



RESEARCH ARTICLE

PANCREATIC TUBERCULOSIS MIMICKING PANCREATIC CANCER: CASE REPORT.

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Abstract

Background: Pancreatic tuberculosis is rare. The clinical presentation is vague, and the radiological examination can mimic pancreatic cancer. However, ultrasound- or CT-guided fine-needle aspiration cytology or biopsy is essential for confirming the diagnosis. Bacteriological examination can also be used. Laparotomy may be performed if other investigations are inconclusive.

Case presentation: We report the case of pancreatic tuberculosis in a 44 years old female patient who has undergone a cephalic duodeno-pancreatectomy since the clinical and radiological features were highly suggestive of malignancy.

Conclusion: Our work highlights the importance of preoperative diagnosis of this treatable disease, in order to avoid unnecessary heavy surgery.

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Introduction:

Tuberculosis reaches one-third of the world's population, the lung is the most affected organ. Pancreatic involvement is rare. It can mimic cancer given the radiological aspect and the non-specific clinical presentation. Therefore, the diagnosis of pancreatic tuberculosis is very difficult, especially in the absence of obvious pulmonary involvement and a negative skin test.

Ultrasound-guided fine-needle aspiration cytology must be performed to confirm the diagnosis so as to avoid an abusive laparotomy.

Case report

A 44-year-old woman, with history of a bilateral Uveitis, under local treatment, operated 4 years ago for umbilical hernia, and has undergone a cholecystectomy 4 years ago. Two months prior to her consultation, she presented atypical epigastralgia associated with pain of the right hypochondrium, without vomiting, gastrointestinal bleeding or jaundice. The clinical examination was apparently normal. Her blood pressure was 130/80 mmHg, heart rate was at 78 beats /min, and her temperature 37°C. No hepatosplenomegaly, palpable mass or peripheral lymphadenopathy were found. Liver and renal function tests and haematological investigations were normal. CT scan of abdomen and magnetic resonance imaging identified a tissular process of the head of pancreas measuring 25x20 mm with heterogeneous enhancement and without dilation of the bile ducts or main pancreatic duct. Endoscopic ultrasound (EUS) revealed a hypoechoic and heterogeneous mass of the head of pancreas measuring 20 mm, involving the hepatic artery and having intimate contact with the portal vein. A suspicious lymph node of the hepatic hilum was

observed. Fine-needle aspiration cytology (FNA) was not made, since it was difficult to perform. As this findings were highly suggestive of pancreatic cancer, an exploratory laparotomy was scheduled. Cephalic duodeno-pancreatectomy with celiac and retro-portal lymph node dissection was done.

Gross examination of the resection specimen confirmed the presence of a firm mass of the pancreatic head, measuring 30x20x15mm, without dilation of biliary or pancreatic ducts.

Histology showed inflammatory pancreatic tissue with granulomas with presence of Langhans giant cells without obvious caseating necrosis. Granulomas were also found on retro-portal lymph nodes, and presented a caseating necrosis on this location. An immunohistochemical complement by the CD 68 was performed showing an intense labeling of the histiocytic cells. Zeil Nielson (ZN) staining was negative. Postoperatively, an Interferon Gamma Release Assays were performed with positif results. A diagnosis of isolated pancreatic tuberculosis was established. Anti-tuberculous therapy (ATT) was initiated and the patient is well at 6 months.

Discussion and conclusions:

In developing countries, tuberculosis (TB) is a real health problem [1]. Even in endemic areas, Pancreatic TB is uncommon [2]. In a series of 300 cases with abdominal TB, no case of pancreatic tuberculosis has been reported [3]. Among 62 cases of pancreatic tuberculosis reported in a recent review, 23% were HIV positive [4].

The vast majority of pancreatic tuberculosis mimic malignancy [5] [6], although tuberculosis isn't commonly evoked as differential diagnosis of pancreatic masses. However, these patients should not be mismanaged or misdiagnosed because they respond very well to anti-tuberculous therapy.

The clinical presentation is usually non-specific, and may include fever, abdominal pain, weight loss and anorexia [1]. Most patients are between 20 to 30 years old [7]. The majority of cases have not other forms of tuberculosis. Clinical examination is usually normal. Despite all radiological techniques, the distinction between malignancy and pancreatic tuberculosis is difficult.

