Case 7814

Lower gastrointestinal angiodysplasia: diagnosis and embolization treatment

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Patient: 79 years, female

Clinical History:

A 79 year old patient with acute anaemia secondary to massive rectal bleeding. Colonoscopy was unconclusive.

Imaging Findings:

The patient comes to our attention for significant acute anaemia (Hb 5.5 g/dl, Ht 16.8%), and syncope after three episodes of rectal bleeding. She was then seen at the accident and emergency, and subsequently admitted at our hospital.

Colonoscopy had been performed on urgent basis, reaching the ileo-cecal valve, but the result was unconclusive (Fig 1). The patient was then accepted from our department for further imaging.

CT was then performed with both enhanced and unenhanced scans and CT-angiography (CTA) protocol, using high concentration non-ionic iodinated contrast agent (370 mg I/mL).

CTA showed enhancing areas localized in wall of the ceacal and ascending colon, with morphology of fine vascular strands, and ectasic areas protruding into the lumen of the bowel (Fig 2). These vessels were connected both to arterial and venous mesenterial vasculature, and were easily identifiable on thick slice MPR reformats and on 3D VR vessel MPR (Fig 3,4).

The clinic and the imaging findings were suggestive for the diagnosis of multiple angiodisplastic malformations. The patient was therefore addressed to catheter digital subtraction angiography (DSA).

At DSA selective mesenteric artery catetherism confirmed the presence of multiple areas of hypervascular blush localized at cecum and ascending colon, characteristic for angiodysplasia, with dilated draining veins (Fig 5-7).

On the same session interventional treatment was agreed and after superselective catetherism, embolization of affected vessels was performed with the use of microspheres (100-300 micron). At control angiography complete disappearance of the lesions was noted (Fig 8).

Discussion:

Angiodysplasia accounts from 3-40% (more frequently patients >60 yrs) of lower gastrointestinal bleeding. It is the most frequent enteric malformation and affects more often the right colon. The treatment of patients with rectal bleeding often requires cooperation of: surgeons, gastroenterologist, interventional radiologist, and specialists in nuclear medicine.

Proctosigmoidoscopy or colonoscopy are ready available, nevertheless these procedures on urgent basis can be hampered due to the presence of residual fecal matter or fresh blood. The effect is masking of the bowel wall and false negative results in more than 40% of the cases.

Modern multidetector CTA in a valid alternative in the preliminary diagnostic workup of hemorrhagic foci localized in
the lower intestinal tract, with a diagnostic accuracy of 90%, sensitivity, specificity of 70-100%. CTA allows also localizing the site of the bleeding and planning the subsequent therapeutical approach (surgical resection or radiological embolization). Technical success with endovascular embolization in severe lower intestinal bleeding is 93% with a long term clinical favourable result of 81%. Endovascular treatment therefore confirms itself as a well-tolerated and effective option for the treatment of low gastrointestinal angiodysplasia.

**Differential Diagnosis List:** Lower gastrointestinal angiodysplasia.

**Final Diagnosis:** Lower gastrointestinal angiodysplasia.

**References:**


Description: Colonoscopy, at the level of the ascending colon. Fresh blood is present, but no anomalies can be visualized in the bowel mucosa. Origin:
Description: Vascular ectasia (arrow) in the wall of the ascending colon.
0.5 mm Axial slices Origin:
Description: 2D Oblique thick MIP, show diffuse vascular ectasic arterial and venous vessels protruding in the lumen of the bowel.
Localisation is at the ascending colon. Origin:
**Description:** 2D Oblique thick MIP shows connection of the ectasic vessels to the terminal mesenterial branches.

Localization is at the ascending colon. **Origin:**
Description: Selective diagnostic angiography from the distal superior mesenteric artery (SMA) shows: multiple areas of ipervascular blush localized at cecum and ascending colon. These lesions and the site is characteristic for angiodysplasia. Origin:
Description: Selective diagnostic angiography. This is a later phase than Fig.5 and shows dilated draining veins. Origin:
Description: This is a superselective angiography obtained through the microcateter system, just prior to embolization. Origin:
Description: After embolization with microspheres (100-300 micron), the angiodysplastic areas are no longer perfused. Origin: