



PANCREATIC TUBERCULOSIS MIMICKING PANCREATIC TUMOR: A CASE REPORT IN ANAMBRA, NIGERIA

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ABSTRACT

Background: The pancreas is an uncommon site of extra pulmonary tuberculosis (TB). When TB affects lymph nodes including the peri-pancreatic nodes and the pancreas, the clinical presentation may greatly mimic advanced pancreatic malignancy. Here is illustrated a rare pancreas TB that mimicked a pancreatic tumor. **Findings:** The patient, a 56-year old woman, has painless neck swelling and right abdominal pain of 2 years. She has discrete non-tender, enlarged right supraclavicular lymph nodes. ESR was raised and mantoux positive. 2-hour PP sugar was impaired. Sonography and CT scan showed pancreatic mass and enlarged peri-pancreatic nodes. Biopsy revealed the supraclavicular nodes showed chronic granulomatous inflammation. She received anti-Koch's therapy for 7 months with complete resolution of the adenitis, the impaired glucose and the pancreatic mass. **Conclusion:** This case report shows a rare pancreas TB with impaired glucose and concomitant supraclavicular TB adenitis. The diagnosis of pancreatic TB would have been elusive without pancreatic histology, but for the high index of suspicion occasioned by the concomitant occurrence of the supraclavicular node TB.

KEYWORDS; Extrapulmonary tuberculosis, Pancreatic tuberculosis, Impaired glucose, Supraclavicular adenitis, Anambra, Nigeria.

INTRODUCTION

Tuberculosis (TB) involving the pancreas is rare even in regions with high disease burden. The bacilli get to the pancreas through lympho-hematogenous spread from primary or secondary tuberculosis. The presenting features vary and may mimic cancer of the pancreas.^[1]

The incidence of pancreatic TB seems to be low in Nigeria.^[1] This report, describes a rare pancreatic TB that was initially thought to be a pancreatic tumor with possible spread to the supraclavicular nodes.

CASE PRESENTATION

A 56-year old female patient presented to the chest clinic of Chukwuemeka Odumegwu Ojukwu University Teaching, Awka, Nigeria, on account of neck mass and epigastric pain of 2 years' duration. She has no complaint of chest-pain, hematemesis, anorexia, jaundice, weight loss, fever, cough, drenching night sweats or contact with an adult who has chronic cough.

However, she has a previous history of pulmonary TB for which she received a 6-month course of anti Kochs' therapy, 23 years prior to present illness. She was a

known hypertensive but has no prior diabetes mellitus or HIV infection.

She has discrete, non-tender right supraclavicular lymph nodes and right hypochondrial and epigastric tenderness. Her pulse rate was 90 beats/minute and blood pressure 130/80mmHg. Abdominal examination was unremarkable.

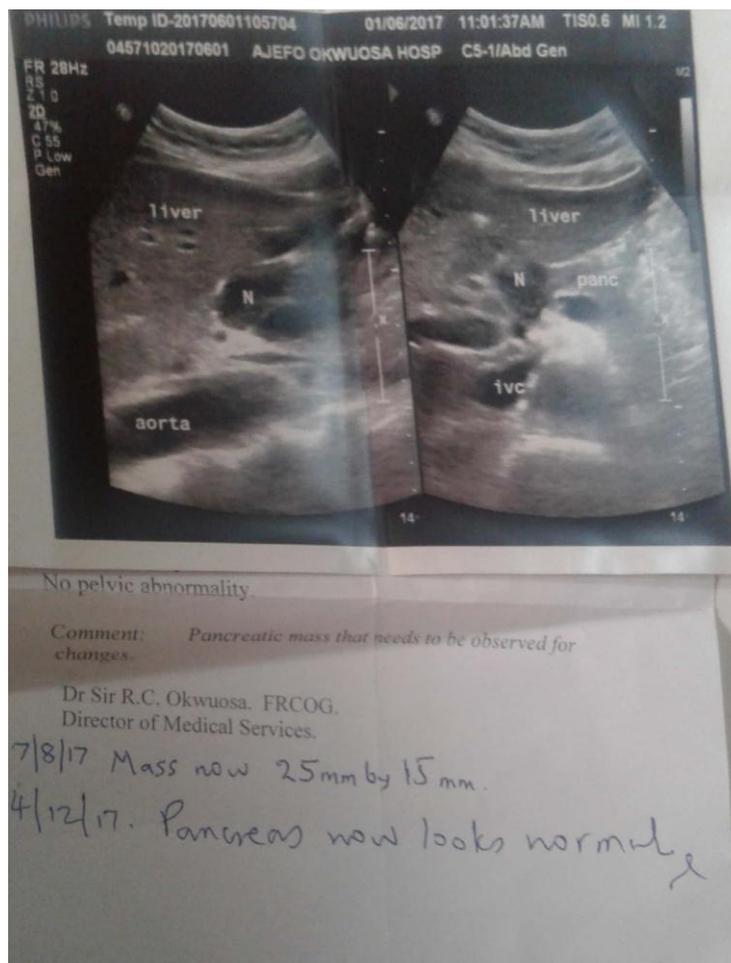
Full blood count (FBC), serum electrolytes, urea and creatinine (SEUC) and liver function test (LFT) were within normal limits (Table 1). Two-hour post-prandial glucose (2HPP) and fasting blood sugar (FBS) were impaired (Table 1).

