Indian Journal of
Applied Radiology

Open Science Publications

Volume 10, Issue 1 - 2024

www.opensciencepublications.com

A Tale of Two isolated Pancreatic Masses Mimicking Pancreatic Neoplasm

Case Report

Duddukuru H[1], Vanidassane D[2], Pitchaimuthu A[3], Singh Naik S[4]*, and Banu SN[5]

[1,4]*Department of Radiodiagnosis, MGMCRI, Pondicherry, India*

[2]*Department of Medical Oncology, MGMCRI, Pondicherry, India*

[3]*Department of Radiodiagnosis, AIIMS, Bhubaneswar, India*

[5]*Department of Pathology, MGMCRI, Pondicherry, India*

***Corresponding author:** Shailendra Singh Naik, Assistant professor, Department of RadiodiagnosisMahatma Gandhi Medical College and Research Institute, Pondicherry, India. Email Id:drnayak1388@gmail.com

Article Information: **Submission: 10/04/2024; Accepted: 11/05/2024; Published: 05/06/2024**

Abstract

Tuberculosis (TB) is a common disease in developing countries but isolated Pancreatic tuberculosis is an extremely rare entity even in endemic areas. It is often misdiagnosed due to a low index of suspicion and masquerading of its symptoms with more common pancreatic malignancy. The clinical and radiological features resemble malignancy, making diagnosis a clinical challenge. The definitive diagnosis rests on histologic and bacteriologic evidence of TB. Excellent cure rates are reported with standard anti-tubercular therapy given for 6–12 months. We discuss two cases of pancreatic TB successfully diagnosed and treated and their relevant literature.

Keywords: Isolated pancreatic TB, Abdominal tuberculosis

Introduction

Pancreatic masses can be benign or malignant. Pancreatic adenocarcinoma constitutes 85 to 90 percent of all pancreatic neoplasm, the most common benign pancreatic neoplasm is serous cystadenoma. Pancreatic tuberculosis is an uncommon form of extrapulmonary tuberculosis and usually presents with abdominal pain, jaundice, and constitutional symptoms. It usually occurs as a complication of miliary TB and immunodeficiency, with isolated involvement of the pancreas being extremely rare. We present two cases of pancreatic tuberculosis mimicking pancreatic malignancy. Here we discuss various clinco-radiological features of pancreatic tuberculosis with a review of literature.

Case series

Case 1

A 42-year-old female presented to our hospital with complaints of fever, weight loss, epigastric pain, and anorexia. No history of tuberculosis. She was afebrile, physical examination revealed marked epigastric tenderness with otherwise unremarkable examination.

Case 2

A 26-year-old young hypertensive male presented to our hospital with complaints of weight loss, on and off abdominal pain, icterus, and severe fatigue. No history of tuberculosis. At his initial evaluation in the ER, he was afebrile with stable vitals, physical examination revealed icterus and epigastric tenderness.

ISSN: 2581-3919

Laboratory Evaluation

Laboratory evaluation of both patients revealed deranged Liver enzymes and a negative HIV test. Ca19.9, Serum electrolyte, blood urea nitrogen, creatinine, bilirubin, amylase, lipase, and chest radiography were all normal in case 1. Case 2 had total bilirubin of 5.0 mg/dl and raised liver enzymes. Ultrasound of the abdomen revealed a hypoechoic mass in the region of the head of the pancreas. Contrast-enhanced computed tomography of the abdomen revealed a heterogeneously enhanced diffusely bulky pancreas with ill-defined necrotic areas, adjacent peripancreatic fat stranding, and loss of fat plane with the adjacent duodenum. Multiple conglomerate low-density necrotic nodal lesions were noted in the peripancreatic, portocaval, and periportal regions. (Figure 1 A,B)

The patients underwent ultrasound-guided fine needle aspiration of the mass for tissue diagnosis. Both cases revealed chronic caseating granulomatous lesion, and occasional AFB in Ziehl nelson stain suggestive of Tuberculosis (Figure 2 A, B).

