Case Report

Isolated pancreatic tuberculosis with peri - pancreatic lymph nodes in an immunocompetent individual mimicking pancreatic neoplasm - A case report

Jeyanthi G[1*], Paribalaji G[2], Sivagami M[3]

{[1]Assistant Professor, 3Associate Professor, Department of Pathology} {[2]Assistant Surgeon, Department of Gastroentrology}
Madurai Medical College, Madurai, Tamil Nadu, INDIA.
Email: ajmathura@gmail.com

Abstract

Isolated pancreatic tuberculosis is an extremely rare entity, despite the high prevalence of tuberculosis worldwide. As the pancreas is protected from direct environmental exposure, most cases of pancreatic tuberculosis are caused by contiguous spread of infection from peri – pancreatic lymph nodes or rarely by haematogenous spread. Pancreatic tuberculosis can present as a cystic or solid mass mimicking pancreatic malignancy. Here, we present the case of a 22 year old immunocompetent male who presented with a mass in the head of pancreas with peri - pancreatic lymph nodes for which Endoscopic Ultrasound biopsy was done to rule out malignancy. Histopathologically, it was proven to be a case of isolated pancreatic tuberculosis with tuberculous lymphadenitis. The diagnosis was confirmed by stain for Acid-Fast bacilli.

Key Word: Pancreas, Tuberculosis, Acid-Fast Bacilli (AFB)

[*]**Address for Correspondence:**
Dr. Jeyanthi G, Assistant Professor, Department of Pathology, Madurai Medical College, Madurai, Tamil Nadu, INDIA.
Email: ajmathura@gmail.com
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INTRODUCTION

Similar to other infectious diseases affecting pancreas, tuberculosis of pancreas is uncommon. The disease primarily involves peri – pancreatic lymph nodes but may extend into the pancreatic parenchyma. Tuberculosis of pancreas is an extremely rare clinical entity and may mimic pancreatic carcinoma in most cases. Diagnosis is made by histopathological examination and applying special stains for AFB. Herein, we diagnosed isolated primary pancreatic tuberculosis with peri – pancreatic lymph node involvement in an otherwise healthy young adult.

CASE REPORT

A 22-year-old man was referred to surgical ward who was a native of Madurai in Tamilnadu. He was admitted with complaints of fever and epigastric pain not related to meals. There was no history of pulmonary TB and physical examination was unremarkable. Laboratory evaluation revealed an elevation of Erythrocytes sedimentation rate (70mm/hr). Liver and renal function tests were within normal limits. He tested negative for Human Immunodeficiency Virus. Chest radiography showed no abnormalities. Ultrasound of the Abdomen revealed a mass in the region of head of pancreas. Abdominal computed tomography with contrast showed a heterogeneous mass with peri - pancreatic lymph node enlargement. (Figure 1)

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Figure 1

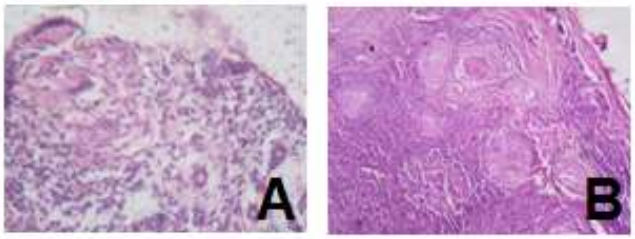

Figure 2

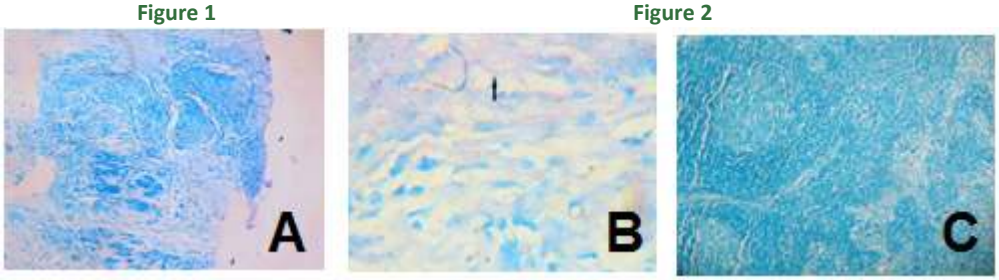

Figure 3

Legend

Figure 1: Abdominal CT scan showing mass in the head of the pancreas with peri - pancreatic lymph node enlargement.

