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Pseudo Aneurysm of the Splenic Artery Fistulized in the Stomach Revealed By Upper Digestive Hemorrhage

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Abstract **Case Report**

The splenic artery aneurysm is a rare pathological entity, most often asymptomatic. Rarely it can be revealed by an upper digestive hemorrhage. We report the case of a 26 year old patient who presented to the emergency room for a recurrent hematemesis table. A complete assessment including an abdominal CT scan revealed an aneurysm of the splenic artery in intimate contact with the posterior wall of the stomach. Surgical treatment was urgently decided following the installation of hemodynamic instability with flattening of the aneurysm. The objective of this observation is to show that the reference treatment for large aneurysms is surgical treatment by laparotomy without restoring splenic arterial continuity, with suturing of the digestive orifice, without delay before the onset of state of hemorrhagic shock which can be fatal.

Keywords: Splenic artery aneurysm, hematemesis, gastric fistula.

INTRODUCTION

Aneurysms and pseudoaneurysms of the splenic artery are rare anatomo-clinical entities [1]. Their most important risk factors are pregnancy, portal hypertension [2] and complications of acute or chronic pancreatitis [3]. These aneurysms, most often discovered by chance, completely latent at the time of their diagnosis, do not become symptomatic until their rupture. This serious complication is responsible for around 10 to 25% of deaths [4]. The risk of rupture increases with the size of the aneurysm, becoming major for a lesion whose diameter is greater than 2 cm [5], and their treatment is therefore imperative.

PATIENT AND OBSERVATION

We report the observation of a young patient aged 26 years with chronic smoking, who has had a history of hematemesis with repetitions for 3 years, for which he was hospitalized twice in a gastrology department where an esogastric fibroscopy was carried out which speaks of a chronic gastritis with helicobacter pylori positive for which it was put under treatment of irradiation. The patient presented to the emergency department for a new episode of hematemesis without hemodynamic repercussions. Esogastroduodenal endoscopy with biopsies showed lesions of aspecific gastritis treated with proton pump inhibitors (PPIs) without argument for ulcerative disease or portal hypertension. Ten days later the patient presented a second episode of hematemesis of great abundance with arterial hypotension (blood pressure at admission 80/50 mmhg) and tachycardia (heart rate at 110 beats per minute), with drop in hemoglobin (hemoglobin at 6.8 g / dl), which justified his emergency hospitalization with transfusion of 4 blood cells.

After restoration of the hemodynamic state, an etiological assessment was started including an esogastric fibroscopy which was not conclusive on the origin of the bleeding, then abdominal CT scan revealed an aneurysm of the splenic artery (SAA) measuring 107 × 56 x 97 mm driving the body of the pancreas back and the posterior wall of the stomach in front (Figure 1 & 2). The diagnosis of an aneurysm of the splenic artery fistulized in the stomach was made.

Faced with the persistence of hematemesis, it was decided to carry out emergency surgical treatment by conventional means (median supra-umbilical laparotomy enlarged in sub-umbilical). The exploration found intestinal loops full of blood with a liver of normal morphological appearance. Access to the rear cavity of the epiploons after colo-epiploic detachment made it possible to control and then links the splenic

artery on either side of the aneurysm located between the upper edge of the body of the pancreas and the posterior part of the gastric body. The hepatic arteries, stomachic coronaries, and the celiac trunk were not affected by the aneurysm. We then carried out the flattening of the aneurysmal mass which made it possible to evacuate thrombi and to electively obliterate with the fine non-absorbable monofilament (5-0) the pancreatic arterial collaterals supplying the aneurysm. The diameter of the SAA rupture opening in the stomach was 10mm with reworked edges and a path in the gastric wall. This orifice was sharpened and sutured with separate stitches of absorbable wire (3-0). No infarction of the spleen was noted at the end of the intervention. A drain was placed in contact with the gastric suture.

The consequences were marked by the appearance of a febrile syndrome on D5 postoperatively calculated at 40°C, the performance of an abdominal scanner showed a splenic infarction which justified a resumption of surgery for splenectomy. The patient left the intensive care unit after 48 hours and then the hospital on D6 after the second intervention.

