

A rare case of isolated pancreatic tuberculosis in a 70-year-old patient – a case report

Authors' Contribution:

A – Study Design
B – Data Collection
C – Statistical Analysis
D – Data Interpretation
E – Manuscript Preparation
F – Literature Search
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ABSTRACT:ABSTRACT:

We report a case of rare solitary pancreatic tuberculoma. 70 years old woman admitted to hospital in order to conduct diagnostics of a tumor located in the head of the pancreas. All symptoms pointed at pancreatic cancer, but histopathological examinations were inconclusive. Additionally, there were no clinical signs or symptoms of tuberculosis in the lungs. X-ray of the chest showed no abnormalities. The patient denied tuberculosis in the medical interview. There were no bacilli in the sputum. During an exploratory laparotomy, the samples of a tissue have been taken for pathomorphological examination. The microscopic image caused a suspicion of Mycobacterium tuberculosis etiology, which was confirmed by Ziehl-Neelsen staining. In recent years, tuberculosis has become more and more common in Europe, which is why the described case can be a guide for doctors to help to avoid diagnostic errors and speed up the treatment process.

KEYWORDS:

pancreas, tuberculosis, tumor

INTRODUCTION

Tuberculosis has accompanied humans since the ancient times, which was indicated by e.g. archeological findings in Egyptian mummies showing characteristic bone lesions. The first recordings of tuberculosis were found in India and China, dating back 3300 years ago [1]. Tuberculosis was spreading for centuries as massive epidemics, causing more deaths than any other infectious disease and is still one of the major health issues worldwide. Tuberculosis is the 9th cause of death globally and the most common infectious factor. In 2016, it was estimated that 1.3 mln deaths were caused by TB in HIV-negative individuals and 374,000 deaths in HIV-positive patients. The estimated incidence of TB in 2016 was 10.4 mln people including 90% of adults, 65% of males and 10% HIV-positive patients (74% in Africa). One third of the world population are TB carriers. The infection usually affects lungs (pulmonary TB), however, it can affect other regions (extrapulmonary TB).

The disease spreads through the air from patients with active disease, however, only 5–15% will ever develop symptomatic tuberculosis throughout lifetime. Risk factors include poverty, HIV infection, malnutrition and tobacco smoking [2]. In most patients, the infection affects lungs, but it can sometimes affect extrapulmonary sites as well, such as the alimentary tract. Currently, it is rarely encountered in developed countries, comprising 4% of extrapulmonary tuberculosis [3]. TB can affect every part of the alimentary tract. Most commonly, it involves the peritoneum (5–6 times more often than any other GI organ), which results from spreading through mesentery or intestinal lymph nodes. The second most common GI location is the bowel, particularly the ileocecal region, followed by more proximal portions of the alimentary tract (tongue, esophagus, stomach, duodenum). It can result from swallowing infected phlegm or from spreading by blood. TB can also affect the liver, biliary tree or pancreas [4]. It is usually

associated with disseminated disease and coexistent infection at other abdominal sites, however, the isolated pancreatic tuberculosis is extremely rare [5, 6].

CASE REPORT

A 70-year-old Caucasian woman presented to her family physician due to a dull abdominal pain, indigestion and weight loss. She had a history of hypertension, hypothyroidism, chronic smoking and previous cholecystectomy. She had never had any infectious diseases before. The presence of a lesion on ultrasound, suspicious of malignancy, convinced her physician to refer her to the oncology center. At the oncology hospital, a CT scan was performed, showing a mass sized 42x37 mm in the head of the pancreas, adjacent to the superior mesenteric vein with possible infiltration of the superior mesenteric artery. The patient did not consent to surgery, and a fine-needle aspiration biopsy was performed to collect tumor cells. However, the pathology study did not reveal any malignancy. The patient was referred to the surgery department of the MSWiA Hospital in Bydgoszcz for further management. Her full blood count did not show any abnormalities except for increased RDW-CV: 15% (norm: 11.7–14.4%), PDW: 16.7 fl (norm: 9.8–16.2 fl), MPV: 12.9 fl (9.4–12.5 fl).

Other laboratory test results revealed decreased amylase concentration – 9 U/L (norm 28–100 U/L), elevated CRP 52.3 mg/L (norm: 0.0–5.0 mg/L), CA 19-9 66.5 U/mL (norm: <37 U/mL), prolonged APTT 38.9 s (norm 25.9–36.6 s) and increased fasting blood sugar level on two measurements: 126 mg/dL (100–125 mg/dL). Other studies including echocardiography and chest X-ray did not show any abnormalities. Based on the initial diagnosis of possible malignant pancreatic tumor, we decided to perform exploratory laparotomy with coarse-needle biopsy to collect specimen for further pathology study. Once again, the pathology examina-



Fig. 1. Computed tomography with a contrast showing the tumor within the head of the pancreas. (blue arrow - portal vein, red arrow: superior mesenteric artery).

