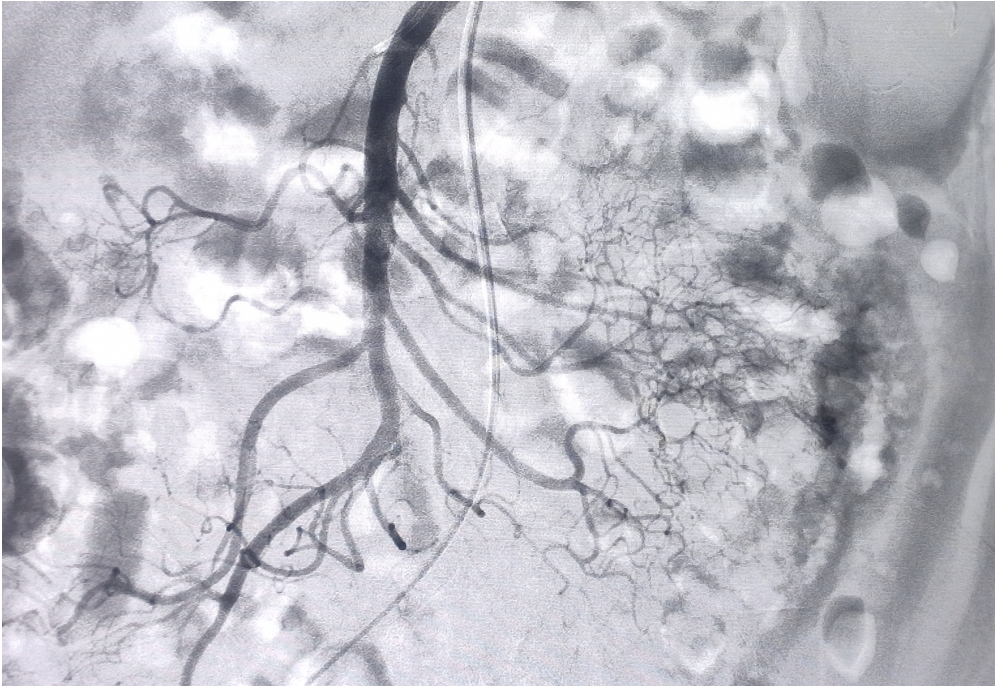
b



Description: Coronal maximal intensity projection of the CT angiographic image showing the ectatic tangle of submucosal vessel in the jejunal loop. **Origin:** Department of Radiology, Tribhuvan University Teaching Hospital, Kathmandu, Nepal

