

Case Report

Isolated Pancreatic Tuberculosis

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ABSTRACT

Tuberculosis of the pancreas is a clinical rarity and mimics pancreatic carcinoma both clinically and radiologically. A 32-year-old Somali male patient presented with history of vague abdominal pain, weight loss, anorexia and jaundice. Radiological imaging showed gall stones, dilated common bile duct (CBD) and a heterogeneous pancreatic mass. Endoscopic retrograde cholangio pancreatography (ERCP) showed marked

narrowing of the CBD with an impression of external compression. Cholecystectomy and Choledochoduodenostomy (CDD) were performed after frozen section histopathology revealed the mass to be tuberculosis. Preoperative diagnosis of pancreatic tuberculosis requires a high index of suspicion and usually its diagnosis is established after surgical treatment. The response to antituberculosis treatment is very effective.

KEYWORDS : carcinoma, pancreas, tuberculosis

INTRODUCTION

Tuberculosis is a common disease but tuberculosis of the pancreas remains a clinical rarity. However, cases are being reported with increasing frequency, perhaps because of evolutionary changes in the biology of the *Mycobacterium*, drug resistance, and new population of immunocompromised patients^{1,2,3}. Pancreatic tuberculosis is rare even in the setting of disseminated tuberculosis. Its prevalence has not increased with the advent of acquired immune deficiency syndrome (AIDS) epidemics⁴. There are only a few anecdotal case reports about isolated pancreatic tuberculosis. It may be difficult to differentiate it from carcinoma of the pancreas. We, describe a patient with primary pancreatic tuberculosis who presented with obstructive jaundice and was diagnosed intra-operatively by frozen section histopathology.

CASE REPORT

A 32-year-old male Somali patient presented with yellowish discoloration of eyes and urine for the last one month. He also gave history of mild pain off and on in the right hypochondrium associated with anorexia. He denied history of pulmonary or gastrointestinal tuberculosis. His general physical examination was unremarkable except for the presence of icterus. Stigmata of hepatic insufficiency were not seen. Other systems were normal. His haemoglobin was 141 g/L; white blood cell count 8×10^9 /L and erythrocyte sedimentation rate (ESR) 2 mm in the first hour. His liver function tests showed total bilirubin of

143.1 $\mu\text{mol/L}$ (direct 87.9 $\mu\text{mol/L}$), total protein 79 g/L, albumin 38 g/L, alkaline phosphatase (ALP) 949 IU/L, gamma-glutamyl transpeptidase (GT) 592 IU/L, alanine transaminase (ALT) 292 IU/L, aspartate transaminase (AST) 252 IU/L. Urine showed presence of ketones and bilirubin. Kidney function tests, X-ray chest, coagulogram and tumor markers (CEA, CA 19 - 9) were normal.

Ultrasonography showed multiple gallstones, dilated common bile duct and a hypoechoic mass in the region of the body and head of pancreas with no evidence of ascites or intra-abdominal lymphadenopathy. Endoscopic retrograde cholangio-pancreatography (ERCP) showed gallstones and markedly narrowed common bile duct with the impression of having been compressed externally below the cystic duct junction. The pancreatic duct was normal (Fig. 1). Double contrast CT scan of the abdomen also revealed a heterogeneous mass in the head and body of pancreas with no evidence of ascites or lymphadenopathy (Fig. 2). Fine needle aspiration cytology (FNAC) and purified protein derivative (PPD) tests were not undertaken preoperatively.

An exploratory laparotomy revealed gall stones, dilated common bile duct (CBD) and a large firm mass in the head and body of pancreas with few retro-duodenal and supra-duodenal lymph nodes which were continuous with the pancreatic mass. Frozen section histopathology of the pancreas and lymph node mass revealed a caseating granulomatous inflammation of possible tuberculous etiology. Cholecystectomy and choledochoduodenostomy were performed. Final histopathology was consistent with pancreatic tuberculosis. Acid-fast

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Fig. 1: Pre-operative ERCP showing gallstones, narrowing of the CBD with external compression, and normal pancreatic duct

bacilli (AFB) were not detected on a specially stained specimen. He received rifampicin, isoniazid, ethambutol and pyrazinamide as short-term chemotherapy. On his last follow up at four years, he was asymptomatic, had gained weight and a repeat CT scan showed resolution of the mass lesion in the pancreas (Fig. 3).

DISCUSSION

Abdominal tuberculosis in its diverse forms still affects the indigenous as well as expatriate population of Kuwait^[5]. Auerbach^[6] reported pancreatic involvement in 4.7% of autopsy cases of miliary tuberculosis^[5]. It has also been estimated that 3.6% AIDS patients develop tuberculosis with extra-pulmonary lesions in as many as 76% cases^[7,8]. The pancreas is biologically protected from infection by *Mycobacterium tuberculosis*, probably because of the presence of pancreatic enzymes that interfere with its seeding. However, when pathogens are able to overcome the resistance, they can have diverse presentations^[4].

The pathogenesis of pancreatic tuberculosis is not well known. It has been suggested that the organisms reach the pancreas by lympho-



Fig. 2: Double contrast CT scan of abdomen showing a heterogenous mass in the head and body of the pancreas



Fig. 3: Follow-up CT Scan four years later showing total resolution of the lesion in pancreas

haematogenous dissemination possibly from a small undetected or reactivated primary or secondary tuberculous lesion. The primary lesion may well be intestinal with spread to the pancreas from involved retroperitoneal lymphnodes^[9]. Others argue that pancreas could become involved by toxic-allergic reaction in response to tuberculosis elsewhere^[10]. However, there is little in the literature to support this view^[3,9].

The diagnosis of pancreatic tuberculosis can be missed or significantly delayed as it is often not suspected prior to laparotomy, unless there is evidence of pulmonary tuberculosis or tuberculosis elsewhere in the body. Pancreatic tuberculosis may present with varying signs and symptoms. These include: upper abdominal pain, obstructive jaundice mimicking pancreatic malignancy, acute pancreatitis, pancreatic abscess refractory to antibiotics, mass lesion, pyrexia of unknown origin, splenic vein thrombosis, chronic pancreatitis and non specific symptoms with weight loss^[2-6, 11-13].

Routine investigations are not of much help in the diagnosis. Haemogram, sputum examinations and chest X-ray were normal in our case. Ultrasonography, CT and ERCP can detect the presence of a mass lesion in the pancreas but are unable to establish a precise diagnosis and exclude malignancy. The exact diagnosis is often not possible even at surgery^[3,11]. In our patient, the diagnosis was made by an intra-operative histological examination of the frozen section biopsy. However, once the diagnosis of pancreatic tuberculosis is made, pre or intraoperatively, the treatment by standard antituberculous chemotherapy is highly successful^[2,3]. The diagnosis of pancreatic tuberculosis requires a high index of suspicion. Then ultrasound or CT guided FNAC may help in the diagnosis. Even if the initial microbiological results are negative, conventional techniques and polymerase chain reaction(PCR) may yield rapid results and thus avoid an unnecessary laparotomy^[15].

Our patient fulfilled all the criteria except one for the diagnosis of primary pancreatic tuberculosis^[16] like in the case of Varshney and Johnson^[3]. This patient denied a history of tuberculosis, had localized disease, a normal chest X - ray, no other detectable foci of tuberculosis and a positive histological diagnosis. *Mycobacterium tuberculosis* could not be seen in stained specimen and culture of the pancreatic tissue was not performed.

Even in a non-endemic region like Kuwait, pancreatic tuberculosis should be considered in the differential diagnosis of a mass in the head of pancreas causing obstructive jaundice.

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