

## Case Report

# Disseminated tuberculosis presenting as chronic pancreatitis, a rare case report

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### ABSTRACT

Disseminated tuberculosis (TB) refers to concurrent involvement of at least two non-contiguous organ sites of the body, or involvement of the blood or bone marrow by tuberculosis process. Pancreatic TB is a rare manifestation of such a common disease possibly due to protective pancreatic enzymes. We described a case report of a patient who presented with chronic pancreatitis with pancreatic pseudocyst with empyema of left lung which intraoperatively was a psoas abscess which was managed by drainage of the abscess and intercostal tube placement and thoracoscopic drainage of empyema and its adhesiolysis. Histopathology revealed tuberculous granulation tissue of psoas muscle biopsy and in thoracoscopic scrapings. Patient became symptomless since the surgery and initiation of anti-tubercular therapy.

**Keywords:** TB, Pancreas, Chronic pancreatitis, Disseminated tuberculosis, Thoracoscopy

## INTRODUCTION

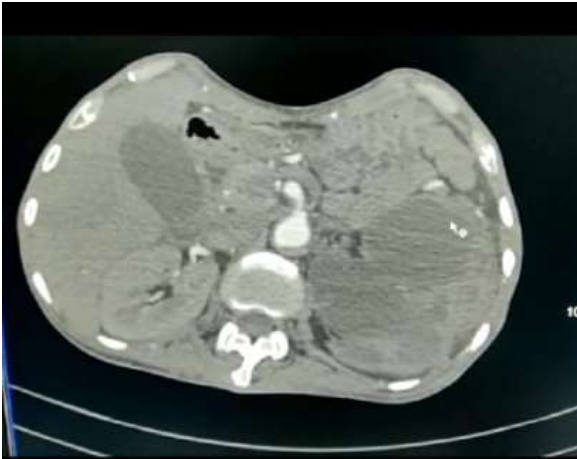
Tuberculosis (TB) remains a significant global health challenge, affecting millions of individuals each year. Although primarily associated with pulmonary involvement, extrapulmonary manifestations of TB have been increasingly recognized. Whereas disseminated tuberculosis refers to the simultaneous engagement of a minimum of two non-adjacent organ locations within the body or the involvement of blood or bone marrow by the tuberculosis process.<sup>1</sup> The presentation of TB in uncommon sites or with atypical symptoms often poses diagnostic challenges, leading to delayed diagnosis and management. This case report presents a rare instance of disseminated TB that uniquely presented as chronic pancreatitis. The unusual clinical manifestation underscores the importance of considering TB as a differential diagnosis in patients with chronic pancreatitis, particularly in regions with a high TB burden like India.

## CASE REPORT

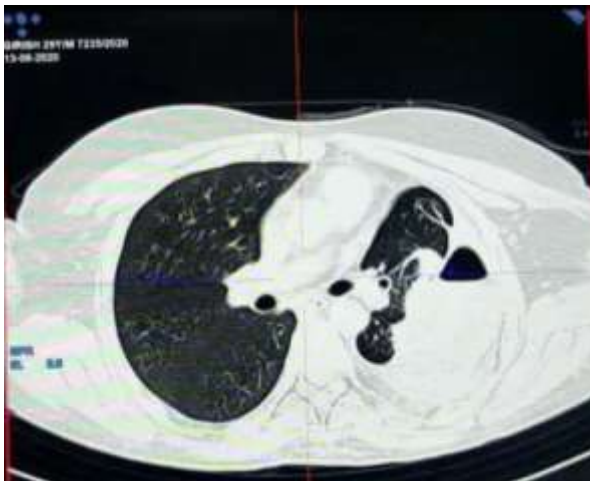
A 45-year-old male patient presented with a one-month history of breathlessness, abdominal pain, and intermittent fever. Notably, he had been previously admitted for acute-on-chronic pancreatitis one month prior. Upon examination, his oxygen saturation was 91% on room air. Abdominal assessment revealed a smiling umbilicus, abdominal distension, and a tender 5×5 cm lump over the epigastric region. Shifting dullness and a dull note were noted over the epigastric region. Bilateral basal air entry was diminished.