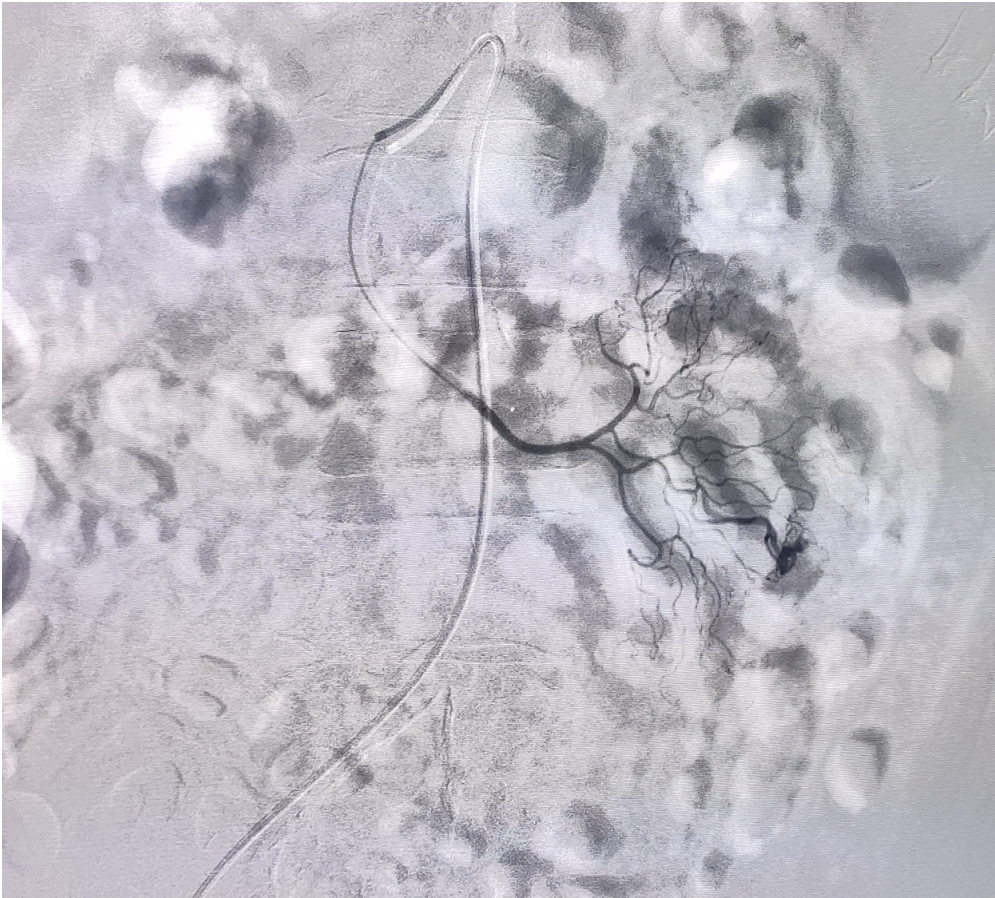
Figure 2

a



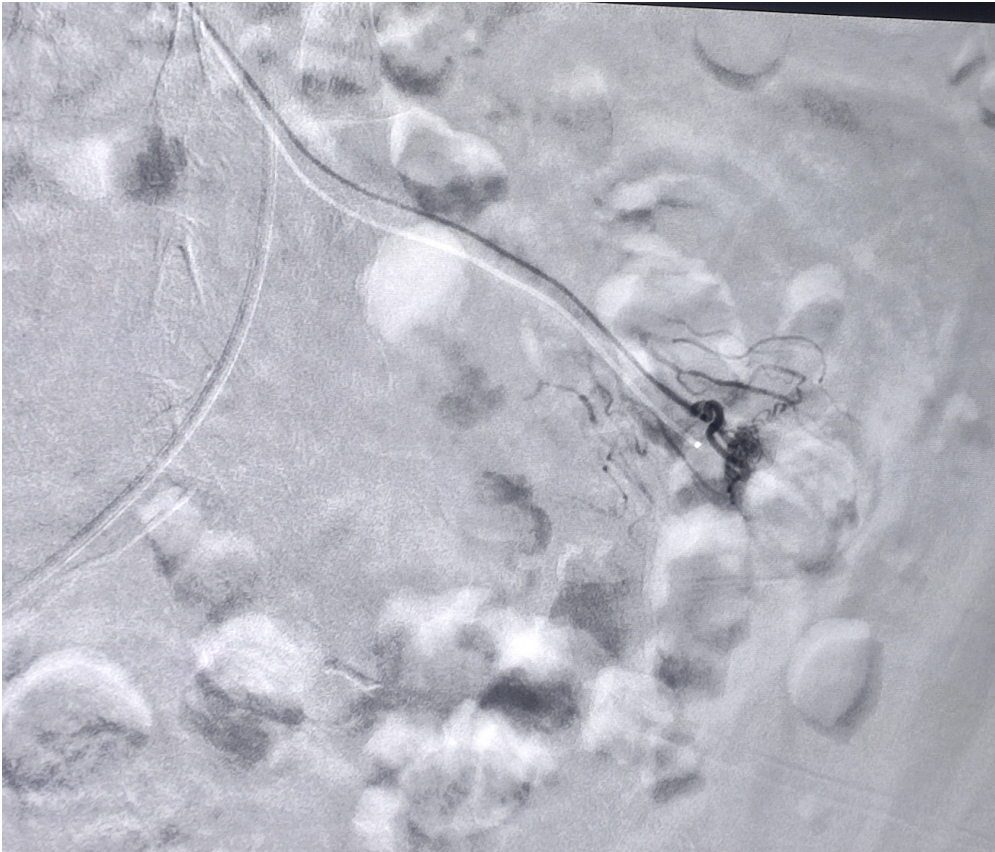
Description: (SMA catheterization) Conventional angiographic image displays the contrast in the SMA. Distal end of the branch of ileocolic artery shows distal tangles of vessels with contrast blush of the submucosa. **Origin:** Department of Radiology, Tribhuvan University Teaching Hospital, Kathmandu, Nepal

