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GI IMAGE

Pancreatic Actinomycosis

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In July 2017, a 72-year-old man with a significant past medical history for type 2 diabetes and arterial hypertension was admitted to our gastrointestinal unit for mild epigastric pain. Preoperative upper endoscopy showed mild oesophagitis and chronic gastritis. Abdominal ultrasonography showed a 2-cm mass of the pancreatic head. Biology, tumoural markers (CEA, CA19-9) and IgG4 were within the normal values. Abdominal computed tomography scan revealed a 25 × 30-mm mass of the head of the pancreas associated with mild dilation of the main bile duct and the Wirsung duct. An endoscopic ultrasound (EUS) confirmed a 30-mm ill-defined tumour located at the lower part of the head of the pancreas. EUS-guided fine needle aspiration found chronic fibrosis without malignancy. The patient was diagnosed with chronic pancreatitis; smoke abstention and oral pancreatic enzyme supplementation were started. Three months later, the patient's medical status worsened with a 5-kg weight loss and need for insulin treatment. Abdominal CT scan and magnetic resonance (Fig. 1a, b) showed a stable 30 mm in diameter mass of the pancreatic head with delayed hypervascularization causing dilation of the main bile duct and the Wirsung duct. An 18-fluorodeoxyglucose positron emission tomography found a hyperfixating tumour of the pancreatic head (SUV6,6) (Fig. 2). A repeated EUS-guided fine needle aspiration found chronic fibrosis. Given the impossibility to rule out a primary pancreatic tumour, the patient underwent a pancreaticoduodenectomy. The postoperative course was uneventful. Pathology found chronic pancreatic fibrosis around bacterial granule with a radial arrangement of filamentous bacteria surrounded by neutrophil granulocytes (Fig. 3 a, b**)**. Pathology established the diagnosis of pancreatic actinomycosis.

Comments

Actinomycosis is a suppurative disease caused by a filamentous, Gram-positive, non-acid-fast, anaerobic-to-microaerophilic bacterium: the *Actinomyces israelii*. The infection causes chronic inflammation which may lead to mass-forming fibrosis which mimics malignancy. Abdominal actinomycosis accounts for less than 20% of reported cases with few cases of pancreatic localization described.[1] The clinical presentation of abdominal actinomycosis may include pancreatic mass with weight loss and bile and pancreatic ducts obstruction which can mimic malignant tumours as in the case presented. The physiopathology of pancreatic actinomycosis remains poorly understood. It has been suggested that previous pancreatic surgeries or endoscopic procedures and reflux of digestive contents to the pancreas represent possible way of pancreatic infection. The treatment of pancreatic actinomycosis is based on intravenous penicillin followed by oral penicillin for 6 to 12 months. Pancreatic resections have been reported for this rare indication in patients having mass-forming lesions mimicking malignancy. A preoperative diagnosis of pancreatic actinomycosis could be suspected

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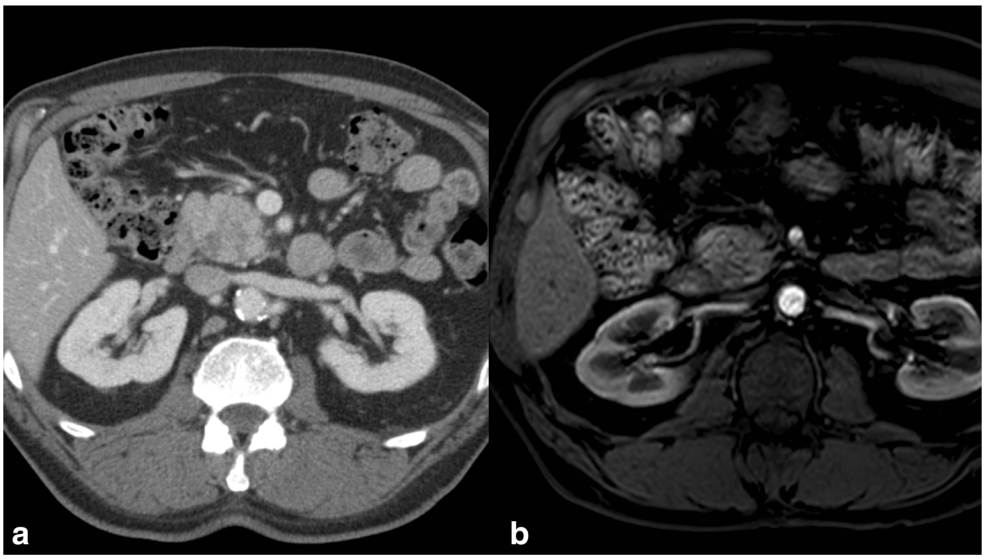

Fig. 1 Abdominal computed tomography (**a**) and magnetic resonance imaging (**b**) showing a 30-mm well-encapsulated mass of the pancreatic head with a delayed hypervascularization

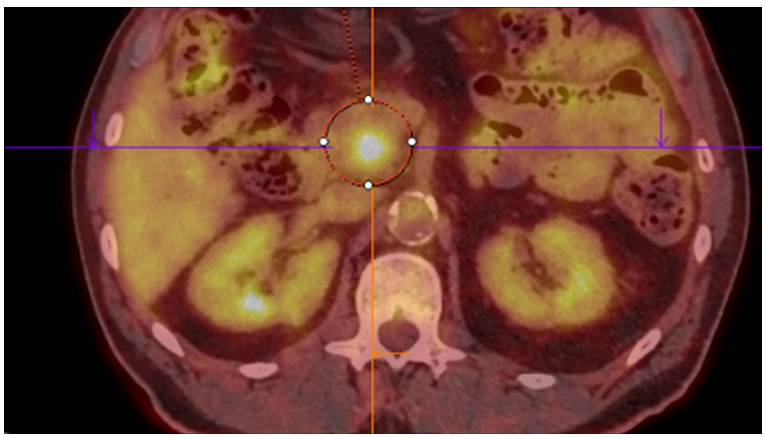

Fig. 2 18-Fluorodeoxyglucose positron emission tomography revealing an hyperfixating tumour of the pancreatic head (SUV6,6)

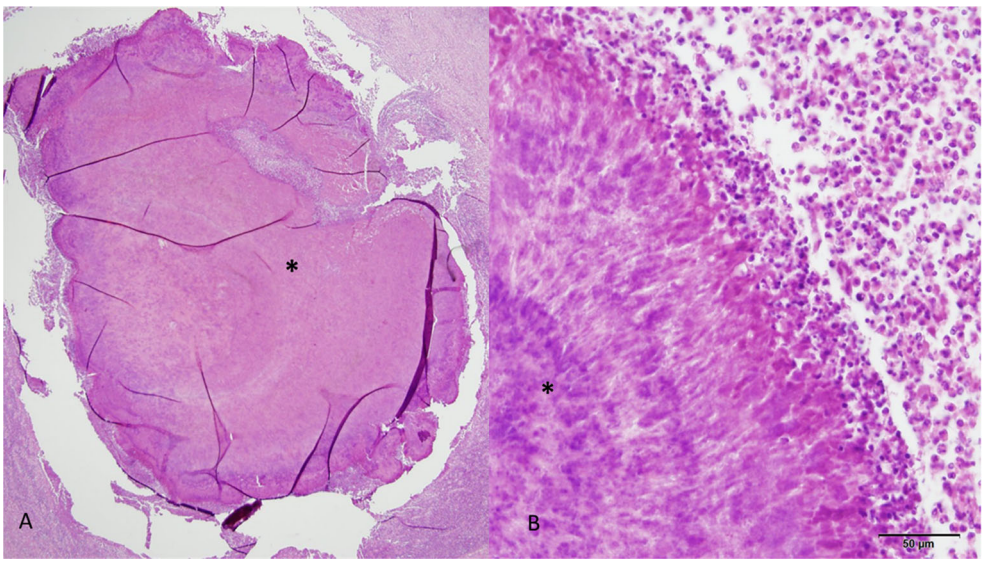

Fig. 3 Histological examination showing chronic pancreatic fibrosis around bacterial granule (*) (H&E stain, × 20 magnification) (**a**) with a radial arrangement of filamentous bacteria (*) surrounded by neutrophil granulocytes (**b**) (H&E stain, × 400 magnification)

in patients with pancreatic masses with repeated negative biopsy and previous history of repeated pancreatic biopsies and/or ductal stenting.[2] Given the still relevant morbidity of pancreatic resections, the preoperative suspicion of pancreatic actinomycosis may lead to avoid futile surgery.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

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