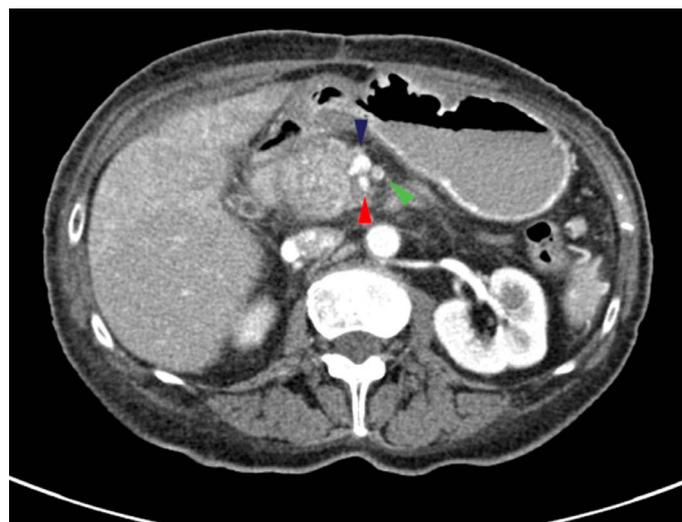


Fig. 2. Computed tomography with a contrast showing the tumor within the head of the pancreas. (blue arrow - portal vein, green arrow - superior mesenteric vein, red arrow: superior mesenteric artery).

tion did not show any atypical cells. One month postoperatively, the patient presented to the Department of General and Transplant Surgery at the Antoni Jurasz University Hospital No 1 in Bydgoszcz. Based on the clinical presentation and laboratory test results, the patient was qualified for surgical intervention. The necessity of another laparotomy was motivated by failure of previous coarse-needle biopsies. Also, it is worth mentioning that the biopsy study can confirm pancreatic tuberculosis only in half of the cases [4]. After opening the peritoneal cavity, numerous planar ileoperitoneal and intraperitoneal adhesions resulting from previous surgery were noted. After dissecting the omental bursa, we noticed the presence of a non-operative mass in the head of the pancreas, infiltrating the posterior wall of the stomach. We decided to perform the gastroileal bypass from the anterior wall of the stomach to the third jejunal loop, and then we performed Braun's anastomosis and collected a sample for pathology study. The pathology examination suggested tuberculosis as a possible etiology. It revealed the presence of granulomatous inflammation and epithelioid granulomas with central necrosis, and Langhans giant cells. No malignant cells were present. Due to suspected visceral tuberculosis, the patient was referred for urgent consultation in the Pulmonology Clinic at the Pulmonology Center in Bydgoszcz. Sputum examination did not confirm the presence of mycobacteria, however, the consultation study concluded that the morphology was consistent with caseous tuberculosis with positive acid-fast bacilli smear (Ziehl-Neelsen stain).

DISCUSSION

Isolated pancreatic tuberculosis is extremely rare and often misdiagnosed. Usually, it is caused by tuberculosis dissemination and

affects more than one organ. Extrapulmonary manifestations account for only 9.9% of all tuberculosis cases in Poland, with the most common location site within the pleura [7]. Isolated pancreatic tuberculosis is rare, even in endemic regions [8, 9]. The pathogenesis of isolated pancreatic tuberculosis is up to date unclear. It is believed that the pathogens spread by blood or lymph from undetectable infiltrates. Then, they pass through the retroperitoneal lymph nodes and reach the pancreas, where the infection may remain latent and asymptomatic [6]. Immune depression can result in reactivation leading to a tumor-like mass appearance and diagnostic challenges [10]. Pancreatic tuberculosis can be insidious causing very little symptoms. The symptoms depend on the character and extent of lesions, and can mimic pancreatic cancer or, rarely, acute or chronic pancreatitis [4].

The infection can also manifest itself by: abdominal pain (75%), weight loss (69%), fatigue (64%), fever and night sweats (50%), back pain (38%) and jaundice (31%) [11]. It can also lead to portal hypertension by compressing portal veins or portal thrombosis. Also, exocrine and endocrine pancreatic function may be compromised [4, 11], as illustrated by our patient who developed hyperglycemia and decreased amylase level – 9U/L. Inconclusive needle biopsy delayed the diagnosis of tuberculosis, which was only possible by collecting tissue samples for Ziehl-Neelsen stain, confirming the presence of *Mycobacterium tuberculosis*. Normal physical examination, non-specific laboratory test results and normal chest X-ray were posing additional challenges. Finding no mycobacteria in the sputum can be misleading and shift the diagnostic workup in totally different direction; therefore, tuberculosis should not be excluded based on this finding, especially in high-risk patients.

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