

### Pancreatic tuberculosis: an uncommon cause of obstructive jaundice

Haider Ali Khan, Tayyab Saeed Akhtar, Muhammad Umar, Hamama- tul- Bushra

Department of Gastroenterology, Holy Family Hospital, Rawalpindi, Pakistan

#### ABSTRACT

We present a 45 year old female who came with obstructive jaundice. Abdominal Ultrasound and CT scan showed an ill defined hypodense lesion, measuring 3.6x3.7 cm in the pancreatic head. On EUS examination, a mass was detected in pancreatic head and FNA from pancreatic head and body showed pyogenic abscess where as the

lymph node showed reactive changes. Histopathology of lymph node showed tuberculous lymphadenitis. Patient was given a standard anti tuberculous therapy with good clinical improvement. (Rawal Med J 2014;39:224-224-227 ).

**Key words:** Pancreatic tuberculosis, lymphadenitis, pancreatic mass.

#### INTRODUCTION

Tuberculosis (TB) is a global disease but its incidence is very high in the developing countries, especially in immuno compromised patients.<sup>1</sup> Pancreatic TB is a rare entity,<sup>2</sup> the symptoms are also very diverse and the radiological findings are easily confused with malignancy making the diagnosis more difficult. We report a case of pancreatic tuberculosis presenting with obstructive jaundice and on CT scan was initially labeled as cancer head of pancreas. We confirmed the diagnosis by of endoscopic ultrasound (EUS) guided fine needle aspiration (FNA) and biopsy.

#### CASE PRESENTATION

A 45 year old female patient presented with two month history of yellow discoloration of sclera, dark urine, clay colored stools and intense itching. She had significant weightloss. There was no history of fever, sweats, pain or any other relevant symptoms. Her past medical history was unremarkable. There was no history of TB contact. On physical examination, she was a thin lady with jaundice. The complete blood picture was as follows; Hb: 11.2 g/dl, TLC 12,000 (N 65%, L 45%) and platelet count was 1,75,000/mm<sup>3</sup>. Tuberculin test is not part of our testing strategies for TB as almost all the population is BCG vaccinated. Her bilirubin was 5.8mg/dl, ALT 68u/l and Alkaline Phosphatase 3800u/l. Abdominal Ultrasound showed diffusely enlarged pancreatic head, slightly prominent pancreatic duct, 7mm CBD and intrahepatic biliary channels. Gall

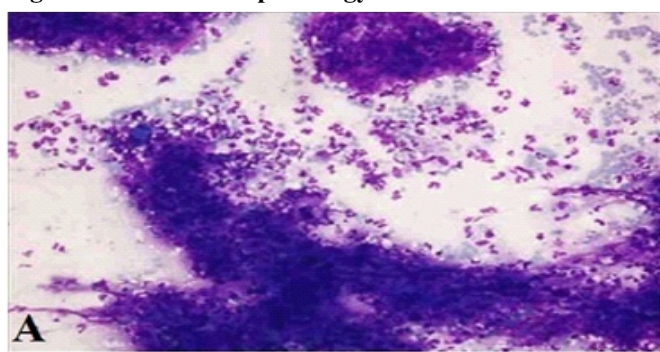
Bladder was normal. Abdominal CT showed ill defined hypodense lesion, measuring 3.6x3.7 cm in the pancreatic head with post contrast enhancement (Fig. 1). CA 19-9 was 318.13U/ml (normal up to 37 U/ml). She was suspected as a case of Cancer of pancreatic head and was referred to our hospital for ERCP. ERCP showed a swollen papillae stricture at lower end of common bile duct. After standard papillotomy, balloon sweep was performed which was inconclusive. Normal flow of bile was established.



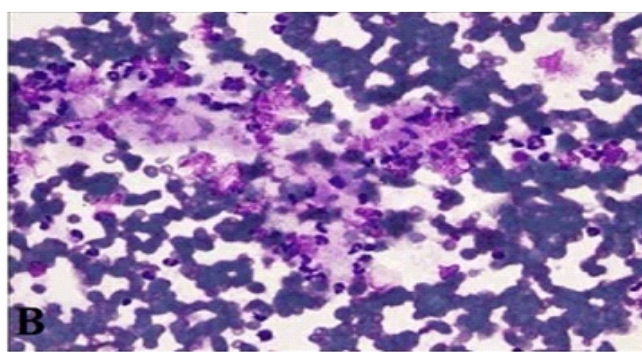
**Fig. 1. CT scan showing pancreatic mass.**

On EUS examination, a 3.1 x 3 cm mass was detected in pancreatic head which was vascularized without clear boundaries. CBD was around 6-7 cm and pancreatic duct (PD) was not visualized. Portal vein was also normal and small sub-centimetric mediastinal lymph nodes were noted. FNA samples were taken from the mass as well as from the lymph nodes.