Table. 1: Investigations.

Investigation	Results before therapy	Repeat results at the end of therapy
FBC	Hb. 11.7g/dl WBC. $4.9 \times 10^9/L$ (N-31.3%, L-59.1%, M-9.6%)	---
SEUC	Normal ranges	---
LFT	Normal ranges	---
2HPP	138mg/dl	123mg/dl
FBS	136mg/dl	100mg/dl
HBV	Negative	---
HCV HIV	Negative	---
Mantoux	11mm	---

Abdominal ultrasound scan(USS) revealed a smooth-surfaced, homogenous, hypoechoic pancreatic-neck mass

measuring 35mm×15mm, suspicious for carcinoma. Normal liver and biliary system (Figure 1).

**Figure 1: Abdominal sonography of the patient.**

Abdominal CT scan showed prominence of the body of the pancreas possibly indicative of mass lesion (?variant) with few small nodular lesions within the peri-pancreatic

and peri-portal regions suggestive of enlarged lymph nodes. Hepatomegaly was also seen (Figure 2).



Figure 2: CT of abdomen showing lesions in pancreas.

The supraclavicular lymph nodes histology revealed chronic granulomatous inflammation, likely to be TB lymphadenitis.

Chest radiograph (PA view) showed clear lung fields with no midline shift of trachea and mediastinum, normal cardiac silhouette, cardiophrenic and cardiothoracic angles, and intact thoracic cage.

Screening results for HIV, Hepatitis B and Hepatitis C viruses were negative, whereas mantoux was positive 11mm. (Table 1).

A working diagnosis of extra pulmonary TB involving the pancreas and the lymph nodes was made with advanced pancreatic carcinoma as a differential.

She was commenced on anti-Koch's therapy with an initial 2-month intensive phase, and subsequent maintenance phase. Following this regimen, there was remarkable symptomatic improvement. On account of the suspicious carcinoma, she was also reviewed by the general surgeons who investigated her and advised that the anti-Koch's therapy be continued. They also recommended a repeat of the abdominal USS since she confirmed resolution of the presenting symptoms especially the epigastric pain.

Serial abdominal USS done afterwards showed progressive resolution of pancreatic mass till complete disappearance in the 7th month of anti-Koch's therapy (Figure 5). The FBS and 2-hour postprandial glucose also reverted to their normal values (Table 1). The anti-Koch's therapy was completed and then discontinued. Patient was also noted to have returned to her normal state of apparent health.

DISCUSSION

Tuberculosis, a multisystem infectious disease, is caused by mycobacterium tuberculosis complex, most frequently

Mycobacterium tuberculosis with estimated annual incidence of 9.7 million cases. The highest incidence of infection are found in Asia, South America, eastern Europe, and most Sub-Saharan African countries.^[2] Pulmonary TB is the most common form of presentation of the disease; extrapulmonary TB (EPTB) accounts for about 20 percent of TB in immunocompetent hosts, and close to 50 percent of TB in patients with human immunodeficiency virus.^[3,4]