Both were started on anti-tuberculosis treatment (ATT) with isoniazid (H), rifampicin(R), pyrazinamide (Z), and ethambutol (E) daily under category I according to The Revised National Tuberculosis Control Program (RNTCP) -Directly Observed Treatment Short-course (DOTS) strategy. On follow-up after two months of treatment, there was a significant improvement in weight and constitutional symptoms, and they are continuing their treatment.

Discussion

Abdominal TB comprises 5% of all TB cases and usually involves the intestinal tract, peritoneum, and lymph nodes. Pancreatic TB was seen in 4.5% of cases of abdominal TB in a study. [1] Isolated pancreatic TB is extremely rare. Common risk factors include immunocompromised states and malignancy in non-endemic regions. In endemic regions, reactivation of latent TB is the most common cause. Both of our patients did not have a history of tuberculosis or immunocompromised states.

The pathogenesis of isolated pancreatic TB is not clear. Pancreatic secretions and its retroperitoneal location have been postulated for decreasing the incidence of pancreatic TB. [2] Mechanisms such as lympho hematogenous dissemination from pulmonary

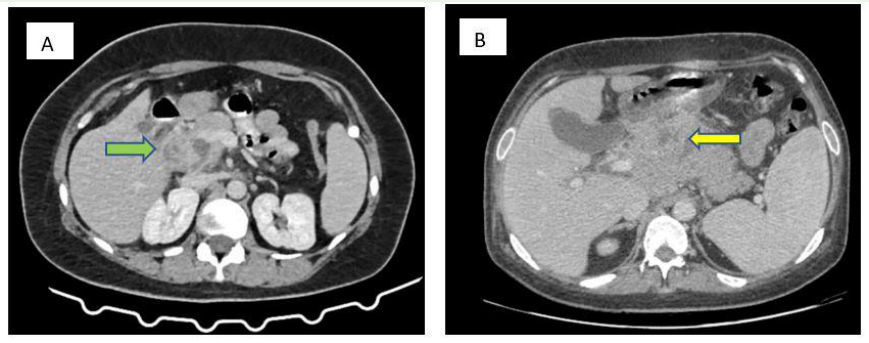

Figure 1: Venous phase axial computed tomography showing the pancreas (arrows), along with an enhanced heterogeneous soft-tissue mass located at the head with ill-defined necrotic areas of case 1 -Figure1A; and case 2- Figure 1B.

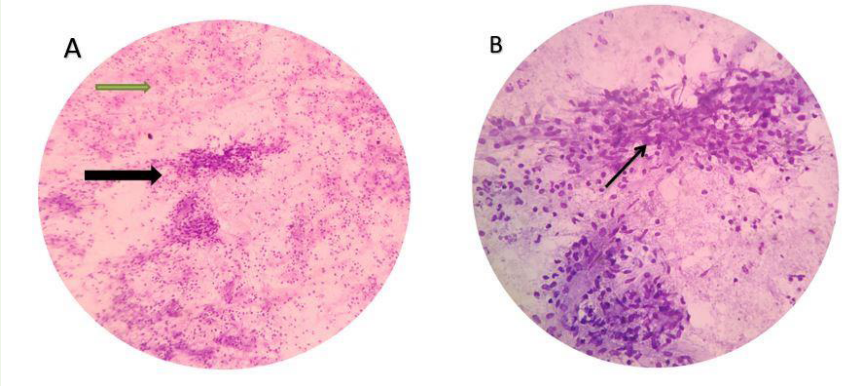

Figure 2: A:10 x magnification, MGG.Black arrow – epitheliod granulomas, green arrow -Powdery caseous necrosis in the background. Fig 2 B: 40x magnification, MGG. Black arrow – well-formed epithelioid granuloma.