b



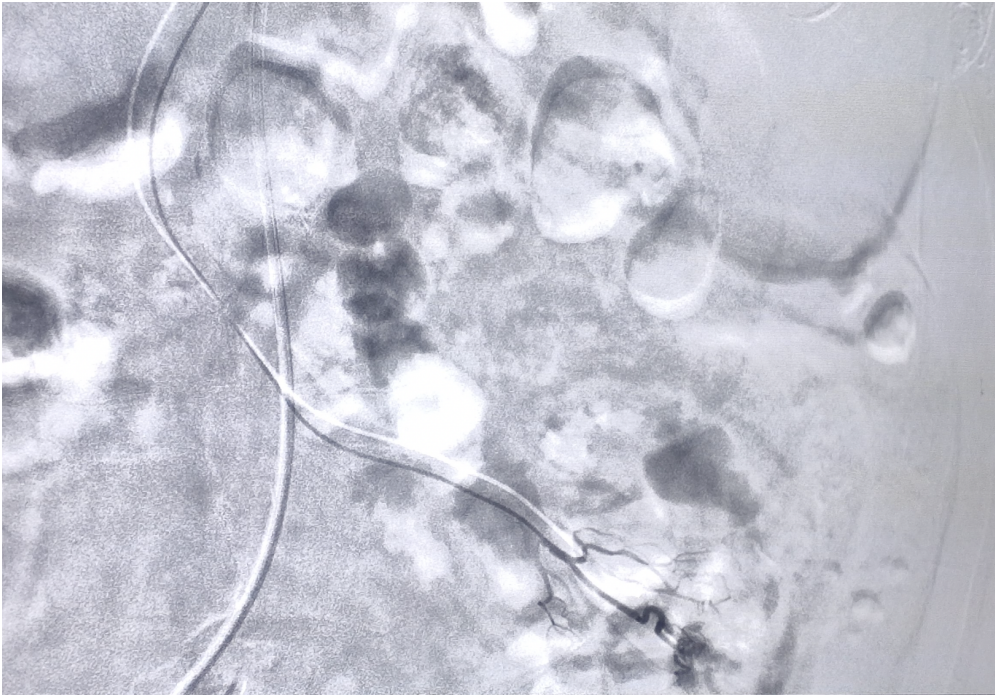
Description: (Selective catheterization) Conventional angiographic image of the ileocolic artery shows contrast blush at the tangles of the vessels. **Origin:** Department of Radiology, Tribhuvan University Teaching Hospital, Kathmandu, Nepal

c



Description: (Super-selective micro-catheterization) Supraselective angiographic image shows the contrast blush at the very end of the branch from the ileocolic artery with submucosal blush of the ileum, image before the glue instillation. **Origin:** Department of Radiology, Tribhuvan University Teaching Hospital, Kathmandu, Nepal

d



Description: (Super-selective micro-catheterization) Contrast blush of the mucosa is seen with no apparent dilated tangles of the vessel at the end of the artery, post glue instillation. **Origin:** Department of Radiology, Tribhuvan University Teaching Hospital, Kathmandu, Nepal