Figure 2: Microscopic sections showing pancreatic parenchyma with multiple granulomas composed of epithelioid cells, Langhan's giant cells, lymphocytes and plasma cells (H and E stain,40x). Lymphnode shows multiple epithelioid granulomas. (H and E stain,10x).

Figure 3: A-C Acid-fast stains.A and B.Gram stain shows slender,poorly stained gram positive bacilli in pancreatic granuloma (10x,40x).C.Gram stain negative for AFB in lymphnode (10x).

The patient was referred for Endoscopic Ultra Sound (EUS) biopsy from the mass and lymph nodes to rule out malignancy. We received the biopsy specimen as multiple small soft tissue pieces preserved in formalin fixative. On microscopic examination, sections from the pancreatic mass showed pancreatic parenchyma with multiple granulomas composed of epithelioid cells, Langhan's giant cells,lymphocytes and plasma cells. Caseation necrosis was seen. Sections studied from the lymph nodes showed structure of lymphnode with multiple caseating granulomas. (Figure 2) Based on these histopathological findings, a diagnosis of pancreatic tuberculosis was made. The diagnosis was confirmed by using special stain (Ziehl – Neelsen Technique)for AFB and was positive from pancreatic mass. The Lymphnodes were negative for AFB. The patient was treated with ATT.

DISCUSSION

Tuberculosis is an endemic infectious disease in the developing world, with an estimated 9.7million cases reported annually.[1] Pancreatic involvement is reported in less than 5% of cases and it often occurs in disseminated TB and immunodeficiency state.[2,3] Our patient was immunocompetent. Isolated pancreatic TB is extremely rare with an incidence reported to be less than 4.5% worldwide[3]. In a study from India, post mortem analysis of 300 patients with military tuberculosis over a period of 12 years did not reveal a single patient with pancreatic involvement. Isolated pancreatic involvement in the absence of military tuberculosis is even more rare.[4] Pancreatic TB may present as pancreatic abscesses, acute and chronic pancreatitis, gastrointestinal bleeding and in rare cases, discrete pancreatic masses mimicking malignancy[5]. The diagnosis of pancreatic TB is a real challenge. USG reveals focal hypoechoic lesions or cystic lesion of the pancreas [6]. Findings on CT scan include hypodense lesions and irregular borders mostly in the head of pancreas, diffuse enlargement of the pancreas, or enlarged peri - pancreatic lymph nodes [7].Pre operative Fine Needle Aspiration Cytology (FNAC) and tissue biopsy help avoid unnecessary surgical interventions. In a recent randomised controlled study, it was observed that EUS – guided biopsy and CT or US –guided biopsy are needed for determination of pancreatic mass etiology [8]. In our case, the EUS - guided biopsy we received, served our purpose well.

Intra - pancreatic tuberculosis manifests as a tumefactive mass.Biopsy of peripancreatic lymphnodes and pancreas itself reveals necrotising or non necrotising granulomatous inflmmation[10]. In our case, pancreas and peripancreatic lymphnodes showed multiple non - necrotising granulomas. Documentation of the presence of Acid fast bacilli positive culture or polymerase Chain Reaction (PCR) testing is necessary to confirm a diagnosis of mycobacterial infection [9].In our case, histopathologic sections showed Acid fast bacilli.In gram stain,mycobacteria usually appear as slender,poorly stained,beeded,gram positive bacilli. Sometimes they

appear as " gram neutral' or "gram-ghosts", by failing to take up either crystal violet or safranin.[10]The differential diagnosis of granulomatous inflammation in the pancreas include sarcoidosis (a disease that may also present as a tumefactive lesion), chrons disease and Type 2 Auto Immune Pancreatitis (AIP)[9].

CONCLUSION

Isolated pancreatic TB is an exceedingly rare entity requiring a high index of suspicion for diagnosis in immunocompetent individuals. Pancreatic TB should be always be in the list of differential diagnosis in a patient with pancreatic mass, especially in the developing countries. Utilization of EUS biopsy might aid in differentiating this benign lesion from pancreatic neoplasms. Histopathological examination and staining for Acid Fast Bacilli can be confirmatory. As pancreatic TB is responsive to ATT, every effort should be made arrive at an early diagnosis so as to avoid unnecessary interventions including laparotomy.

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