Usually, CT findings show diffuse enlargement of the pancreas, hypodense lesions with irregular borders [8]. Magnetic resonance imaging (MRI) shows well-defined mass usually located in the head of the pancreas, presenting heterogeneous enhancement. On T2-weighted images these lesions are hypo and hyperintense, but on fat-suppressed T1-weighted images they are characteristically hypointense[9]. The presence or absence of pancreatic ducts dilation is a major distinctive feature between pancreatic tuberculosis and malignancy. They are usually dilated in cases of centrally located malignant tumors, whereas, they appear normal in cases of tuberculosis [9].

Endoscopic retrograde cholangio-pancreatography is rarely helpful, although some cases were diagnosed with biliary cytology [10]. Indeed, USE or CT guided Fine-needle aspiration cytology (FNA) may confirm the diagnosis [11], thus avoiding an abusive laparotomy [12]. However, when biopsy or FNA was non contributive, surgery will be performed [13].

Histological findings show caseating granulomatous inflammation [14]. Zeil Nielson (ZN) staining may help identify acid-fast bacilli [12]. Bacteriological examination may also be used; however, it may not be possible in many cases [15].

Polymerase chain reaction (PCR) is a recent diagnostic test often used to detect mycobacterium tuberculosis DNA and has a sensitivity of 64% [16].

The correlation between histological findings, microbiologic examination and PCR assay is the key to diagnosis pancreatic tuberculosis [17].

After confirmation of diagnosis, anti-tuberculous therapy must be quickly started for 6 to 12 months [2]. Close monitoring for these patients is necessary in order to eliminate the possibility of association with pancreatic cancer, especially in endemic countries.

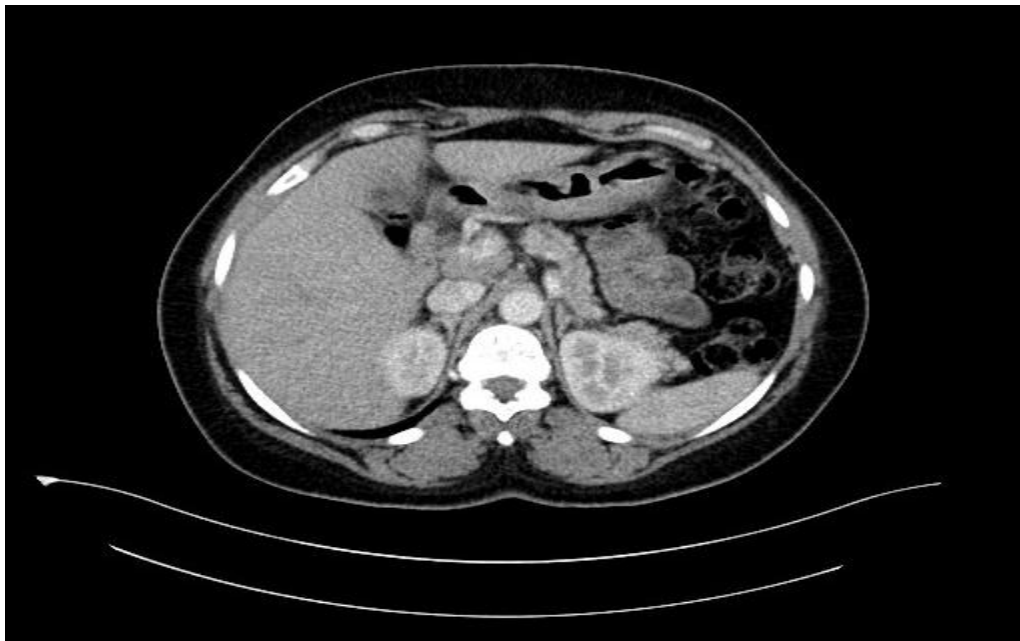


Figure 1:-CT scan showing a tissular process of the head of pancreas measuring 25x20 mm.