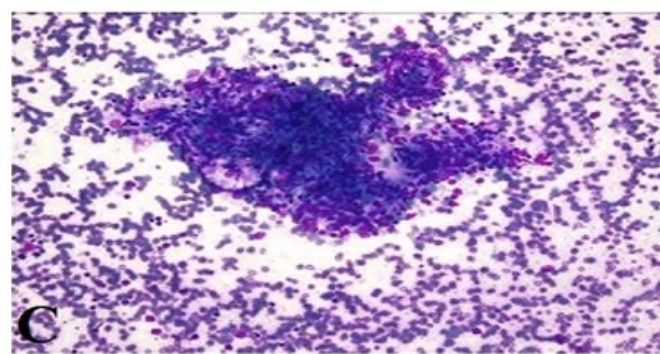
**Fig. 2. FNAC and histopathology.**



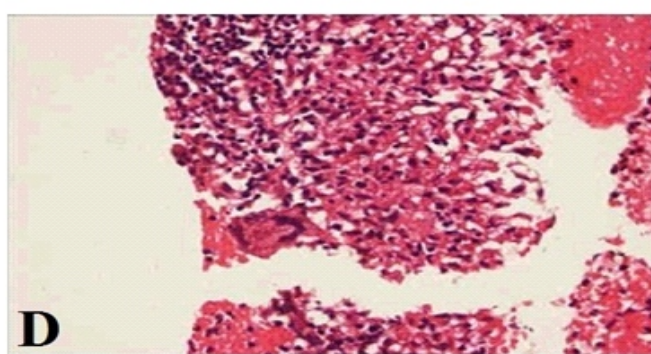
**FNAC from Pancreatic Head**



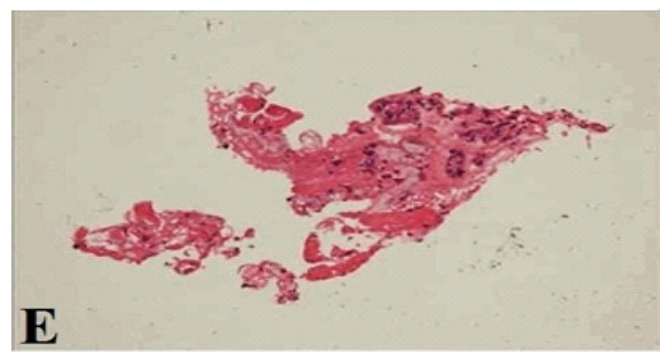
**FNAC from Pancreatic Body**



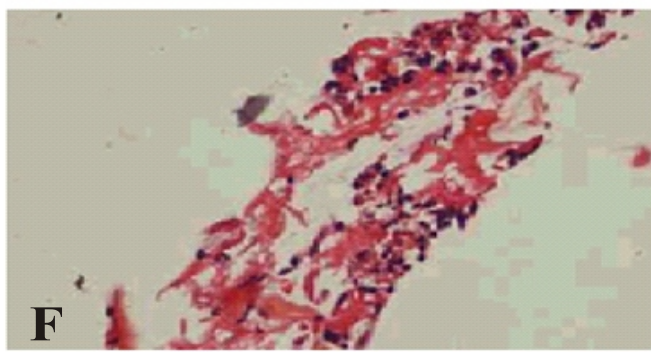
**FNAC from Lymph Node**



**Histopathology from pancreatic head**



**Histopathology from Pancreatic Body**



**Histopathology from Lymph Node**

**SPECIMEN: FNA FROM PANCREAS HEAD, BODY & LYMPH NODE:**

A & B): Cytological examination from pancreatic head and body reveal blood, pus cells, lymphocytes, inflamed granulation tissue and degenerated cells. No epithelioid cells and no malignant cells are seen. C): Cytological examination from lymph node reveals blood, mixed population of benign lymphoid cells and degenerate cells. No epithelioid cells and no malignant cells are seen.

**SPECIMEN: NEEDLE CORE TISSUE OF PANCREATIC HEAD, BODY & LYMPH NODE:**

D: Histological examination shows blood clot and few benign mucin secreting glands. E): Section reveals lymph node with scattered epithelioid cells forming granulomas. F): Section reveals some benign broken epithelial cells. No malignancy is seen in any of the sections examined.

H & E staining x 40 magnification.



FNA cytology from pancreatic head and body showed pyogenic abscess where as the lymph node showed reactive changes (Fig. 2). Histopathology from pancreatic head and body showed benign mucin secreting glands and epithelial cells where as the lymph node showed tuberculous lymphadenitis (Fig. 2).

