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Differential diagnosis in a pancreatic pseudocyst with evolution as an iatrogenic abscess

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This is a 33-year-old female patient, born and raised in São Paulo. Their complaints are referred to 15 days ago with upper abdominal pain of great intensity, along with nausea and vomiting. In the previous history she had episodes of postprandial fullness and symptoms of gastroesophageal reflux disease. She went to the hospital and laboratory tests showed: red and white blood cell counts, total bilirubin and fractions, AST, ALT and GGT within normal range. The level of amylase was 241 UI/L (upper normal level 140 UI/L). Abdominal ultrasound revealed gallbladder microlithiasis and a cystic formation in the head of the pancreas. Abdominal radiography confirmed the finding by ultrasound (Figure 1). After 6 weeks from the episode of acute pancreatitis, the patient presented symptoms of postprandial bloating and abdominal pain. A CT scan was done and revealed the presence of a large pancreatic cyst formation in the head/body transition region of the pancreas (Figure 2). An attempt for endoscopic drainage was made and endoscopic retrograde cholangiopancreatography (ERCP) showed a cystic lesion with debris in the cephalic portion of the pancreas (Figure 3). Since it was not possible to perform a pseudocyst endoscopic drainage and the patient had postprandial fullness, weight loss and abdominal pain, she was sent for cholecystectomy with intraoperative cholangiography and pseudocyst drainage through a cyst-duodenal anastomosis, with liquid being collected for biochemical examination. The cytolo-

Figure 1. Abdominal X-ray revealed microlithiasis in the topography of the gallbladder.
Pancreatic pseudocyst

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gical examination of fluid obtained during surgery was negative for the presence of neoplastic cells. The fluid amylase was 59 UI/L and bicarbonate 22 mmol/L. Two days after surgery the patient developed high fever and abdominal pain. Treatment with antibiotics failed, as fever remained at high levels. A new CT scan was performed and revealed signs of infection within the pseudocyst (Figure 4).

Figure 2. CT images revealed the presence of an enormous pancreatic pseudocyst.

Figure 3. ERCP showed a filling defect area of great proportions in the head of pancreas. Note that within the cystic area you can see filling defects.

Figure 4. CT scan was performed after surgical drainage. Note the fluid level inside the cyst and also the thickening of the wall.

¿What is your diagnosis?

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Patient was referred to echoendoscopy for a new drainage of pancreatic pseudocyst due to deteriorating patient’s conditions. However, endoscopic images showed a solid-cystic lesion of 8.0 X 6.2 cm, with a wall thickness of 2.0 cm. The echo-guided aspiration collected a foul and chocolate liquid. The pathological examination revealed red blood cells, fibrin-leukocyte material and absence of neoplastic cells. However, the diagnostic imaging by echoendoscopy was suggestive of a pancreatic cystic neoplasm (Figure 5). Based on the findings by echoendoscopic imaging it was decided to carry out a new surgical procedure where it was possible to remove the cystic tumor (Figure 6, A and B). Pathological examination revealed a non-functioning cystic neuroendocrine tumor (NET) of the pancreas.

NETs of the pancreas belong to a small subgroup of tumors characterized by a biological behavior that varies depending on hormone production and degree of differentiation. Based on their clinical presentation, NETs are classified as functioning and nonfunctioning. The functioning are characterized by clinical endocrinopathy caused by inadequate hormone production. The non-functioning are histologically similar to the functioning, but do not produce any clinical symptoms. Pancreatic NETs are usually solid at imaging but on rare occasions they can manifest as pancreatic cystic lesions. It is noteworthy that these cystic lesions often become a challenge for diagnosis because they are hard to differentiate from other cystic neoplasms, such as intraductal papillary mucinous neoplasms (IPMT), mucinous cystic...

Figure 5. Endoscopic ultrasound image showed a solid-cystic lesion of 8.0 cm, with thickened wall. The appearance was of a cystic neoplasm of the pancreas. The FNA was negative for pancreatic cystic neoplasm.
neoplasms, serous cystic neoplasms, solid-cystic papillary tumors, and non-neoplastic lesions (pseudocysts). This difficulty in diagnosis can lead to a wrong choice of treatment which can be catastrophic for the patient, as occurred with the patient in question. Thus, even the patients who have all the evidence of a pseudocyst due to the presence of an episode of acute biliary pancreatitis should be carefully studied to avoid misunderstandings. Echoendoscopy along with fine needle aspiration is an excellent method for the differential diagnosis of different types of these tumors, with high sensitivity and specificity for NETs either solid or cystic.

References