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Case Report

Splenic Artery Pseudoaneurysm, Pancreatic Tuberculosis and Acute Upper Gastrointestinal Bleeding: An Association of Rare Pathologies

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Abstract

Pseudoaneurysms originating from visceral arteries are really uncommon, even more when it's related to pancreatic tuberculosis. The objective of this clinical case report is to present a rare case of a patient with an acute upper gastrointestinal bleeding due to rupture of splenic artery pseudoaneurysm associated with pancreatic tuberculosis. A 37-year-old male patient, undergoing irregular treatment for human immunodeficiency virus infection (HIV) and tuberculosis (TB), was admitted to the emergency room with hematemesis associated with melena and haemodynamic instability. In the workup it was diagnosed a splenic artery pseudoaneurysm but the patient was treated initially by conservative means. The patient evolved later with another episode of bleeding and a formal laparotomy was made. It was identified a pancreatic and spleen mass with a fistula to the gastric fundus - fundus gastrectomy and a body/tail pancreatic resection associated with splenectomy were performed. The pathological specimen analysis identified granulomatous inflammatory process involving pancreatic tissue, lymph nodes, gastric fundus, spleen and perivisceral adipose tissue. The tissue was positive for acid-fast bacilli and the patient had a good outcome after surgery and posterior clinical treatment. Although extremely rare conditions, high suspicion of these pathologies and adequate treatment is imperative for positive outcomes.

Keywords: Tuberculosis; Pancreas; Pseudoaneurysms; Splenic Artery

Introduction

Visceral artery aneurysms are uncommon (10% in some autopsy studies), and the most common site of its occurrence is the splenic artery. Pseudoaneurysms originating from the splenic artery are even more uncommon and, in the vast majority of cases, the causes of its formation are due to pancreatitis (acute or chronic), infection or abdominal trauma [1]. On the other hand, tuberculosis with involvement of the pancreas and its adjacent lymph nodes is extremely rare and so are the formation of pseudoaneurysms from visceral arteries nearby [2]. Here, we present a rare case of a patient with acute upper gastrointestinal bleeding due to rupture of a splenic artery pseudoaneurysm within a gastric fistula.

Case Report

A 37-year-old male patient, undergoing irregular treatment for human immunodeficiency virus infection (HIV) and tuberculosis (TB), was admitted to the emergency room with hematemesis associated with melena and haemodynamic instability. An upper gastrointestinal endoscopy was performed in the emergency room without evidence of a hemorrhagic focus and no acute bleeding. After stabilization, computed angiotomography scan was performed showing an image suggesting a splenic artery pseudoaneurysm measuring approximately 2.2 cm, associated with a hypodense lesion on the pancreatic body and tail (Figure 1). The patient was initially treated by conservative measures in face of his hemodynamic improvement and absence of new bleeding episodes. However, one week after hospitalization patient had another episode of hematemesis and melena, with bleeding estimated to be around 3500cc, in association with hypovolemic shock. In the redo upper digestive endoscopy no bleeding spot was able to be found due to massive bleeding. So, it was decided to take the patient to exploratory laparotomy in order to identify the hemorrhagic focus and to control the bleeding. In surgery it was identified a mass in the pancreatic body and tail and splenic hilum, with an erosion to the gastric fundus (Figure 2). We performed a partial fundus gastrectomy and pancreatic tail and body resection along with splenectomy. On the postoperative period the patient developed a pancreatic fistula, that was treated with antibiotics and management of the drain placed in surgery. He was discharged on 14th postoperative day. The pathological evaluation demonstrated a granulomatous inflammatory process in the pancreatic tissue, lymph node next to the splenic artery, gastric fundus, spleen and perivisceral adipose tissue. The tissue was positive for acid-fast bacilli and the patient received treatment with Rifampicin, Isoniazid, Pyrazinamide and Ethambutol for 2 months, and after a 4 months maintenance therapy with Rifampicin and Isoniazid. One year after intensive HIV and tuberculosis therapy the patient is well without any signs of TB recurrence.

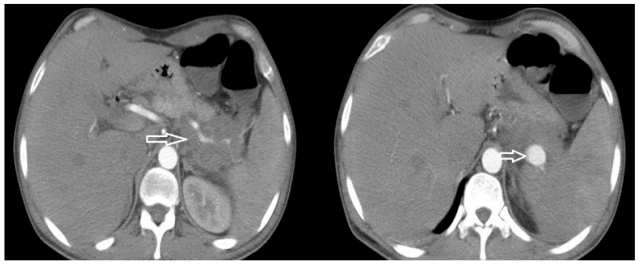

Figure 1: Abdominal CT showing: the white arrow in the left the body and tail massforming lesion, and the white arrow in the right de splenic artery pseudoaneurysm.

