Case 2985

Eurorad ••

Embolization of a bleeding duodenal ulcer in a patient with vascular anomaly

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DOI: 10.1594/EURORAD/CASE.2985 ISSN: 1563-4086 Section: Interventional radiology Imaging Technique: CT Case Type: Clinical Cases Authors: Sedati P, Macrì F, Orgera G, Sandolo F, Paciucci L Patient: 66 years, male

Clinical History:

A 66-year-old male patient complained of burning abdominal pain in the right upper quadrant. He also had hematemesis, melena and was highly anemic. Hence, embolization of a bleeding duodenal ulcer was performed. **Imaging Findings:**

The 66-year-old male patient arrived at our hospital with burning abdominal pain in the right upper quadrant, and a condition of hematemesis, melena and severe anemia. Laboratory test values showed an RBC count of 3.2 x 106 mm³ and a haemoglobin concentration of 7.7 g/dl. An emergency CT scan was performed, which demonstrated the presence of a bleeding duodenal ulcer. The patient's clinical conditions were progressively deteriorating. **Discussion:**

A digital subtraction angiography of the celiac trunk revealed an extravasation of the contrast medium from a proximal branch of the gastroduodenal artery (GDA) and a vascular anomaly. The cystic artery was found to originate from the gastroduodenal artery (2.6%) instead of rising from the right hepatic artery (64%). Due to this reason, the embolization of the gastroduodenal artery may cause a gallbladder ischemia; to decrease this eventuality we decided to embolize the artery as proximal as possible to its origin in order to allow collateral blood supply that normally activates after occlusion of the major artery. Selective catheterization (4F) of the GDA was performed and two platinum microcoils were delivered at its proximal portion, and subsequently the cystic artery was catheterized and embolized (in its proximal portion) with two other microcoils. A final common hepatic arteriography demonstrated the effective embolization of the vessels, and no extravasation of the contrast medium was observed. Even the gallbladder was saved, as demonstrated by the potency of the collateral branch, verified with a digital subtraction angiography. This case confirms how important is to evaluate the vascular assets and eventual anomalies before an embolization procedure is done in order to make it efficacious and to avoid the occurrence of ischemia in the distal vascular region.

Differential Diagnosis List: Bleeding duodenal ulcer.

Final Diagnosis: Bleeding duodenal ulcer.

References:

Kramer SC, Gorich J, Rilinger N, Siech M, Aschoff AJ, Vogel J, Brambs HJ.Embolization for gastrointestinal hemorrhages.

Eur Radiol. 2000;10(5):802-5. (PMID: 10823636)

Toyoda H, Nakano S, Takeda I, Kumada T, Sugiyama K, Osada T, Kiriyama S, Transcatheter arterial embolization for massive bleeding from duodenal ulcers not controlled by endoscopic hemostasis. Endoscopy. 1995 May;27(4):304-7. (PMID: <u>7555935</u>)

Figure 1



Description: A CT image demonstrating the presence of an extravasation of the contrast medium in the duodenal region. **Origin:**



Description: A CT image demonstrating the presence of an extravasation of the contrast medium in the duodenal region. **Origin:**

Figure 2



Description: DSA of the celiac trunk revealing an extravasation of the contrast medium from a proximal branch of the gastroduodenal artery (GDA) and a vascular anomaly: the cystic artery originates from the gastroduodenal artery instead of rising from the right hepatic artery. **Origin:**





Description: DSA of the cystic artery. **Origin:**

Figure 3 ^a



Description: Normal (A) and abnormal anatomy (B). Origin: