

Abscesos pancreáticos por *Mycobacterium tuberculosis* en pacientes con SIDA

Marcelo Corti¹
María F. Villafaña²

¹Division of HIV/AIDS
²Unit 10, Infectious
Diseases FJ. Muñiz
Hospital
Buenos Aires
Argentina

Resumen

El compromiso del páncreas es una rara complicación de las formas diseminadas de tuberculosis en los pacientes con sida. Presentamos dos pacientes con diagnóstico de abscesos pancreáticos causados por *Mycobacterium tuberculosis*. El diagnóstico precoz basado en la punción dirigida con aguja fina bajo control ecográfico o tomográfico seguido del tratamiento antituberculoso son necesarios para mejorar el pronóstico de estos pacientes.

Palabras clave: *Mycobacterium tuberculosis*. Abscesos pancreáticos.

Summary

Pancreatic involvement is a rare complication of disseminated tuberculosis in AIDS patients. We reported 2 patients with diagnosis of pancreatic abscesses due to *Mycobacterium tuberculosis*. Early diagnosis by radiological-guided drainage followed by specific therapy is necessary to improve the prognosis of these patients.

Key words: *Mycobacterium tuberculosis*. Pancreatic abscess.

Introduction

Autopsy studies indicate that histologic abnormalities of the pancreas are seen in approximately half of the patients with AIDS. Nonspecific changes such as fat necrosis, fibrosis and inflammation constitutes approximately 60% of the observed abnormalities. The other 40% includes direct involvement of the pancreas with infectious and neoplasms processes^{1,2}. Besides, these patients can present acute pancreatic episodes as the manifestation of primary HIV infection or due to different drugs that are used in the treatment of several opportunistic infections such as pentamidine, trimethoprim-sulfamethoxazole or antiretroviral drugs (didanosine, zalcitabine)³.

Intraabdominal tuberculosis (TB) includes lymphadenopathy and focal lesions of solid viscera and the pancreas

as an unusual clinical entity, rarely described in the literature and is generally associated with miliary TB^{4,5}. We report two patients with advanced HIV/AIDS disease that developed pancreatic abscess due to *Mycobacterium tuberculosis* (MTB).

Case report

Patient 1

A 30 year-old man infected with the human immunodeficiency virus (HIV) and with hepatitis C virus (HCV) was admitted to our hospital with prolonged fever, productive cough and intermittent abdominal pain over the previous 3 months. Also he had lost 6 kg of weight during the same time. Physical examination revealed isolated crackles in the pulmonary auscultation and spontaneous abdominal pain in the epigastrium and right hypochondrium region, which increased during palpation. A chest X-ray showed a right subclavicular cavitated infiltrate. Relevant laboratory findings were hemoglobin 6,6 g/dL; hematocrit 19%, leucocytes count 2 300/mm³, platelets 155 000/mm³. Biochemical tests revealed hyperamylasemia; liver function tests were normal, including alkaline phosphatase level. The CD4 T cell count was 68 cell/uL. Abdominal ultrasound showed a focal hypoechoic mass in the pancreatic head region, compatible with abscess of 50.6 x 33.4 mm, mesenteric adenopathies and subhepatic ascites (Figure 1). Sputum cultures were negative for bacterial, fungal and *Pneumocystis jiroveci* and were positive for MTB. Sonographically guided fine-needle aspiration was performed; stain for acid fast-bacilli was positive and culture developed MTB. Based on these findings, a diagnosis of disseminated TB with pancreatic involvement was made and the patient was put on antituberculous therapy based in isoniazid, rifampicin, pyrazinamide and ethambutol for 2 months, followed by isoniazid plus rifampicin. Patient had a good clinical and radiological response and after 2 months of treatment, pancreatic abscess had 38 x 26 mm (Figure 2). Then, it was his own decision no to followed the indicated treatment.

Correspondencia:
Marcelo Corti
Puán, 381, 2º piso
C1406CQG Buenos Aires
Argentina
E-mail:
marcelocorti@fibertel.com.ar



Figure 1.
Abdominal ultrasound showing a large hypoechoic mass in the pancreatic head



Figure 2.
Pancreatic sonogram after two months of specific antituberculous therapy, showing the reduction in the size of abscess



Figure 3.
Abdominal ultrasound showing a hypoechoic image in the pancreatic head compatible with abscess

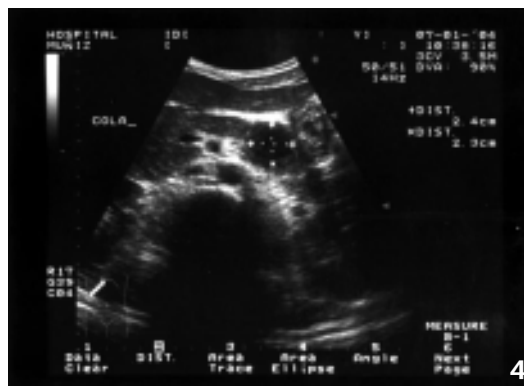


Figure 4.
Abdominal sonogram showing the lesion located at the pancreas tail

Patient 2

A 26 year-old man HIV and HCV seropositive, was admitted with one month history of fever, productive cough, progressive dyspnoea and abdominal pain. Physical examination revealed fever (38°C), epigastrium pain radiation to the back with distended abdomen and splenomegaly. Chest X-ray revealed a right paracardiac infiltrate. Remarkable laboratory findings included pancytopenia and the CD4 T cell count was 2 cell/uL.