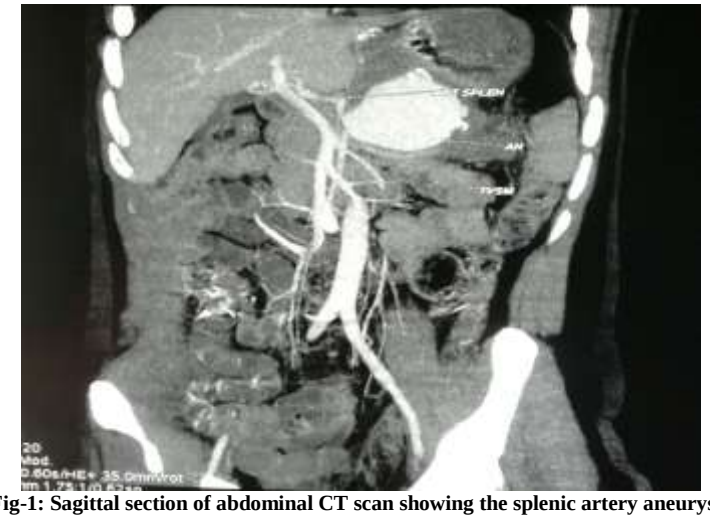

Fig-1: Sagittal section of abdominal CT scan showing the splenic artery aneurysm

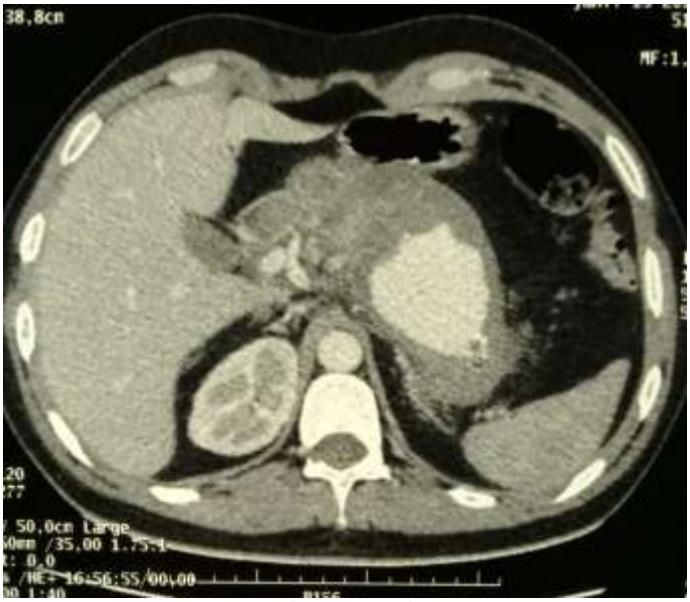

Fig-2: axial section of abdominal scanner showing large mass of aneurysm of the splenic artery pushing back the pancreas and in intimate contact with the stomach

DISCUSSION

Splenic artery aneurysms (SAA) are most often asymptomatic and their discovery is fortuitous during an abdominal morphological examination indicated for another pathology [9]. SAA is four times more common in women with an average age of 50 to 60 years [10]. The precise etiology of SAA remains unclear but they are associated with situations such as pregnancy, cirrhosis and / or portal hypertension [9]. In 80% of cases, signs of atherosclerosis are found on the CT scan [10]. When SAA is symptomatic, abdominal pain is the most common sign [11]. Gastrointestinal bleeding reflecting a rupture of the SAA in the digestive tract is rare and can be inaugural [8, 11]. Doppler ultrasound can diagnose SAA [12] and must be

supplemented by an abdominal CT scan. The series without injection make it possible to evaluate the calcifications of the arterial walls while the series at arterial time after injection allow a precise reconstruction of the aneurysm and arterial anatomy. If the CT scan is contraindicated, angio-MRI is a valid option for identifying and locating SAA [13]. At the diagnostic level, these non-invasive morphological examinations tend to replace the arteriography which is limited to endoluminal analysis [12]. The main evolutionary risk of an aneurysm is rupture. This risk reaches 28% when the size of the aneurysm is greater than 50mm [10]. Other potential complications of SAA are splenic infarction or bile compression jaundice [10]. The indications for treatment relate to all symptomatic SAA [9] but also asymptomatic SAA in women of reproductive age, SAA whose size is greater than 20mm and / or which increase in size and finally SAA in the context of portal hypertension [10]. Treatment of SAA can be endovascular or surgical [14]. Endovascular treatment consists of exclusion of the aneurysm by a covered stent or by embolization by coils. The tortuous course of the splenic artery and / or the possibility of incomplete exclusion explain certain technical failures of endovascular treatment and the need for secondary procedures.

As for the surgical treatment of SAA, it most often consists of resection or flattening of the aneurysm without restoration of arterial continuity [15] and without splenectomy. A splenectomy involving the aneurysm seems more suitable in the case of SAA embedded in the splenic hilum. In the event of SAA ruptured in the digestive tract, the treatment of the aneurysm is completed by a digestive suture. A laparoscopic approach to SAA is possible, with the exception of ruptured and / or large forms (> 5cm) for which vascular control, particularly of the afferent artery, can be difficult [9, 10].

CONCLUSION

Ruptured stomach of a splenic artery aneurysm is a rare cause of digestive hemorrhage. The positive diagnosis and anatomical configuration of the Aneurysm of the splenic artery are effectively established by the abdominal CT scan. The standard treatment is surgical treatment by conventional route without reestablishing splenic arterial continuity, with preservation of the spleen as far as possible and with suppression of the digestive fistulous path.

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