

# Pancreatic pseudocyst with splenic involvement. Case report

## *Pseudocisto pancreático com envolvimento esplênico. Relato de caso*

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### INTRODUCTION

Pancreatic pseudocysts are a common complication of pancreatitis, but most of them, when small and uncomplicated, do not require treatment. However, some may cause many problems depending on location and the effect caused by the lytic enzyme activity of its contents. Their disruption to the peritoneum, hemorrhage, intracystic infection, compressions and fistulas to neighboring organs are the most common complications<sup>1</sup>. Other unusual cases found in the literature report leaks to distant sites such as the neck, mediastinum, chest cavity and scrotum<sup>2</sup>.

The spleen, although very close to the pancreas, is rarely involved in this process and until 2001 there were fewer than 50 cases reported in the English scientific literature<sup>3</sup>. Heavy bleeding from the spleen is the most common and most serious outcome and may require urgent surgical treatment.

This case and its features, although having been handled by an elective operation, dully characterize this type of complication and the difficulties encountered in its treatment.

### CASE REPORT

A Caucasian man, aged 42, native of Rio de Janeiro (RJ), was admitted to Antonio Pedro University Hospital (HUAP) diagnosed with left lung atelectasis and pneumonia. He complained of pain in the left subscapular region radiating to the shoulder on the same side for 45 days; the pain was unrelated to respiration, but got worse at bedtime. He had been treated at another hospital with a diagnosis of pneumonia with left pleural effusion. He was treated with antibiotics and thoracentesis and was discharged after 15 days. Eight days later, high fever, malaise, weight loss and pallor ensued. There was no cough, neither sputum. He reported as antecedents: laparotomy for acute

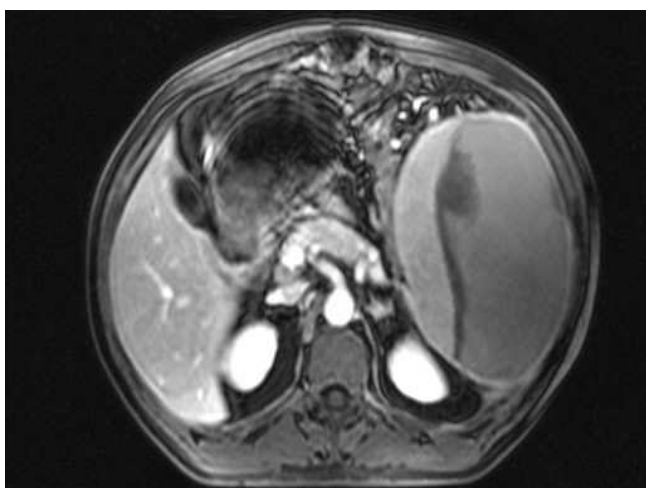
pancreatitis with necrosectomy in 1999, caused by dyslipidemia; in 2003, he underwent surgical repair of eventration caused by the previously held laparostomy; four suspected left pneumonia episodes from 1999; controlled diabetes mellitus controlled with insulin and hypertriglyceridemia treated with nicotinic acid. Physical examination showed a patient in good general condition, pale, but normotensive, afebrile and eupneic; breath sounds were abolished in the left lung base and there was dullness to percussion; the abdomen was flaccid and painless, there was dullness to percussion over Traube's space and a palpable mass with irregular and ill-defined contours in the topography of the spleen. Except for a hematocrit of 30.8%, glucose 140 mg/dl and reticulocytes 7.1%, all blood tests and biochemistry were normal, including pancreatic enzymes. Chest radiographs showed a marked elevation of left diaphragm and opacification of the lung base (Figure 1), abdominal ultrasonography (US) showed heterogeneous collection with hyper and hypoechoic areas adjacent to the spleen, with 21.0 x 9.2 cm, suggesting hematoma in various stages of development, similar to the images obtained with Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) (Fig. 2). With the diagnosis of pancreatic pseudocyst involving the spleen or splenic cyst, laparotomy was proposed. A voluminous cystic and fixed mass involved the spleen and prevented its visualization; it occupied the left upper quadrant, with firm adhesions to the diaphragm and other adjacent organs. The upper abdomen was blocked with adhesions, which made it impossible for any approach to the splenic artery or celiac trunk. The pancreatic region was much indurated. Attempts at resection were frustrated by the absence of cleavage planes and safe operation consisted of resection of the widest possible thick capsule of the cyst; there was output of large amounts of chocolate-colored liquid in addition to material like old clots. The spleen was enlarged and its outer surfaces were

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**Figure 1** - Chest X-rays with marked elevation of left diaphragm and absence of the gastric air bubble.



