

Pancreatic Tuberculosis: A Case Report

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ABSTRACT

Introduction: Pancreatic tuberculosis is a rare condition even in countries with high tuberculosis prevalence. It can mimic pancreatic carcinoma in symptoms and radiological studied. Extrapulmonary tuberculosis is common in organs like liver, bowel, spleen, peritoneum and mesenteric lymphnodes than pancreas which is suggestive to have protective role because of its secretions. **Case presentation:** A 71 year female presented with abdominal pain with no history of pulmonary tuberculosis. Radiological studies suggested pancreatic carcinoma. Laparotomy was performed and Whipple's pancreaticoduodenectomy specimen was sent to histopathology department along with regional lymphnodes. On gross examination, a mass was noted in uncinate process. Histopathological examination revealed chronic inflammatory granulomatous reaction with Langhan's giant cells and areas of caseous necrosis. The Ziehl Neelsen (ZN) stain confirmed the presence of acid-fast bacilli diagnosing pancreatic tuberculosis. **Conclusion:** Tuberculosis should be considered as one of the differential diagnosis of pancreatic masses, especially in immunocompromised patients, as the outcome to antituberculosis treatment is very favorable.

Keywords: Extrapulmonary tuberculosis, Pancreas

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INTRODUCTION

Tuberculosis (TB) is a common disease of developing countries. According to World Health Organization (WHO) total 10.6 million people were diagnosed with TB and 1.6 million died in 2021. The incidence rate of TB was increased by 3.6% in 2021 relative to 2020.¹ According to National TB prevalence survey report, TB burden in Nepal is around 117,000 (88,000-145,000) people living with TB and about 69,000 (41,000-103,000) people developed TB in 2018.²

Pancreatic TB is a rare condition that can mimic pancreatic carcinoma in symptoms and radiological studied. Most cases are diagnosed only after histopathological study as the clinical symptoms are non-specific making diagnosis challenging. The development of abdominal TB is independent of pulmonary involvement. Intraabdominal TB most commonly involve liver, bowel, spleen, peritoneum and mesenteric lymphnodes (LN). Pancreatic TB can occur in absence of evidence of tuberculosis in other part of body. As the condition is effective to antitubercular treatment, awareness of the involvement

of pancreas by TB could help in disease management.³

CASE PRESENTATION

A 71 year female presented to surgery department of Nepalgunj Medical College and Teaching Hospital with complain of pain abdomen. There was no known history of pulmonary TB. Her Computed Tomography (CT) of abdomen was suggestive of periampullary carcinoma. She underwent Whipple's pancreaticoduodenectomy. Specimen fixed in 10% formalin was received in histopathology department. The specimen consisted of Whipple's pancreaticoduodenectomy with lymphnodes belonging to common hepatic artery group, intra-aortocaval group and periportal group. On gross examination, there was a firm mass at uncinated process of pancreas measuring 2x2 cm which was grey white on cut surface with areas of necrosis. Rest of the specimen was grossly unremarkable. Total eight lymphnodes were identified size ranging from 0.4-1cm in diameter, cut surface of all were solid, grey white. All sections were routinely processed, paraffin

embedded and stained with Hematoxylin and Eosin (H&E).

Histopathological examination from main mass showed variable sized granulomas with caseous necrosis, Langhan's giant cells and scattered lymphoplasmcytic infiltrates with surrounding fibrosis (Figure 1, 2). Rest of the pancreas showed features of chronic pancreatitis. Slides were also stained with Ziehl Neelsen (ZN) stain which showed rod shaped tubercular bacilli establishing the diagnosis of TB (figure 3). All lymphnodes showed features of reactive follicular and sinus hyperplasia. There was no evidence of malignancy. This patient was put on anti-tubercular treatment according to national guidelines. On follow up she was absolutely symptoms free.

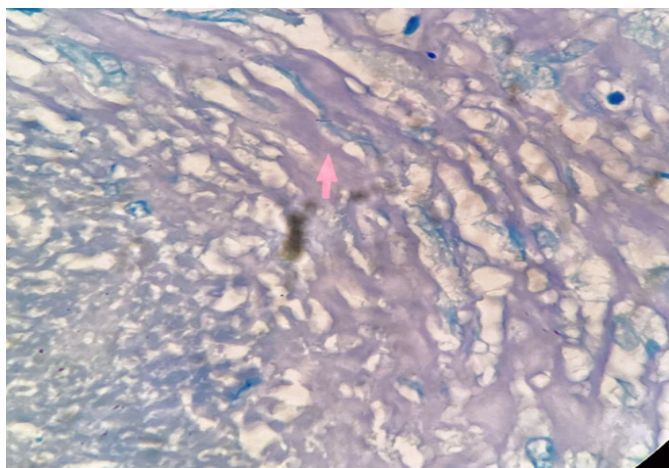


Figure 3: Acid-fast bacilli (ZN stain, 100x)