A non-contrast computed tomography (NCCT) of the chest exhibited moderate left-sided hydropneumothorax with underlying lung collapse and consolidation. A left-sided intercostal drain (ICD) was inserted, resulting in the drainage of 100 cc of pus and marginal improvement in left lung air entry. A contrast-enhanced computed tomography (CECT) of the abdomen and pelvis was performed, revealing a pancreatic pseudocyst measuring

9.2×6.4×16 cm associated with chronic pancreatitis. Additionally, the CECT showed mild left hydropneumothorax, splenomegaly, and evidence of splenic vein and portal vein thrombosis. No pancreaticopleural fistula was observed.



**Figure 1: Pancreatic pseudocyst with inflamed pancreas.**



**Figure 2: Left sided moderate hydropneumothorax.**



**Figure 3: Thoracoscopic adhesiolysis of empyema of left lung.**

Thoracoscopy was conducted, revealing empyema with pus flakes and sheets over the visceral pleura of the left lung. Restricted lung movement and adhesions were noted, necessitating adhesiolysis. An exploratory laparotomy was undertaken, revealing an inflamed pancreas and seropurulent collection around 100 cc in the psoas muscle. Importantly, no evidence of a pancreaticopleural fistula was found.

Thoracoscopic scrapings and biopsy of the psoas muscle indicated tuberculous granulation tissue. Following confirmation of disseminated tuberculosis, the patient was initiated on antitubercular therapy (AKT) under category 1. Upon stabilization of his condition, he was discharged.

## DISCUSSION

Abdominal TB, which impacts the gastrointestinal tract, peritoneum, omentum, mesentery, lymph nodes, and other solid intraabdominal organs such as the liver and spleen, represents a prevalent type of extra-pulmonary tuberculosis, comprising approximately 11-16% of cases. Tubercular peritonitis, specifically, constitutes 4-10% of the entire spectrum of patients affected by extra-pulmonary tuberculosis.<sup>2</sup>

The emergence of TB in the pancreas, though infrequent, presents an intriguing phenomenon within the realm of this widespread disease, potentially attributed to the protective attributes of pancreatic enzymes. Notably, the prevalence of pancreatic tuberculosis has been recognized to range between 2.1% and 4.7% in post-mortem investigations of individuals affected by miliary TB.<sup>3</sup> This occurrence of TB within the pancreas can take on a range of manifestations, encompassing the presence of abscesses, masses, cystic lesions, splenic vein thrombosis, along with instances of acute or chronic pancreatitis and secondary diabetes.<sup>4</sup> Mass lesion in pancreas due to tuberculosis are infrequently described.<sup>5-7</sup>

The pancreas is considered to be biologically shielded from *Mycobacterium tuberculosis* infection, potentially due to the presence of pancreatic enzymes which act as a safeguarding mechanism. However, pancreatic involvement is conjectured to arise from both direct dissemination from neighboring peripancreatic lymph nodes and hematogenous spread. This dual mode of infection propagation adds to the intricacy of pancreatic tuberculosis's pathogenesis.

The diverse spectrum of clinical presentations and the rarity of pancreatic TB contribute significantly to the challenges in its diagnosis. Detecting this entity necessitates a heightened degree of suspicion, particularly in endemic regions, to enable prompt and accurate diagnosis. Often, a pre- or intra-operative diagnosis becomes essential due to the distinctive and unpredictable ways in which pancreatic tuberculosis can manifest.

In instances where a conclusive diagnosis cannot be established through percutaneous or endoscopic ultrasound (EUS) guided approaches, surgical intervention becomes pivotal. Surgical exploration is not only diagnostic but also therapeutic, allowing for appropriate tissue sampling and excision. By resorting to surgical intervention, clinicians can ascertain a definitive diagnosis and simultaneously address the disease burden.

## CONCLUSION

The distinctiveness and uncommon occurrence of pancreatic tuberculosis accentuate the necessity for an astute clinical approach. The interplay of tuberculosis with the pancreas, despite its biological protection, serves as a reminder of the diverse ways the disease can manifest. Given the increasing recognition of extrapulmonary TB and the propensity for atypical presentations, clinicians must maintain a high index of suspicion, particularly in endemic regions. As illustrated in the case report, the involvement of pancreas in disseminated TB can mimic chronic pancreatitis, warranting a high index of suspicion, comprehensive diagnostic evaluation, and when needed, surgical intervention for accurate diagnosis and effective management.

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