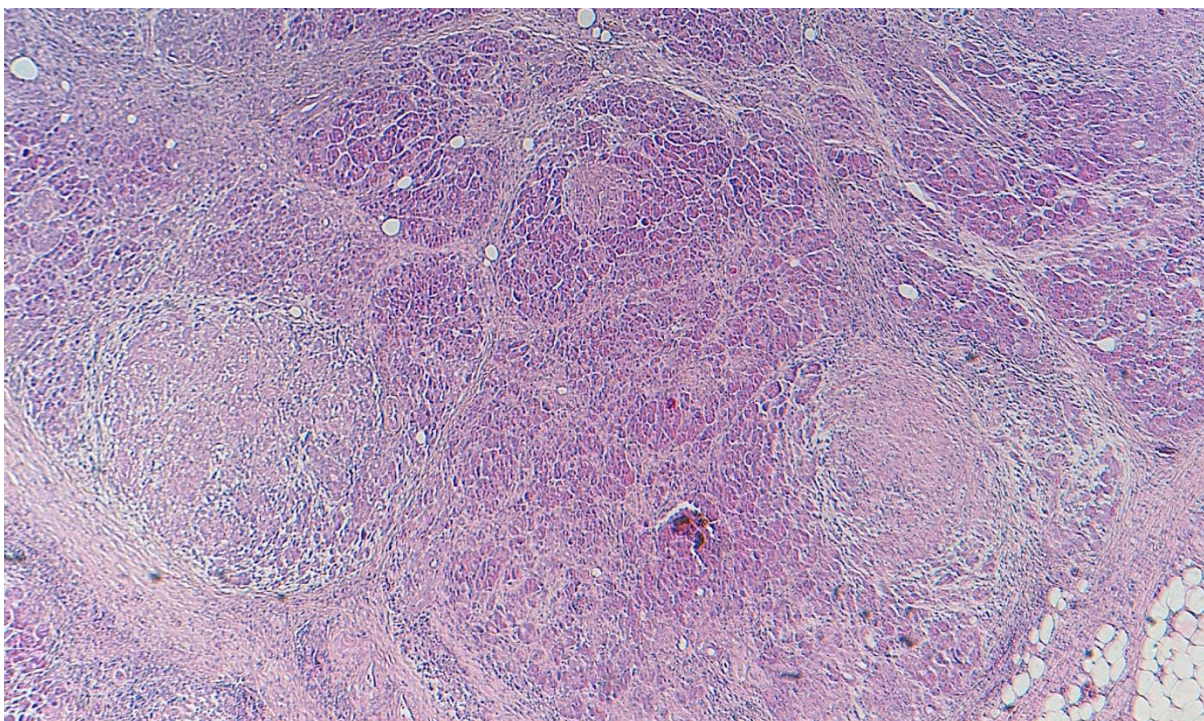


Figure 2:-Low magnification micrograph showing pancreatic tissue with numerous epithelioid and giant cell granulomas.