DISCUSSION

Incidence of TB is still high in developing countries as well as in people with compromised immunity.³ Incidence of extrapulmonary TB was 17% among total diagnosed TB cases globally and most commonly involves LN, pleura, GIT or abdomen.¹ Primary pancreatic TB is extremely uncommon as proteolytic enzymes in pancreas doesnot form a suitable site for development of mycobacterium tuberculosis. Most of the pancreatic TB arises from contiguous infection peripancreatic LN or rarely from hematogenous route. Pancreatic mass can be diagnosed by USG or CT scan. However, it has low utility in diagnosis of pancreatic TB.^{3,4} Tubercular lesions may be solid or cystic or may have calcifications. It may be single or multiple and most commonly located in head or body of pancreas. Thus the diagnosis is often challenging as the patient may present with vague abdominal pain.⁵

In various studies done pancreatic TB is most commonly seen in young people especially female while pancreatic tumors are mostly seen in older people. Patients most commonly present with history of epigastric pain, fever and weight loss. Radiological imaging showed pancreatic mass and peripancreatic lymphadenopathy and are suggestive of malignancy.^{6,7}

Diagnostic technique used for pancreatic TB can be invasive and noninvasive. However, in most of the studies the diagnosis was only made after the biopsy specimen was studied after exploratory laparotomy, as in this case. Thus for definitive diagnosis, microbiological and histopathological confirmation is necessary. Diagnosis by direct smear for detecting acid-fast bacilli can be less sensible then in combination with histopathological study. After the diagnosis of TB treatment consist of medical management with standard anti-tubercular therapy.⁶

CONCLUSION

Pancreatic TB is a rare and diagnostically challenging condition. Clinical presentation and imaging studies are non-specific and

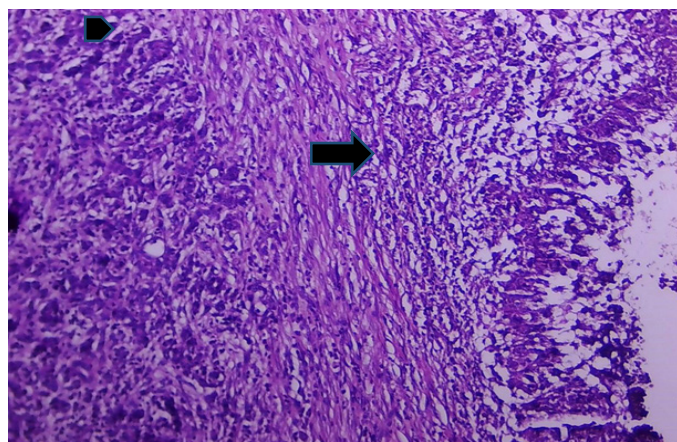


Figure 1: Histopathological finding. Epithelioid cell granuloma with adjacent pancreatic acini (H&E stain, 10x)

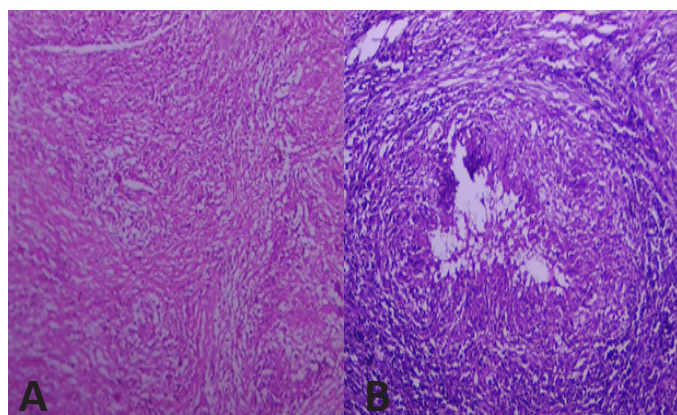


Figure 2: (A and B) Epithelioid cell granulomas with central caseous necrosis and peripheral rim of lymphocytes (H&E stain, 10x)

do not allow differentiation with malignancy. This diagnosis pancreatic TB is usually obtained after histopathology study. The disease is curable and can be effectively treated with anti-tubercular therapy. Therefore, TB should be considered as one of the differential diagnosis if patient present with pancreatic mass, especially in immunocompromised cases.

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