



Case Report

Pancreatic Tuberculosis : A Case Report

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Abstract

The pancreas is rarely affected by *Mycobacterium tuberculosis* infections, probably because of the presence of pancreatic enzymes and only few cases are reported. The differential diagnosis with pancreatic carcinoma represents a challenge because of clinical and radiological similarities. We report a case of 30 year-old women presented with pain and lump in epigastric region with constitutional symptoms – weight loss, nausea and occasional vomiting. Preoperative diagnosis of pancreatic tuberculosis requires a high index of suspicion and usually its diagnosis is established after surgical treatment. The diagnosis of this reported case was confirmed by histopathological analysis following laparotomy. The response of the disease to anti tubercular drugs was good.

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Introduction

Tuberculosis is a common disease in developing countries, although its exact prevalence cannot be assessed¹. Even in developed countries like the USA, it is still an important problem². Although tuberculosis of gastrointestinal tract is common in developing countries³, involvement of pancreas is very rare and has been described only in a handful of case reports. The first cases were reported by Auerbach in 1944⁴. Pancreatic tuberculosis pathogenesis is still to be known.

It has been suggested that bacilli reach the pancreas by lympho-haematogenic dissemination from primary or secondary tuberculosis. The primary lesion may be intestinal, with pancreatic involvement originating from retroperitoneal lymph nodes⁵. Clinical features are quite variable, many times mimicking characteristics of a pancreatic adenocarcinoma⁶. This paper presents a

case of pancreatic tuberculosis in a 30-year-old female patient manifesting pain in upper abdomen, lump in epigastric region and constitutional symptoms. The radiological workup and clinical manifestations are discussed.

Case report

A 30 year old female patient presented with a gradually increasing painless lump in upper abdomen for preceding 6 months, intermittent, dull aching, non radiating epigastric pain for preceding 1 year and constitutional symptoms – nausea, occasional vomiting and weight loss. She gives no history of acute attack of pain, haematemesis, melaena, low grade intermittent fever, chest pain, cough or hemoptysis. There was no history of pulmonary or gastrointestinal tuberculosis in the past. Clinical signs at general physical examination were unremarkable.

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Per abdominal examination revealed an intra abdominal non tender lump occupying epigastric and right hypochondriac region, measuring about 6 cm x 8 cm in diameter, surface boss elated, margin ill defined, soft to firm in consistency, fixed with posterior abdominal wall and don't move with respiration. There was no organomegaly or ascities. Other systemic examination revealed no abnormality. Total leukocyte counting was 9500/ cmm, with the following differential counting: polymorphs neutrophils 63%, lymphocytes 28%, monocytes 01%, eosinophils 06%. Her haemoglobin level was 9.6 g/dl and ESR was 15 mm in first hour. Liver enzymes and renal function tests were normal. Chest X-ray was also normal.

No alteration was found in upper G.I.T endoscopy. U.S.G. of whole abdomen demonstrated a - 67 mm x 58 mm multicystic mass in the pancreatic region and suggested as a case of pancreatic pseudocyst with mild ascities. Further U.S.G of whole abdomen was done from another sonologist who demonstrate a complex cyst, having internal cyst and multiple membranes, measuring about -

7.0 cm x 6.4 cm in inferior and anterior part of liver and suggested as a case of Hydatid cyst of liver. The patient was advised for computed tomography of upper abdomen but the patient refused. To solve this diagnostic dilemma and considering the patients financial problem, laparotomy was done by upper right Para median incision. Per operatively there was a mass arising from head of pancreas, measuring about 5cm x 6cm in diameter, firm in consistency, surface uneven and not adherent with surrounding structures. Rest of the abdomen showed no obvious pathology. There was no tubercle in the peritoneum or omentum and the small and large bowel appeared normal. Aspiration of the mass revealed no fluid and then a suspicion of malignancy came in front. Incisional biopsy was taken from the growth and triple by pass (gastro-jejunoscopy, cholecysto-jejunoscopy and entero-enterostomy) was done to avoid further laparotomy as there was a suspicion of malignancy

and the facility of frozen section biopsy was also not available. Her postoperative periods were uneventful. On 7th POD histopathology report suggested that it was a granulomatous inflammation, histologically tuberculosis.