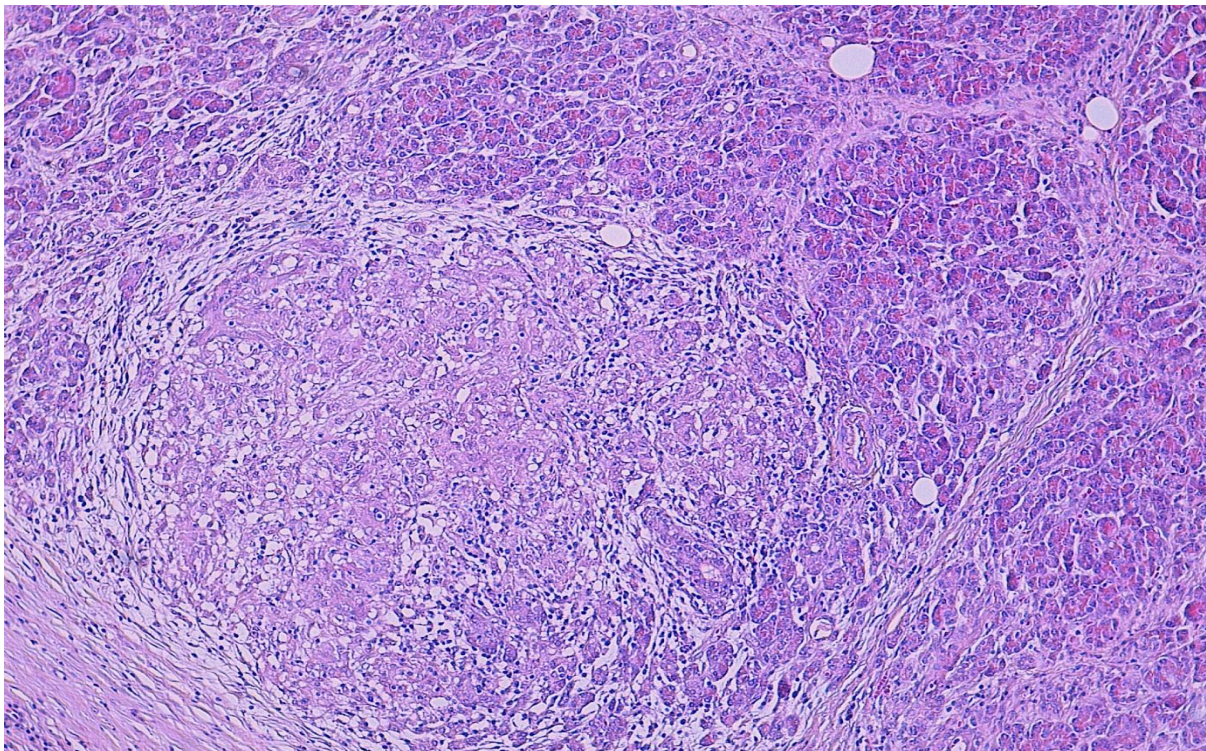


Figure 3:-High magnification micrograph showing pancreatic tissue with epithelioid and giant cell granuloma.

