

Iatrogenic Splenic Artery Pseudoaneurysm: Case Report and Review of Literature

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Abstract. Splenic artery pseudoaneurysm is a known but uncommon complication of pancreatitis and a blunt abdominal trauma which can also be iatrogenic. A case study of a 58-year-old male who presented with epigastric pain and abdominal distension is reported. An initial ultrasound and computerized tomography showed a pseudocyst of the pancreas with the splenic artery passing through it. An attempt to do computerized tomography guided drainage of the cyst resulted in a rupture of the splenic artery inside the cyst. He was managed conservatively and discharged. Six months later, the patient came in with progressive distension of the abdomen. Endovascular embolization of splenic artery failed, thus, he was treated surgically. This case highlights the importance of a thorough evaluation of pseudocysts to identify any vessels in their cavity or wall, and that radiological aspiration of pseudopancreatic cyst should be done by senior, experienced radiologist.

Keywords: Pseudopancreatic cyst, Pseudoaneurysm, Splenic artery.

Introduction

Splenic artery aneurysm is a common visceral artery aneurysm. Acute pancreatitis is one of the common causes of pseudoaneurysm which involves the splenic artery in 30% to 50% of cases. Presented is a case of iatrogenic splenic artery pseudoaneurysm. In this patient, a trial of

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computerized tomography guided aspiration of the pseudopancreatic cyst was performed thus, resulted in the injury of the splenic artery which leads in the formation of a pseudoaneurysm.

Case Report

A 58-year-old male presented to the clinic on 20/4/2009 complaining of having had epigastric pain for seven months. The pain was gradual in onset, aching, moderate, and increased by eating. He had no nausea, no vomiting, no fever, or jaundice. He had a decrease appetite and had lost 12 kilograms during this period. There was no history of pancreatitis. He was hypertensive on medications. On physical exam, his vitals were normal: temperature, 37.5°C; blood pressure, 155/70 mmHg; heart rate, 85/min and respiratory rate, 14/min. The abdomen was soft and lax, and mildly distended with a mass in the epigastric area. It was not tender, nor moving with respiration; dull to percussion with smooth edges, it measured 10 x 8 cm and was not pulsatile. His cardiac auscultation showed normal S1 and S2 with no murmurs; no added sounds. His lungs were clear with no added sounds. He was admitted as a case of epigastric mass for investigation. Ultrasound abdomen showed a cystic mass in the epigastric area with soft tissue echogenicity measuring 13 x 10 x 9 cm. Magnetic resonance imaging (MRI) showed a pseudocyst of the pancreas measuring 11 x 10 x 8 cm surrounding a dilated tortuous splenic artery (Fig. 1). A trail of computerized tomography (CT) guided aspiration

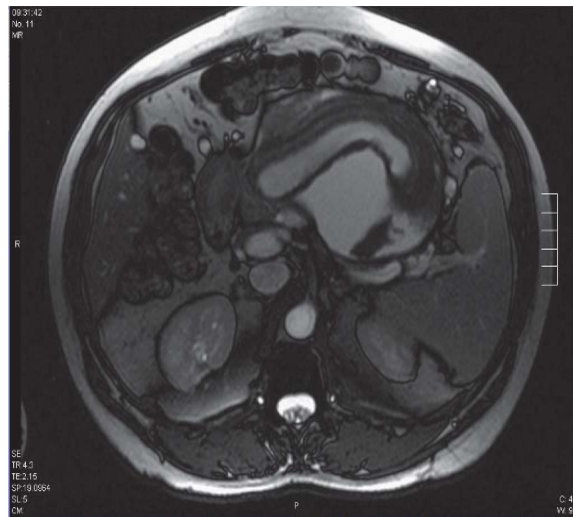


Fig. 1. MRI abdomen on the first presentation showing the cyst.

was done by inserting a catheter, but resulted in injury to the splenic artery. The patient had intracystic bleeding and the catheter was kept in place bringing blood. After clamping the catheter for a few days, the catheter was removed. The patient went home.

On 16 March 2010, he attended the Emergency Department with abdominal pain, nausea and vomiting. He was admitted as a case of epigastric mass for investigation. Ultra sound of the abdomen showed cystic mass in the epigastric area measuring 13 x 10 x 9 cm. A CT scan of the abdomen showed an increase in the size of the cyst as it measured 16 x 11 cm (Fig. 2). An attempt at angioembolization for him failed. The patient was taken to the operation room and a laparotomy was done.

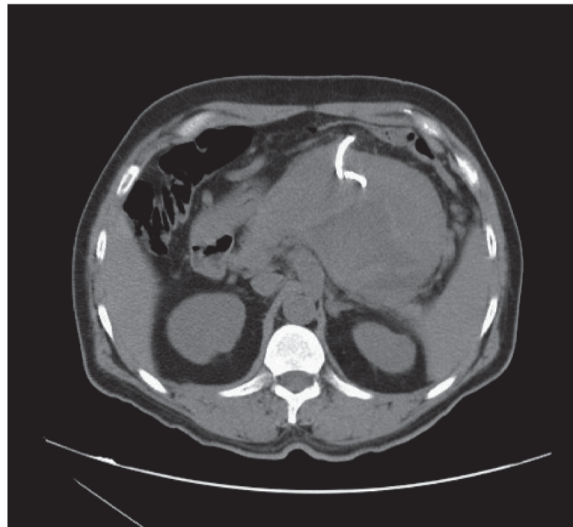


Fig. 2. CT scan done after traumatic injury, drainage tube can be seen.

The aorta was clamped above the renal arteries with frequent releases. The splenic artery was secured and the pseudocyst was removed along with the distal pancreas which was already disintegrated (Fig. 3-5). The patient recovered from surgery and was discharged in a good condition. He was following up in the clinic until now and doing well without any complication.