Discussion

The pancreas is rarely affected by tuberculosis. In 1944, Auerbach reported pancreatic involvement in 4.7 % biopsies in cases of miliary tuberculosis⁷. Between 1891 and 1961, Paraf et al⁶ reported 11 cases of pancreatic involvement in necropsies of miliary tuberculosis, with 2.1 % incidence of involvement of this organ. Between 1980 and 1998, 14 cases were reported in the literature⁸, the majority was young adults (mean age 33 years), constitutional symptoms and epigastric pain. In 8 cases only the pancreas was affected. The diagnosis was made by means of laparotomy in 7 cases. Fine needle aspiration biopsy was performed in 6 cases, 2 of them under computed tomography guidance. The cytology suggested tuberculosis in 4 cases. Therefore fine needle aspiration biopsy is recommended in the suspicion of pancreatic tuberculosis and differential diagnosis with pancreatic tumor^{9,10}. Of then cases with tuberculin test, 8 cases were positive. This is a simple and low cost test that may be useful as a support for the clinical rationale in these cases.

The diagnosis of pancreatic tuberculosis frequently may be disregarded or postponed, unless there is an evidence of pulmonary tuberculosis in another site. However, of the 14 cases in the literature⁸, 8 did not present extra pancreatic lesions and only 3 presented involvement of lungs.

Between 2003 and 2007, 5 cases were reported in the literature, as before all were young adult with epigastric pain and constitutional symptoms. In 4 cases only pancreas was involved. The diagnosis was made by laparotomy in 3 cases. C.T guided F.N.A.C was performed in 2 cases.

Pancreatic tuberculosis may present several signs and symptoms, including pain in the upper abdomen, obstructive jaundice, mimicking a tumour in the pancreatic head, fever of unknown

origin and non-specific symptoms like – body weight loss. The majority of cases presented constitutional symptoms and pain in upper abdomen⁸.

Ultrasonographic features include a diffusely enlarged pancreas with focal hypo echoic lesions or cystic lesions of the pancreas^{11,12}. Associated findings include peri pancreatic and mesenteric lymphadenopathy, bowel wall thickening (usually in ileocaecal region), focal hepatic and splenic lesions and ascities¹¹. C.T scan most commonly reveals a mass lesion¹³.

Ultrasound or CT guided FNAC may provide the diagnosis, especially with the help of an expert cytologist experienced in the diagnosis of pancreatic tuberculosis^{5,14}. This investigation can avoid unnecessary laparotomy¹⁴. However, situations may still arise when FNAC or biopsy proves inconclusive and surgery may be performed¹².

In the absence of obvious tubercles and / or extra pancreatic disease, it would be difficult to differentiate tuberculosis from malignancy even after laparotomy¹². Intra operative FNAC and biopsies may then provide a diagnosis. The crucial microscopic features are those of caseating granulomatous inflammation¹³. Acid-fast bacilli may also be found. Cultures for mycobacteria take up to 6 weeks to grow and are used to confirm the diagnosis. However, it must be remembered that bacteriological confirmation may not be possible in many patients².

A recent diagnostic test is the polymerase chain reaction (PCR) based assay, which detects mycobacterium tuberculosis DNA in resected specimens. It is a highly specific assay and may give a positive result even when special techniques and culture of tissues are negative.

The treatment of pancreatic tuberculosis comprises multi-drug anti-tuberculous chemotherapy for between 6 and 12 months. Response to treatment is predictable and complete^{5,13}. These patients still need to be followed up carefully for subjective and objective response to therapy to rule out the rare possibility of tuberculosis coexisting with malignancy, especially in endemic areas.