Amylase level and liver function tests were normal. Sputum direct examination with Ziehl-Neelsen stain and culture were positive for MTB. Blood culture was also positive for MTB. Abdominal ultrasound showed the existence of 2 hypoechoic images, compatible with abscesses of the head (38 x 28 mm) (Figure 3) and the tail (24 x 23 mm) of the pancreas (Figure 4). Also ultrasound of the abdomen revealed multiple hypoechoic portal and peri-pancreatic adenopathies and hepatic subascites. No intrahepatic lesions were noted. Computed tomography scan of the abdomen demonstrated a heterogeneous pancreatic gland with 2 hypodense lesions in the head and the tail compatible with pancreatic abscesses. Diagnostic of disseminated TB with pancreatic abscesses was made; patient was treated with antituberculous drugs based on isoniazid, rifampicin, pyrazinamide and ethambutol. After 1 month of therapy, control sputum examinations were found to be negative; after 2 months, pancreatic head mass had 24 x 23 mm and pancreatic tail lesion 9 x 8 mm. Patient followed antituberculous drugs based on isoniazid plus rifampicin and started on antiretroviral therapy. Five months after starting therapy, head pancreatic abscess had 22 x 18 mm and the tail lesion was disappeared. Also he had clinical improvement.

Discussion

The true incidence of infectious pancreatitis in patients with AIDS is unknown. However, disseminated infections due to opportunistic pathogens usually affect the pancreas. Cytomegalovirus is the most common agent that can cause pancreatitis between AIDS patients^{6,7}. *Toxoplasma gondii* can cause fatal necrotizing acute pancreatitis^{8,9}. *Mycobacterium avium intracellulare*¹⁰, *Cryptosporidium*¹¹ and *Pneumocystis jirovecii*¹² also can cause pancreatitis in these patients. The pancreas is biologically protected from being infected by MTB probably because of the presence of pancreatic enzymes, which interfere with the seeding of MTB¹³. Pancreas involvement by MTB is extremely rare. Pancreas can be involved in patients with disseminated tuberculosis either by haematogenous route or by spread from peripancreatic lymph nodes¹⁴. Kudrewetzki¹⁵ in 1891 over 120 cases of tuberculosis only found 6 miliar pancreatitis and Massias¹⁶, over 2000 autopsies observed 8 cases of pancreatic tuberculosis with multiple visceral forms. Auerback⁵ reviewed 1656 autopsies performed on tuberculosis patients, among the cases with acute generalized tuberculosis; the pancreas was only involved in 14 cases (4.7%). Bhansali¹⁷ did not have a single case of pancreatic tuberculosis in a series of 300 cases of abdominal tuberculosis.

Pancreatic tuberculosis presents with inespecific symptoms such as abdominal pain, that is always present, but may be atypical. Abdominal pain is the predominant symptom as in our patients and usually is very severe, upper abdominal in location and radiates to the back. Constitutional symptoms such as anorexia, weight loss, nausea and night sweat and fever are also present, just like in our patients^{18,19}. Less frequently patients presents with obstructive jaundice, massive gastro-intestinal bleeding, secondary diabetes and splenic vein thrombosis. Involvement of the pancreas by MTB may take the forms of a pseudotumor or abscess, mimicking malignancy, as it could be seen in our patients^{20,21}.

Laboratory findings showed that serum amylase and lipase levels are generally elevated; anemia, hypoalbuminemia and leukopenia are also frequent²². The clinical suspicion of pancreatitis is confirmed by abdominal ultrasound or computed tomography, which shows signs of pancreatic and peripancreatic inflammation, diffusely enlarged pancreas, a mass lesion or focal hypo-echoic or hypodense lesions usually in the pancreatic head region^{23,24}. These findings are non-specific and may be seen with focal pancreatitis of any etiology, such as in pancreatic carcinoma¹⁹. Also hypodense lymph nodes with ring enhancement in the peri-pancreatic region and ascites could be seen, as in the patient number 2. Chest radiographs can show signs of pulmonary tuberculosis, as in our 2 patients.

The diagnosis can be confirmed through laparotomy or by the presence of MTB by fine needle aspiration. Only 6 of 73 cases reported have been diagnosed by this method²⁰. In one of our patients the diagnosis was confirmed through the fine needle aspiration and in the other patient MTB was found in the sputum and in blood cultures. In our

knowledge, the patient number one could be the 8th case diagnosed by the fine needle aspiration guided by ultrasonography²⁰. We think that this is the best diagnostic method for these patients.

The response to antituberculous therapy is generally favorable. The lesions are found to have subsided on follow-up. There may be a role for imaging guided drainage in cases that present as an abscess²¹. The size of the abscess can slowly reduce, as in our patients; the role of resection (e.g. pancreatoduodenectomy) is very limited²⁵.

Finally, we think that tuberculosis should be considered in the differential diagnosis of pancreatic focal masses in AIDS patients, especially when the pancreas involvement is associated with febrile illness with epigastric pain and weight loss²⁶. Fine needle aspiration guided by abdominal ultrasound or computed tomography is the best choice in the diagnostic process and can confirm the diagnosis through microbiological exams especially in patients with pulmonary or other abdominal lesions consistent with tuberculosis.

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