Patient was given a standard 5 drug anti tuberculous therapy (ATT) for two months followed by 4 drug ATT for 7 months. After one month of treatment, she showed good clinical improvement and jaundice resolved. She gained about 7 kg weight. Follow up LFTs were also improved and a repeat ultrasound abdomen show eda decrease in size of pancreatic massat 0.5-1.0 cm.

## DISCUSSION

Discovered in 1882, TB is a worldwide pandemic affecting about 10 million people every year.<sup>1</sup> In 2010, according to a WHO report, 0.413 million patients have been registered with tuberculosis in Pakistan, making it the 6<sup>th</sup> top rated TB country in the world.<sup>2</sup> Data from Pakistan are also now available with of pancreatic TB with obstructive jaundice mimicking a pancreatic malignancy.<sup>3</sup> Pancreatic TB is a rare entity and the worldwide reported incidence is believed to be around 4.7percent per year.<sup>4</sup>

Extrapulmonary TB is responsible for 20% of all cases of TB and abdominal TB comprising the GI tract, abdominal viscera and peritoneum is the sixth most common location of extrapulmonary TB.<sup>5</sup> It is usually involved due to direct extension, dissemination via lymphatic or hematogenous route, or after reactivation of previous abdominal TB. Peripancreatic lymph nodes are characteristically involved with pancreatic TB with mesenteric, celiac, and portahepat is being other preferred sites.<sup>6</sup>

Pancreatic TB can present as pancreatic abscess, pancreatitis (acute or chronic) with pseudocysts, pancreatic masses (cystic or solid) or retroperitoneal tumors being more common.<sup>7</sup> The percentages of presenting symptoms are 75% (abdominal pain), 69% (anorexia/weight loss), 64% (malaise/weakness), 50% (fever and night sweats), 38% (back pain) and 31% (jaundice). A high index

of suspicion for pancreatic TB is required in a young patient presenting with fever, abdominal pain and a cystic pancreatic mass in imaging.<sup>8</sup>

The imaging modalities most commonly used consist of abdominal ultrasound, CT scan and EUS, which most frequently shows a multi cystic or focal hypodense masses (necrotic tissues) and heterogenous hyperechoic regions (pancreatic tissue with granulation tissue).<sup>9</sup> These lesions are typically found in head of pancreas or diffuse enlargement of the pancreas. The hypodense regions represent necrotic tissue and hyperechoic regions. None of these findings are pathognomonic, as similar appearances are seen with pancreatic adenocarcinomas, cystadenocarcinomas, and pancreatic pseudocysts.<sup>10</sup> Cystic neoplasm of the pancreas and pancreatic TB abscess formation, both present as septated masses with surrounding hypodense lymphadenopathy.<sup>11</sup> With regards to abdominal lymph nodes, tuberculous involvement should be suspected if ring enhancement or low-density areas are found within enlarged lymph nodes reflecting peripheral active inflammation with central caseation.<sup>12</sup>

Surgical biopsy of pancreatic tissue or involved lymphnodes is done via open laparotomy or laparoscopy but acid fast bacilli are identified in 20-40% of cases only and culture results are positive in 77% of cases even when intra operative specimen are sent for direct smear and culture.<sup>13</sup> Percutaneous (US/CT-guided) biopsy is another technique but false-negative FNA via this method is reported to be around 58%.<sup>14</sup>

Accuracy of EUS-FNA in pancreatic/peripancreatic TB to be around 75%.<sup>15</sup> In another study, sensitivity, specificity, PPV and NPV for diagnosing tuberculosis via EUS-FNA were 97.1%, 100%, 100% and 96.9%, respectively with EUS-FNA provided an overall diagnosis in 92.4% cases.<sup>16</sup> There is a low yield of FNA specimens for identification of acid fast bacilli and bacterial culture despite a prolonged incubation is most specific diagnostic test for diagnosis of pancreatic TB.<sup>17</sup> Polymerase chain reaction (PCR) assay is now being increasingly used to detect *Mycobacterium* TB and has a sensitivity of 64%.<sup>18</sup> It is usually recommended to submit samples for cytology,

histology along with aspirate for microbiology (ZN staining, AFB culture) and PCR assay in all cases of suspected pancreatic TB.<sup>19</sup>

#### Author contributions:

Conception and design: Muhammad Umar  
Collection and assembly of data: Tayyab  
Analysis and interpretation of the data: Haider  
Drafting of the article: Haider  
Critical revision of the article for important intellectual content: Hamama-tul-Bushra  
Final approval and guarantor of the article: Muhammad Umar  
**Corresponding author email:** haider1323@gmail.com  
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