Conclusion

Although a rare manifestation of common disease, pancreatic tuberculosis may present to a clinician as a difficult diagnostic dilemma. A peripancreatic or pancreatic head cold abscess may mimic pancreatic cyst or adenocarcinoma. In conclusion we would like to emphasize that tuberculosis should be considered in differential diagnosis of pancreatic masses, particularly in young patients who are not icteric and who come from an area in which tuberculosis is endemic, to avoid unnecessary laparotomy, CT or USG guided percutaneous aspiration cytology /biopsy and culture of tissue for mycobacteria should be done in a patient with pancreatic mass, especially in a region where pulmonary and abdominal tuberculosis is common. Polymerase chain reaction (PCR) may yield rapid results and thus we can avoid unnecessary laparotomy.

Table-1: Salient features of published reports of pancreatic tuberculosis

S.no	Age/sex	S/s	Nature of pancreatic lesion	Extra pancreatic lesion	Diagnostic method	treatment	Response to treatment	Tubercul in test	Ref.
1	57/F	Abdominal Pain, nausea, vomiting	Mass, partially cystic/solid	None	Laparotomy	ATT	Good	+ve	8
2	25/F	Epi.pain, fever, w t.loss	Cystic/solid mass	None	Laparotomy	ATT, resection of LN	Good	+ve	8
3	64/F	Epi.pain, nausea, vomiting	Mass	Many organ affected	Laparotomy	Pancreatic resection	Good	NA	8
4	33/F	Constitutional symptom	Mass	None	Laparotomy, FNAC-ve	ATT, Laparotomy	Died	-ve	8
5	36/M	Obst. Jaundice	N/A	Vertebral abscess	Laparotomy	ATT, bypass	Good	NA	8

S.no	Age/sex	S/s	Nature of pancreatic lesion	Extra pancreatic lesion	Diagnostic method	treatment	Response to treatment	Tubercul in test	Ref.
6	33/M	Constitutional symptom	Mass	None	FNAC-ve	ATT	Good	+ve	8
7	49/M	Pain,malaena	Heterogeneous mass	Pulmonary TB, stomach	Necropsy	-	-	NA	8
8	29/M	Pain, constitutional symptom	Mass	None	Laparotomy biopsy	ATT	Good	+ve	8
9	73/F	Cough, breathlessness	Pancreatic abscess	Dissem. TB	Necropsy	-	Died	+ve	8
10	43/M	Constitutional symptom	Mass	Pul. TB	FNAC+ve	ATT	Good	NA	8
11	31/M	Upper abdominal pain	Mass	None	FNAC+ve	ATT	Good	+ve	8
12	28/M	Constitutional symptom, abdominal pain	Mass	None	Laparotomy	ATT	Good	+ve	8
13	29/M	Abdominal distension	Solid/cystic mass	Pul. TB, abdominal	CTscan FNAC+ve	ATT	Good	+ve	8
14	27/F	Epigastric pain, constitutional symptom	Hypo echoic mass	none	CTscan FNAC+ve	ATT	Good	-ve	8
15	39/M	Intermittent epi.pain,nausea, vomiting,wt.loss	Hypo dense mass in tail of pancreas, spleen	None	Laparotomy biopsy	Omentectomy, splenectomy, hygienization of peripancreatic area ,ATT	Good	NA	15
16	26/M	Intermittent epig.pain,fever, decrease appetite,wt.loss	Heterogeneous mass, partly cystic	None	CTscan FNAC,culture, Z-Nstain+ve	ATT	Good	-ve	16
17	32/M	Jaundice, pain in rt.hypochondriac region	Hypo echoic mass	None	Laparotomy,Frozen section biopsy,histopathology	ATT	Good	NA	17
18	33/M	Pain in upper abdomen	Heterogeneous solid mass	Pul. TB	Laparotomy, FNAC per operative	ATT	Good	NA	18
19	34/M	Pain in upper abdomen	Heterogeneous solid mass	none	CT guided FNAC	ATT	good	NA	18

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