**Figure 2** - MRI with a large and heterogeneous cystic mass lateral to the spleen; note that the thick capsule surrounds the entire aggregate.

wrinkled and very friable, which caused major intraoperative hemorrhage, controlled with tamponade and topical hemostatic sponges. The region of the cyst was drained with a thick rubber drain, which was removed two months later. The patient was discharged on day 14. The amylase of the liquid was only 700 U/l. The histopathological exam of the capsule was compatible with pancreatic pseudocyst. In review after four months, he was well, although the CT scan showed a thin layer of liquid next to the spleen.

## DISCUSSION

The involvement of the pancreas' neighboring organs during the development of a pseudocyst, in spite of

relatively frequent, often preserves the spleen, making its involvement rather unusual, but of sometimes tragic consequences.

The low frequency and little experience with such cases do not allow definitive conclusions, but it is believed that the involvement of the spleen in the process would take place by three etiologic factors<sup>4,5</sup>: 1) vascular: thrombosis of the Splenic Vein is identified with possible complication in the evolution of chronic pancreatitis. It usually does not cause bleeding from the spleen, but may evolve with hypersplenism and even fugal type portal hypertension; 2) mechanical: this theory believes that perisplenic adhesions make the spleen more vulnerable to injuries, even minor ones; and 3) enzymatic: it occurs by direct action of pancreatic enzymes on splenic parenchyma or by invasion, through the hilum, along the blood vessels.

Although such patients may develop severe internal bleeding, the clinical presentation is usually not very different from those seen with uncomplicated pseudocysts. Uncharacteristic abdominal pain, eventual episodes of nausea, fever and weight loss are the most frequently reported complaints. Laboratory tests contribute little and a palpable mass is not very common, as the widespread use of CT and US make such pseudocysts diagnosed before appearing on physical examination, as was common in the past. Thus, some authors advocate early surgical indication due to the greater potential for complications that its evolution may result in<sup>4</sup>.

For most authors, the definitive treatment is splenectomy with distal pancreatectomy<sup>1,3</sup>, although prone to complications such as bleeding and infection. Heider<sup>3</sup> presented a review of 238 pseudocysts and found only 14 (6%) of them affecting the spleen. This author believes that percutaneous drainage is not effective, since three of them required repetition of the procedure and many others ended up being operated. Likewise, he also pointed out flaws in the conservative management, as seven of the 10 other patients ended up requiring surgical treatment.

Unfortunately, the absence of pathological examination of the spleen itself rendered it difficult to characterize more clearly the type of splenic involvement, but the anatomical and radiological aspects similar to other cases, as well as a thick capsule surrounding the entire aggregate and leaving the entire convex surface of spleen in direct contact with the contents, prevent us to think of a commonplace pseudocyst.

In this case its long evolution may explain the extreme difficulty in finding safe plans that could allow surgical removal of the spleen and part of the pancreas. It is worth noting that the recommended splenectomy involves great risk of intraoperative hemorrhage and it is for the surgeon to establish the limits to accomplish it.

The outcome was quite satisfactory, despite the impediment in carrying out the splenectomy with distal pancreatectomy.

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**A B S T R A C T**

The authors present a case report of a pancreatic pseudocyst with an unusual spleen involvement. The aspects of this rare complication are discussed, as well as the probable etiologic factors. The outcome was satisfactory and the surgical treatment consisted of the resection of its thick capsule, since the local anatomic conditions would not permit a splenectomy with distal pancreatectomy, considered to be the ideal surgery.

**Key words:** Pancreatic pseudocyst/complications. Pancreatic pseudocyst/surgery. Spleen.

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