Aortojejunal fistula causing obscure massive gastrointestinal bleeding: Repeated CT is the key

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Dear Editor,

Aortoenteric fistula is a rare cause of gastrointestinal bleeding, which is commonly due to graft infection [1]. Computed tomography (CT) is accurate at depicting this condition when performed during active bleeding but CT can fail to depict active bleeding in a number of cases, so that repeated CT may be needed to confirm the diagnosis [2,3].

An 81-year-old man with a past history of aorto-bi-iliac graft presented with hematochezia. Serum hemoglobin level was 5 g/dL. Emergency gastroduodenal endoscopy was normal. Colonoscopy revealed colonic diverticulosis without active bleeding. The patient initially received 6 packs of red blood cells (RBC). After a new drop in hemoglobin level during the next day, two repeated gastroduodenal endoscopies, two abdominal CT examinations (Fig. 1a) and one angiography of the aorta (Fig. 1b) did not reveal any active bleeding. Abdominal CT showed only mild lateral thickening of aortic graft (Fig. 1a). The patient received 8 additional packs of RBC. The third day, a third CT examination performed during massive hematochezia finally revealed active bleeding from aortojejunal fistula manifesting as extravasation of iodine into the jejunum (Fig. 1c–e). Aortojejunal fistula was confirmed at surgery. The patient was effectively treated by emergency resection and replacement with polytetrafluoroethylene graft. After uneventful recovery, he is doing well 15 months later.

Discussion

Aortoenteric fistula is a communication between the aorta and the gastrointestinal tract. In the setting of prior surgery or intervention, fistula belongs to the more frequent group of secondary fistulas [3]. Secondary aortoenteric fistula occurs in the duodenum in 60% of cases, whereas the jejunum represents less than 5% of cases [3].

This diagnosis should be considered in every patient with past history of aortic surgery and gastrointestinal bleeding. Aortoenteric fistula is commonly due to graft infection, most frequently located in the distal duodenum [1]. Classically, the patient presents with a "herald bleed" consisting of hematochezia, melena, or hematemesis, which may provide time for diagnosis and definitive treatment. This episode may spontaneously resolve but a more massive bleeding may occur several hours or months later. The reported rates of sensitivity and specificity for CT in the diagnosis of aortoenteric fistula are 40%–90% and 33%–100%, respectively [2]. The most suggestive CT finding is the presence of ectopic gas either within or directly adjacent to the aortic lumen, which was absent in our case. Diagnosis with CT may be challenging when the fistula is not clearly identified because of considerable overlap with a number of other disorders [2,4]. Direct extravasation of iodinated contrast material into the intestinal lumen is rarely observed [4].

Our case highlights the difficulties in establishing the diagnosis of aortojejunal fistula with angiography and CT and demonstrates that repeated CT may be needed to support or refute this diagnosis in patients with a high level of suspicion.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

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Figure 1. Eighty-one-year-old man with a past history of aorto-bi-iliac graft placement presenting with hematochezia; a: axial CT scan in the axial plane during the arterial phase shows only mild lateral thickening of aortic graft (arrow); b: abdominal angiogram in frontal projection shows regular margins of aortic graft (arrows) and does not show any extravasation of contrast material; c: repeated CT scan in the axial plane during the arterial phase shows frank extravasation of iodinated contrast material (arrow) from the aorta into the jejunum (asterisk); d: MIP reformation of repeated CT scan in the oblique plane shows frank extravasation of iodinated contrast material through a fistula track (arrow) into the jejunum (asterisk); e: three-dimensional reconstruction of repeated CT scan confirms direct extravasation of iodinated contrast material into the jejunum.

References


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