

## Multi-Detector CT Enterography to detect jejunal angiodysplasia: challenging cause of gastrointestinal bleeding

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To the Editor,

Angiodysplasia is a degenerative vascular dilation in the mucosa and submucosa of a bowel tract. Angiodysplasia has been thought to be the most common cause of bleeding from both the colon and the small bowel in the elderly. Different procedures are able to assess the source of gastrointestinal bleeding (i.e., endoscopic imaging, angiography, scintigraphy). MDCT-enterography (MDCTE) could be considered as a minimally invasive alternative technique to these procedures (1). We report a case of jejunal angiodysplasia, diagnosed by MDCTE, in an 73-year-old man with history of hypertensive cardiopathy and left-sided intestinal diverticular diseases with frequent episodes of melena and anaemia. Ultrasonography examination, barium enema, and colonoscopy

were negative for pathological findings. A MDCTE was planned after gastrointestinal patient preparation (to drink the evening before the scan 500mL of solution of contrast isosmolar electrolyte obtained dissolving 18.5g of polyethylene glycol, Macro-P). The following morning, 30-45 minutes before MDCTE, the patient had to drink a dose of 1500-2000mL of the same negative contrast material. Five minutes before the MDCTE, 20mg of scopolamine-N-butyl bromide was administered intravenously to induce the distention of the entire small bowel. The bolus tracking technique was used to synchronize the acquisition scan with del iodinated contrast material (Iomeron<sup>®</sup>, 400 mgI/mL). The MDCTE was performed with a 40 slices scanner. A progressively increasing density area in the lumen of proximal tract of jejunal segment was detected (Fig. 1). After surgery,



**Figure 1.** MDCT-enterography after iodinate contrast material intravenous administration of 73-old-years man with melena, due to angiodysplasia of proximal jejunal tract. The arrows show the sites of vascular malformation in the jejunal proximal segment in (A) arterial phase and (B) venous phase, as area of progressively increasing density in the lumen.

the histology examination of the specimen confirmed the presence of duodenal vascular congestion and diffuse submucosal angioectasia.

Intestinal angiodysplasias are usually multiple, most commonly founded in the cecum and ascending colon, and have been recognized as a major cause of recurrent lower intestinal bleeding in the elderly (1, 2). These lesions are often associated with aortic stenosis, atherosclerosis, renal failure, cirrhosis, and pulmonary diseases (1-3). Bleeding from angiodysplasia usually is self-limited, but it can be chronic, recurrent, or even acute and life threatening (1, 2). Endoscopic examination or angiography are the major diagnostic tools in the workup of gastrointestinal bleeding, but they are invasive procedures and have some pitfalls. Nguyen et al. show that only about 38% of the haemorrhagic lesions of the gastrointestinal tract found on push enteroscopy could be reached by a gastroscopy (3). Conventional selective angiography plays an important role in detecting and localization of bleeding and due to its therapeutic endovascular role. Radionuclide studies with tagged red blood cells has also been established to be a valuable technique, but the localization is not as accurate as with angiography (1, 2).

Kermarrec et al. reported that there is no precise consensus on the best diagnostic strategy in situations of obscure chronic intestinal bleeding, depending on patient age (4).

On the contrary, recently, it has been reported that MDCT arterial angiography (MDCT-AA) is a faster and useful technique, able to detect intestinal bleeding as an progressively increasing density area in the lumen (1). Grassi et al. ruled out jejunal angiodysplasia with MDCTE (1). In another report by Hong et al. is described jejunal angiodysplasia, as cause of occult gastrointestinal bleeding, but by the use of MDCT (5). By the Literature, we note also that the use of MDCT without enterography, leads to rule out gastrointestinal angiodysplasia, but not their exact localization (2-6).

Then, the MDCTE could be considered as a diagnostic tool in patient with suspected intestinal bleeding to detect and localize the possible origin.

**Conflicts of interest:** Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

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Received: 29 May 2020

Accepted: 12 January 2021

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