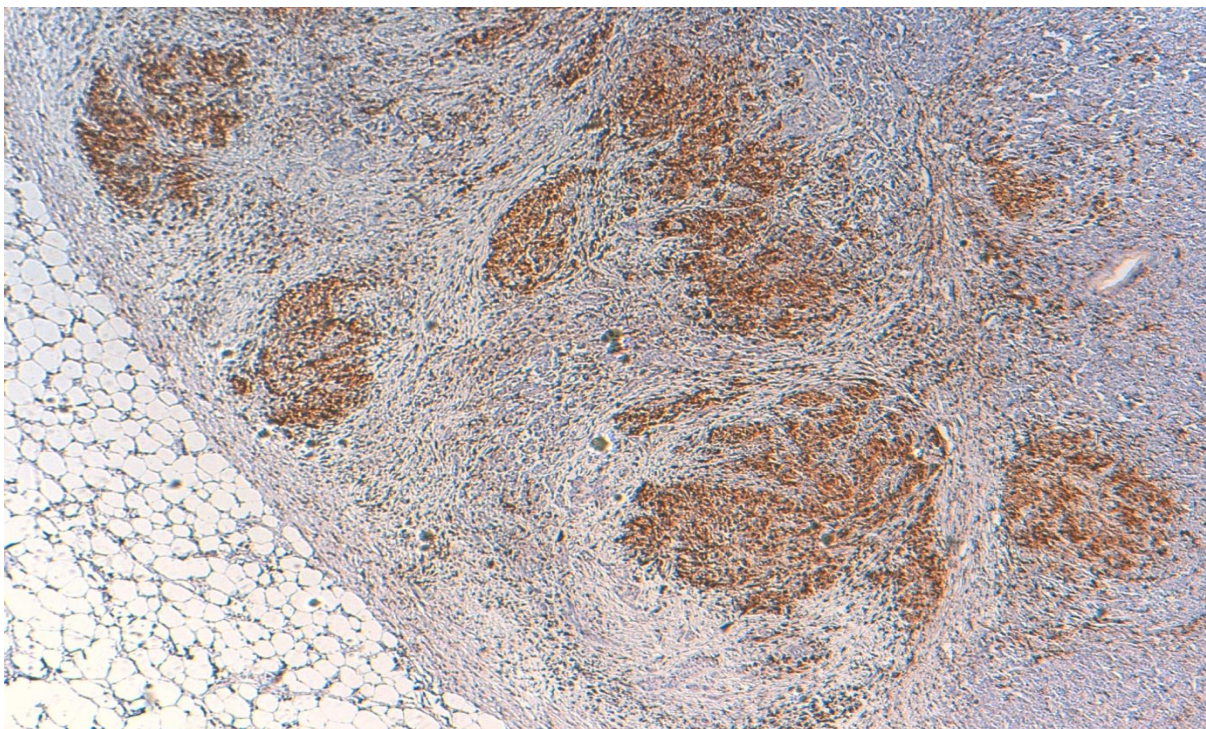


Figure 4:-Micrograph showing positive staining with CD68 of histiocytic cells of the granuloma.

References:-

1. Ladas SD, Vaidakis E, Lariou C et al. Pancreatic tuberculosis in non-immunocompromised patients : reports of two cases and a literature review. *Eur J Gastroenterol Hepatol* 1998 ; 10 :973-976.
2. Chatterjee S, Schmid ML, Anderson K, Oppong KW. Tuberculosis and the Pancreas : A Diagnostic Challenge solved by Endoscopic Ultrasound. A Case Series. *J Gastrointest Liver Dis* 2012 ; 21 :105-107.
3. Bhansali SK. Abdominal tuberculosis. Experiences with 300 cases. *Am J Gastroenterol* 1977; 67: 324 – 327.
4. Chaudhary A, Negi SS, Sachdev AK, Gondal R. Pancreatic tuberculosis: still a histopathological diagnosis. *Dig Surg* 2002; 19: 389 – 392.
5. Murphy TF, Gray GF. Biliary tract obstruction due to tuberculosis adenitis. *Am J Med* 1980; 68 :452-454.
6. Crowson MC, Perry M, Burden E. Tuberculosis of the pancreas : a rare cause of obstructive jaundice. *Br J Surg* 1984 ; 71 :239.
7. Deepak A. Pancreatic tuberculosis- not cancer. *Infect Med* 2002;19 :12.
8. Rana SS, Bhasin DK, Rao C, Singh K. Isolated pancreatic tuberculosis mimicking focal pancreatitis and causing segmental portal hypertension. *JOP* 2010;11:393 -395
9. De Backer AI, Mortelet KJ, Bomans P, De Keulenaer BL, Vanschoubroeck IJ, Kockx MM. Tuberculosis of the pancreas: MRI features. *AJR Am J Roentgenol* 2005;184: 50- 54.
10. Sachdev A, D'Cruz S, Chauhan S, Thakur R, Kapoor V, Handa U. Pancreaticobiliary tuberculosis diagnosed by endoscopic brushings. *JOP* 2006; 7: 655 – 659.
11. Lo SF, Ahchong AK, Tang CN, Yip AW. Pancreatic tuberculosis: case report and review of the literature. *J R Coll Surg Edinb* 1998 ; 43 :65-8.
12. Takhtani D, Gupta S, Suman K et al. Radiology of pancreatic tuberculosis : a report of three cases. *Am J Gastroenterol* 1996 ; 91 :1832-4.
13. Desai DC, Swaroop VS, Mohandas KM and al. Tuberculosis of the pancreas : report of three cases. *Am J Gastroenterol* 1991 ; 86 :761-3.
14. Brusko G, Melvin WS, Fromkes JJ, Ellison ES. Pancreatic tuberculosis. *Am Surg* 1995 ; 61 :513-5.
15. Glassroth J, Robins AG, Snider DE Jr. Tuberculosis in the 1980s. *N Engl J Med* 1980 ; 302 : 1441-50.
16. Gan HT, Chen YQ, Ouyang Q, Bu H, Yang XY. Differentiation between intestinal tuberculosis and Crohn's disease in endoscopic biopsy specimens by polymerase chain reaction. *Am J Gastroenterol* 2002;97: 1446 – 1451.
17. Song TJ, Lee SS, Park do H, et al. Yield of EUS-guided FNA on the diagnosis of pancreatic/peripancreatic tuberculosis. *Gastrointest Endosc* 2009; 69: 484- 491.