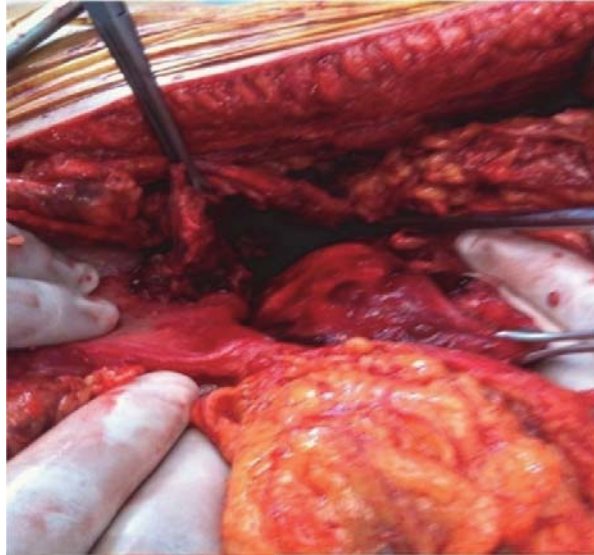


Fig. 3. Cyst wall and pancreas inside cyst.



Fig. 4. Distal part of the pancreas.

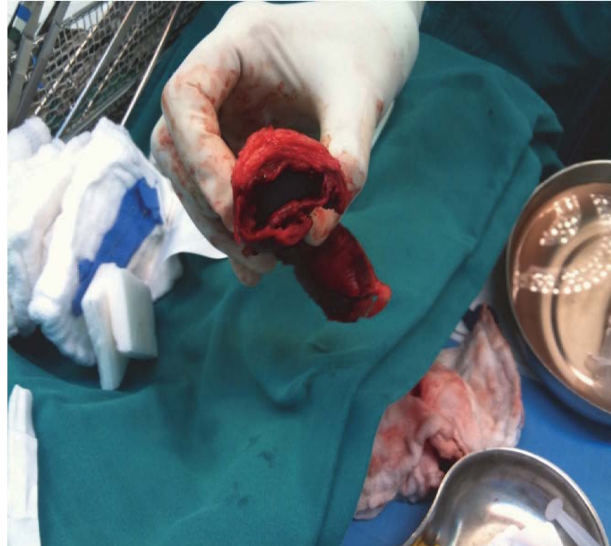


Fig. 5. Distal part of the pancreas.

Discussion

Splenic artery aneurysms are the most frequent visceral artery aneurysm, accounting for as many as 60% of all splanchnic artery aneurysms^[1]. Acute pancreatitis is one of the most common causes of pseudoaneurysm. The splenic artery is involved most frequently (30-50%), followed by the gastroduodenal artery (10-15%) and pancreaticoduodenal arteries (10%), as well as the left gastric, hepatic and small intrapancreatic arteries^[2]. The common etiologies include pancreatitis, trauma, congenital, mycotic, fibromuscular dysplasia, medial degeneration with superimposed atherosclerosis, and after resection of biliopancreatic cancer^[3]. As uncommon as true splenic artery aneurysms are, splenic artery pseudoaneurysms (SAP) are even more rare, with fewer than 200 cases reported in the English-language literature^[4]. Iatrogenic causes of SAP are very rare. In a review of 157 cases of SAP over 35 years, the authors found four cases of presumed iatrogenic causes^[4]. The presentation of splenic artery pseudoaneurysms is variable and ranges from chronic anaemia due to slow blood loss to a massive GI bleed and shock due to rupture into the stomach^[5] or colon^[6]. In our case, the patient leaked intermittently inside the pancreatic pseudocyst and was managed to rescue him before the rupture of the aneurysm. The pathogenesis of aneurysm following pancreatitis can be:

(a) Enzyme rich peripancreatic fluid, often within a pseudocyst, which leads to auto-digestion and weakening of the walls of adjacent arteries; (b) Rupture of the aneurysm into the pseudocyst converts it into a pseudoaneurysm; (c) These peripancreatic arteries undergo aneurysmal dilatation with the aneurysmal bulge most often contained in the pseudocyst^[7]. As a result of high mortality rates, surgical resection or endovascular repair should be done as soon as possible^[8].

Conclusion

This case highlights the importance of a thorough evaluation of the pseudocyst to identify any vessels in its cavity or wall. And that radiological aspiration of the pseudopancreatic cyst should be done by senior experienced radiologist.

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اختلاط طبي في الشريان الطحالي أدّى إلى أم الدم الكاذبة تقرير لحالة مع مراجعة الدوريات

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المستخلص. أم الدم الكاذبة بالشريان الطحالي معروفة، ولكنها
اختلاط نادر لالتهاب البنكرياس ولرضوض البطن المعلقة والأسباب
حدثت بواسطة الطبيب (اختلاط طبي). رجل عمره ٥٨ سنة حضر
يشكو من آلام في الشرسوف وانتفاخ في البطن، الأشعة التلفزيونية
(الأمواج فوق الصوتية) والتصوير الطبقي المحوري للبطن أظهر
كيسة بنكرياسية كاذبة مع وجود الشريان الطحالي يعبر خلالها.
محاولة بزل الكيسة تحت مراقبة التصوير الطبقي المحوري نتج عنه
تمزق في الشريان الطحالي داخل الكيسة، تم علاج المريض بشكل
محافظ وتم تخريجه إلى المنزل. بعد ستة أشهر عاد المريض بتمديد
شديد (انتفاخ) في البطن عملية تصميم الشريان الطحالي عبر
القصطرة لم ينجح لذلك أجريت لها عملية جراحية. هذه الحالة هامة
وتوضح أهمية استقصاء وجود أي وعاء دموي في كيسة البنكرياس
الكاذبة أو في جدارها.