

Pancreatic tuberculosis

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Summary

Pancreatic tuberculosis (TB) is a rare condition in immunocompetent patients and often represents a diagnostic challenge. Pancreatic TB may present with protean manifestations. Imaging with ultrasound, computed tomographic (CT) or endoscopic ultrasound (EUS) usually reveals multicystic pancreatic masses, most frequently in the head of the pancreas. Fine needle aspiration or percutaneous biopsy guided by CT/ultrasound or EUS can be useful diagnostic tools. We report a case of a 60-year-old HIV-negative man who presented with a pancreatic mass and a pulmonary nodule that were subsequently diagnosed to be tuberculosis.

Key words: pancreatic tuberculosis- Nonimmunocompromised patients.

Tuberculosis pancreática

Resumen

La afección tuberculosa del páncreas es muy rara, especialmente en pacientes inmunocompetentes, y cuando ocurre, plantea un desafío diagnóstico. La tuberculosis pancreática se presenta con manifestaciones clínicas proteiformes. La ecografía, tomografía computarizada y ecoendoscopia suelen mostrar masas pancreáticas multiquísticas localizadas, más frecuentemente en la cabeza del páncreas. La aspiración con aguja fina o la biopsia percutánea guiadas por tomografía, ecoendoscopia o ecografía son procedimientos diagnósticos sumamente útiles. Reportamos el caso de un hombre HIV negativo con una masa pancreática y un nódulo pulmonar con diagnóstico de tuberculosis afectando ambos órganos.

Palabras claves: tuberculosis pancreática- pacientes no inmunocomprometidos.

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Tuberculosis (TB) is a common disease in Argentina with a prevalence of 28.4 per 100,000 population, and pulmonary involvement is the most common type.¹ Abdominal TB usually presents as intestinal TB (at the ileocecal junction), peritoneal TB, and/or mesenteric lymphadenitis. Pancreatic involvement is extremely rare, especially in immunocompetent patients.²⁻⁵ Auerbach reported a rate of pancreatic involvement in only 4.7% of 297 autopsies on patients with miliary TB.⁶ Similarly, Paraf et al. reported a 2.1% rate of pancreatic involvement in 256 autopsies on patients with miliary TB.⁷ Bhansali reviewed 300 cases of abdominal TB in India over 12 years and found no case of pancreatic TB.⁸ Franco-Paredes and colleagues reported two cases of pancreatic TB and reviewed the current literature involving pancreatic TB among nonimmunosuppressed individuals. The authors documented 50 cases of pancreatic TB between 1980 and 2002.⁹ Recently, Weiss and colleagues identified 25 additional cases of pancreatic TB that presented as pancreatic masses.⁴

Here we report a case of a 60-year-old HIV-negative man presenting with a pancreatic mass and a pulmonary nodule that were subsequently diagnosed as TB.

Case report

A 60-year-old man first presented at another hospital in Buenos Aires (Argentina) with a pulmonary nodule before consulting at our medical center. A thorax computer tomography (CT) scan was performed and revealed a nodule and right parahilar adenopathy. Fine needle aspiration guided by CT, which was performed twice, and a bronchoscopy produced negative results. The HIV test results was also negative. The patient was admitted to our hos-

pital with a history of abdominal pain, low-grade fever, and weight loss of 12 kg within the past 2 months. A chest X-ray revealed a pulmonary nodule. The ultrasound examination showed common bile duct dilatation and a heterogeneous mass in the head of the pancreas. Abdominal CT scan revealed the same heterogeneous mass at the same site and the lymph nodes in the hepatic hilum (Figure 1). Bronchoscopy with bronchial lavage, transcarinal needle aspiration, and bronchial biopsy were performed in addition to a percutaneous ultrasound-guided aspiration of the pancreas. Histological examination of the specimens from the bronchial mucosa and pancreas showed granulomas. Culture of the bronchial lavage was positive for *Mycobacterium tuberculosis*. The patient was started on TB treatment with isoniazid, rifampicin, pyrazinamide, and et-

Figure 1. Abdominal CT: heterogeneous mass in the head of the pancreas.



Figure 2. Abdominal CT: performed at 3 months after treatment initiation and showed shrinkage of the mass in the head of the pancreas.



ambutol for 9 months. Subsequent ultrasound and CT scans showed clinical improvement. The fever and abdominal pain completely resolved after three weeks of antituberculous therapy. The patient returned to his pre-illness weight after two months. Abdominal ultrasound performed monthly during follow-up showed shrinkage of the mass in the head of the pancreas and in the lymph nodes within 3 months after treatment was started (Figure 2). CT scans confirmed these findings and produced normal results at the end of the treatment course.

Discussion

TB in the pancreas or the peripancreatic lymph nodes is a rare condition, especially in immunocompetent patients, even in countries where TB is endemic.^{2,10-12}

Patients with HIV infection have a greater risk of atypical and extrapulmonary tuberculosis. It is therefore recommended that all patients with a diagnosis of pancreatic tuberculosis have their HIV status ascertained.^{2,3}

The primary symptoms of pancreatic tuberculosis include pain, weight loss, fever, and jaundice. Other clinical presentations include acute or chronic pancreatitis, portal hypertension, and gastrointestinal bleeding.^{2,3,5,13-15}

Radiological findings are not specific in patients with pancreatic TB, but ultrasound and CT scans show hypoechoic areas in the pancreas that are heterogeneous/hypodense. These areas present as multiple cysts or masses and tend to be located in the head region, which may be misdiagnosed as pancreatic abscess or carcinoma. Hypodense lymph nodes in the peripancreatic region or the adjacent mesentery may occasionally be present.^{2,5,7,12,14}

When pancreatic TB is suspected, every effort should be made to confirm or rule out the diagnosis. Fine needle aspiration or percutaneous biopsy guided by CT/ultrasound or EUS can be valuable diagnostic tools.¹⁰⁻¹³ EUS, originally used as a method of staging gastrointestinal malignancies, has emerged as a novel alternative to obtain tissue diagnosis.¹⁵⁻¹⁷ The success rate of image guided percutaneous fine needle aspiration for cytology in diagnosing pancreatic TB is approximately 50-60%. A correct and timely diagnosis prevents unnecessary laparotomy and/or pancreatic resection in patients

with pancreatic TB.^{2,3,6,7} The diagnostic criteria for pancreatic TB include the presence of characteristic caseating granulomas and/or confirmation of *Mycobacterium tuberculosis* in cultured samples.^{5,6} However, even with intraoperative specimens, culture results are positive in only 70-75% of all pancreatic TB cases.

Most patients with tuberculosis of the pancreas respond well to standard antituberculosis drug therapy. Nine months of combined medications are usually recommended.²⁻⁶

In the case reported here, ultrasound-guided biopsy enabled us to establish the diagnosis of pancreatic TB. Clinicians should consider this diagnosis when they are presented with pancreatic masses especially in endemic areas.

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