EPTB describes TB at sites other than the lung parenchyma, not to be confused with miliary TB which refers to pulmonary involvement with EPTB. EPTB can occur in any organ or system, the most common sites being the lymph nodes, pleura, genitourinary system, and bone.^[3,4] Abdominal TB is known to be the sixth most common site for EPTB in which anywhere in the gastrointestinal tract, peritoneum, and intra-abdominal organs can be affected.^[4] Pancreatic TB is rare, with reported less than 4.7 percent worldwide.^[5] In Nigeria, a study on abdominal TB, did not observe any pancreatic involvement.^[1] Another case reported in Zaria, Nigeria, demonstrated TB involving the pancreas and the vertebrae.^[6] With only these two reported studies and our index case, it could be affirmed that pancreatic TB is rare in Nigeria.

Isolated pancreatic TB usually occurs in the setting of miliary or widely disseminated TB, mostly in immunocompromised hosts.^[3,4,5] Infection of the pancreas can also occur by direct extension through the lymphatic or hematogenous system. It may also be by reactivation of previous TB infection.^[3,4,5] Pancreatic TB presents as abscesses, pancreatitis, gastrointestinal bleeding, and pancreatic masses which are cancer mimic.^[3,7] Diabetes mellitus and malabsorption may complicate pancreatic TB. New-onset impaired FBS and 2-hour postprandial sugar were observed in this index patient, attributable to pancreatic TB and these impaired glucoses resolved with complete course anti-Koch's

therapy, a confirmation that the pancreatic TB was the cause of the impaired glucose. CT scan and sonography showed evidence of pancreatic mass for which malignancy was suspected, consigning TB only as a differential.

The clinical features of pancreatic TB are often insidious, with nonspecific constitutional symptoms occurring frequently.^[3] According to a study by Saluja *et al.*, though some patients may have fever, gastrointestinal hemorrhage as a result of splenic vein thrombosis, and anorexia; the three most common presenting complaints in patients with pancreatic TB were abdominal pain, jaundice, and weight loss.^[8] However, our index patient had upper abdominal pain and neck mass. Pancreatic TB was considered based on a high index of suspicion, arising from the neck mass and its histology results.

When pancreatic TB is suspected, tests such as tuberculin skin testing, interferon- γ release assay for TB may be negative in the patients. With the wide-ranging sensitivities of TB screening modalities and an often non-specific and varied clinical presentation of pancreatic TB; diagnosis is mainly by radiologic and histopathologic findings. Abdominal ultrasonography or computed tomography (CT) are often first-line diagnostic modalities in patients presenting with signs of pancreatic pathology.^[3,9] Ultrasonography and CT may reveal both hypodense and hyperechoic lesions in the head of the pancreas. These findings are however nonspecific, as pancreatic adenocarcinomas, cystadenocarcinomas, and pancreatic pseudocysts often have similar appearances.^[8] Hence, histologic evaluation of the lesion is essential for diagnosis of pancreatic TB.^[10,11] Cytologic interpretation of biopsy specimens may reveal the presence of granulomatous inflammation, with the presence of aggregates of epithelioid histiocytes, plasma cells, and lymphocytes.^[7] FNA with acid fast bacilli demonstration are difficult. Farar *et al.*, in nearly 40 percent of patients with abdominal TB were not able to demonstrate presence of acid fast bacilli.^[12] Clinicians should be cognizant of the very low yield of acid fast bacilli from FNA specimens hence the need to culture the specimen for evidence of *Mycobacterium tuberculosis*.^[7,12] Bacterial culture, although requiring a prolonged incubation, has proven to be the most specific diagnostic modality to reveal pancreatic TB.^[7]

In this index patient, the diagnosis pancreatic TB was based on the neck mass, abdominal ultrasound and CT scans findings and histological features of chronic granulomatous inflammation of the supraclavicular lymph node, positive mantoux, new onset impaired FBS and 2-hour postprandial sugar and the resolution of all these clinical features with anti-Koch's therapy. The diagnosis of pancreatic TN would be elusive without a high index of suspicion occasioned by the concomitant occurrence of the supraclavicular node TB.

CONCLUSION

This case report shows a rare pancreas TB with impaired glucose and concomitant supraclavicular TB adenitis. The diagnosis of pancreatic TB would have been elusive without pancreatic histology, but for the high index of suspicion occasioned by the concomitant occurrence of the supraclavicular node TB.

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