Citation: Duddukuru H, Vanidassane D, Pitchaimuthu A, Singh Naik S, Banu SN. A Tale of Two isolated Pancreatic Masses Mimicking Pancreatic Neoplasm. Indian J Appl Radiol. 2024;10(1): 197.

disease or lymphatic spread of epithelial granulomas formed in the gastrointestinal tract after ingestion of bacilliare hypothesized.

The common presentation includes abdominal pain, jaundice, loss of appetite, and loss of weight. These symptoms mimic pancreatic malignancy making it difficult to suspect TB based on symptoms. Presence of pulmonary tuberculosis has been reported in 50% of cases of pancreatic TB, other features also include anemia, raised ESR and icterus in some cases. Both our cases did not show any evidence of pulmonary TB, case 2 presentation with icterus, though both had deranged liver enzymes.

In various series, the pancreatic TB mass presents as a hypoechoic lesion in Ultrasound**.**It also helps in evaluation of extra-pancreatic findings like ascites, omental thickening, etc.[3] The most common CT abdomen finding of pancreatic TB is a focal mass of low attenuation, which is difficult to differentiate from pancreatic carcinoma. Majority of tuberculous pancreatic masses occurred in the head. Other CT findings include cystic mass, small nodular lesions, pancreatic calcification, and focal and diffuse enlargement of the pancreas.[4]

Similarity with pancreatic malignancy includes the common presenting features, imaging with a mass lesion, commonly involves the head of pancreas. In pancreatic carcinoma, the hypoattenuating appearance may be due to central necrosis, or because of differential contrast enhancement by tumor tissue and normal pancreas. In pancreatic TB, the non-enhancing areas may represent caseating necrosis or pus. Soft differentiating points include adenocarcinoma more commonly associated with secondary signs, such as interruptionof the pancreatic duct, distal pancreatic atrophy, and mass effect can be seen.

The first step in the diagnosis of pancreatic tuberculosis is a high index of clinical suspicion especially in individuals residing in endemic countries. The approach for lesion sampling from the pancreas should be the same as it is for presumed pancreatic malignancy. The lesion should be assessed for obtaining tissue diagnosis either using CT or ultrasound-guided biopsy for microbiological and histopathological evaluation.

Unlike the diagnosis, the treatment of pancreatic TB is relatively straight forward. Extrapulmonary TB includes two months of intensive HRZE followed by 4 months of HR treatment. Most cases of pancreatic TB respond well to Anti Tuberculous Drugs for duration of 6 to 12 months in various series, selected cases would require surgical interventions for obstructive jaundice.

Conclusion

In conclusion, we presented two cases of pancreatic TB presenting as pancreatic mass. This case report highlights the risk of pancreatic TB being easily missed, owing to common presenting features. Being aware of the differential diagnosis will help in early diagnosis. It avoids unnecessary diagnostic or therapeutic delay, in a very treatable extra pulmonary TB which has excellent outcomes.

Consent: Patient's consent has been obtained.

References

1. Chaudhary P, Bhadana U, Arora MP (2015) Pancreatic Tuberculosis. Indian J Surg 77: 517-24.
2. Knowles KF, Saltman D, Robson HG, (1990) Tuberculous pancreatitis. Tubercle 71: 65-68.
3. Sharma V, Rana SS, Kumar A, Bhasin DK (2016). Pancreatic tuberculosis. J Gastroenterol Hepatol 31: 310-318.
4. Nagar AM, Raut AA, Morani AC, Sanghvi DA, Desai CS, Thapar VB (2009) Pancreatic tuberculosis: a clinical and imaging review of 32 cases. J Comput Assist Tomogr 33: 136-141.

Citation: Duddukuru H, Vanidassane D, Pitchaimuthu A, Singh Naik S, Banu SN. A Tale of Two isolated Pancreatic Masses Mimicking Pancreatic Neoplasm. Indian J Appl Radiol. 2024;10(1): 197.