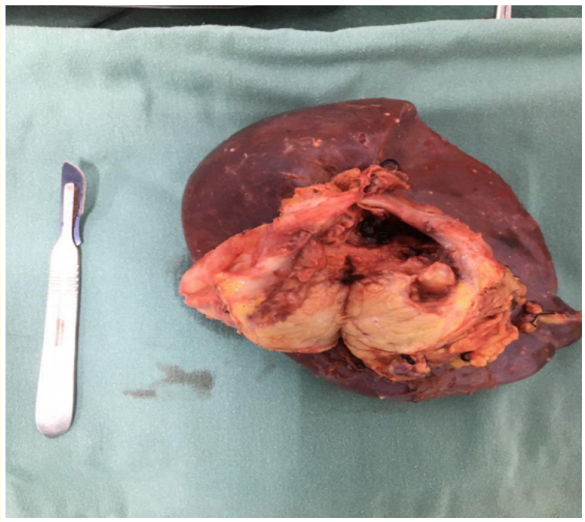

Figure 2: Operative specimen demonstrating the body and tail of the pancreas along spleen. At the cutting surface is identified the pseudoaneurysm.

Discussion

Visceral artery aneurysms are uncommon and are the 6th most common place of aneurysmal degeneration. Visceral artery pseudoaneurysms are even more rare. The splenic artery is the most affected vessel for both aneurysms and pseudoaneurysms. A recent article published by Pitton., *et al*. identified 233 visceral arterial pseudoaneurysms in a single service over a 10-year period. Of these, only 16% were identified as false aneurysms [3]. The main etiology of splenic artery pseudoaneurysms is pancreatitis, both in its acute and chronic form. There is a large association between the formation of these vascular alterations and alcohol abuse. Other etiologies described are: abdominal trauma, iatrogenic injury of the vessel during surgical and radiological procedures and peptic ulcer [1]. An important fact about false aneurysms is that they

have their presentation, in a great number of patients, with acute bleeding (about 75% of pseudoaneurysms). In the other way, true aneurysms have a bleeding rate of about 3% [3]. The diagnosis is usually made through abdominal computed tomography (CT) and in doubtful cases, with angiography. The management of this pathology is surgical or through interventional radiology with vessel embolization or stenting, depending on local conditions, the patient status and the etiology of these pseudoaneurysm [1].

Regarding abdominal tuberculosis, it is known that it is the most common type of extrapulmonary tuberculosis. It can affect several abdominal organs and, although pancreas involvement is extremely rare and there is no population data of its prevalence/incidence, there was an increase in the report of these cases in the literature in recent years. One explanation are the advances in diagnosis through radiological imaging [4]. The disease has a varied spectrum of symptoms and can even mimic solid neoplasms of the pancreas (such as cephalic adenocarcinoma, where it can cause cholestatic jaundice). Therefore, high diagnostic suspicion is necessary in the evaluation of patients with suspected solid pancreatic neoplasms, since the diagnosis of pancreatic tuberculosis, if performed preoperatively, can change completely the treatment of these patients (the recommended treatment is the same for pulmonary tuberculosis) [4]. The use of endoscopic ultrasound-guided puncture from these lesions and cytopathological evaluation has regarded as a useful tool, and diagnostic accuracy is up to 76%. Something interesting about pancreatic tuberculosis is that, in case reports, around 50% of patients had concomitant HIV infection [4].

In this presented case, patient had HIV infection and pulmonary tuberculosis, both not under treatment. Evolved with upper gastrointestinal bleeding due to rupture of a splenic artery pseudoaneurysm formed by pancreatitis, with a fistula to the gastric fundus. There are few case reports demonstrating this association among such rare pathologies [5,6]. It is important to emphasize that in this case, after diagnosis of the pseudoaneurysm by the CT, prompt radiological treatment (embolization or stenting) could have spared the necessity of an emergency procedure under acute bleeding. This highlights the importance of early diagnosis and treatment of this condition.

Conclusion

Reports of pancreatic tuberculosis with formation of false aneurysms in the literature are scarce and, therefore, such pathology is difficult to suspect. The presentation of splenic artery pseudoaneurysms can occur, initially, with rupture and massive hemorrhage, carrying a risk of death in 25 - 75% of cases, depending on the etiology [1]. So, the knowledge of these pathologies and adequate treatment is imperative for positive outcomes in such cases.

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