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Case Report

Dilemma in pancreatic disease: pseudocyst or hydatid cyst

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ABSTRACT

Echinococcus granulosus is the causative agent of hydatid disease, which remains a major public health problem in many endemic areas. The disease mainly affects the liver or lung and rarely involves pancreas. Pancreatic hydatid cyst is a diagnostic dilemma due to its unusual location and nonspecific clinical and radiological presentation. A 23-year-old man presented with left upper abdominal swelling and intermittent pain for one month. Clinical Examination revealed a palpable mass in the left upper Quadrant (size-13×15 cms). Ultrasonography and contrast-enhanced computed tomography showed a large cystic lesion arising from the tail of the pancreas, with a diagnosis of pancreatic pseudocyst. Endoscopic ultrasound demonstrated floating membranes and daughter cysts producing the characteristic water-lily sign, suggesting a hydatid cyst. The surgical treatment constituted marsupialization of the cyst, evacuation of cyst contents, and omentopexy. Histopathological examination of the excised cyst wall showed a laminated membrane with surrounding fibrosis and inflammatory response, confirming the diagnosis of a hydatid cyst. The postoperative period was uneventful, and the patient was treated with 5 cycles of albendazole therapy. Pancreatic hydatid cyst is a rare condition often confused with other pancreatic cystic lesions owing to its nonspecific presentation. Important diagnostic clues can be obtained through imaging particularly endoscopic ultrasound. Early surgical management and subsequent albendazole therapy resulted in a good outcome. This case highlights the importance of considering hydatid disease as a differential diagnosis in pancreatic cystic lesions.

Keywords: Pancreatic hydatid cyst, Echinococcus granulosus, Endoscopic ultrasound, Marsupialization, Omentopexy, Cystic neoplasm

INTRODUCTION

Hydatid disease is a zoonotic parasitic infection caused by the larvae of Echinococcus granulosus. The liver and lungs are the most frequently affected sites, but pancreatic involvement is very rare, accounting less than 2% of cases.[1,2] Pancreatic hydatid cysts may be mistaken for pancreatic pseudocysts or other cystic pancreatic neoplasms due to their rarity and ambiguous clinical appearance. Preoperative diagnosis is therefore difficult.[2,3] The diagnostic challenge documented in literature was reflected in our patient's imaging, which showed a massive cystic lesion originating from pancreatic tail appearing like pancreatic pseudocyst.[2]

Clinical features of pancreatic hydatid disease are usually nonspecific and may include abdominal pain, swelling or a palpable mass. These symptoms can resemble those of pancreatic pseudocysts and other cystic pancreatic tumors.[3] Surgery is the preferred treatment for most symptomatic pancreatic hydatid cysts, while Albendazole is commonly used as an adjunct to reduce the recurrence risk[4]. Although rare, pancreatic hydatid disease should be considered in patients with pancreatic cystic lesions,

especially in regions where hydatid disease is endemic or sporadic.[5]

CASE REPORT

A 23-year-old male was admitted with complaints of left upper quadrant mass and intermittent pain lasting one month with pain being moderate in severity and intermittent in nature. There was no significant past medical history. Clinical examination revealed a palpable mass in left upper abdomen.

Table 1: Lab investigations.

Parameters	Values
Haemoglobin	9.5 g/dl
Packed cell volume (PCV)	32.9 %
Mean corpuscular volume (MCV)	60.4 fl
Mean corpuscular hemoglobin (MCH)	17.4 pg
Mean corpuscular hemoglobin concentration (MCHC)	28.9 g/dl
Red cell distribution width (RDW-CV)	15.1%
Lymphocytes	13.6%
Basophil	0.10%
Sodium	134 mmol/l
Potassium	4.30 mmol/l
Chloride	100 mmol/l
Cyst fluid analysis obtained at surgery	
Amylase fluid	<30 U/L
Glucose	<20 mg/dl
Protein	4.60 gm/dl
Albumin	2.10 gm/dl
Carcino embryogenic antigen fluid	0.86 ng/ml

Routine blood investigations showed mild anemia with a haemoglobin level of 9.5 g/dl. Other blood tests, including liver function tests, renal function tests were within normal limits (Table 1).

Ultrasonography of the abdomen showed a large cystic lesion measuring approximately 132×122mm in the left upper abdomen. Contrast-enhanced computed tomography (CECT) revealed a large cyst arising from tail of pancreas suggestive of pancreatic pseudocyst (Figure 1). Endoscopic ultrasound (EUS) showed a well-defined cystic lesion measuring about 12×11cm with floating membranes, multiple daughter cysts and typical water-lily sign, strongly suggestive of hydatid cyst (Figure 2).

He was subjected to laparoscopy: a large cyst arising from tail of pancreas with dense adhesions to the surrounding tissue was identified. Adhesiolysis, marsupialization, evacuation of cyst contents and hydatid membranes, irrigation of the cavity, omentopexy, and placement of an abdominal drain. Histopathology of excised cyst wall showed a laminated membrane with surrounding fibrosis and inflammatory response, suggestive of hydatid disease (Figure 3). Postoperative period was uneventful. Oral albendazole therapy was advised; 5 cycles of treatment (400 mg twice daily [10 mg/kg/day] for 4 weeks and 2 weeks without medication.

After completion of 3 cycles of albendazole therapy the patient was reviewed and found to have no recurrence of the cyst.

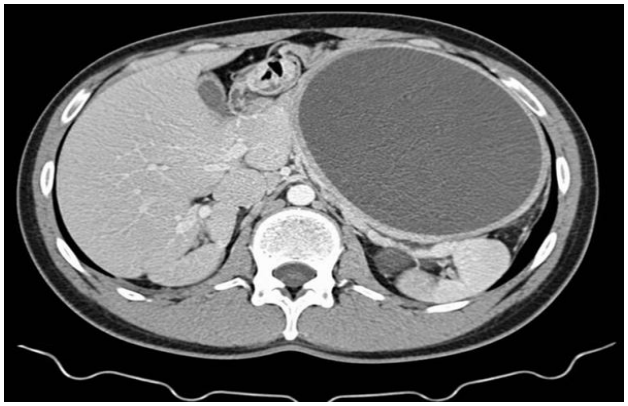


Figure 1: Axial CECT abdomen: Large, well-defined cystic lesion in the pancreatic region, mimicking pseudocyst.

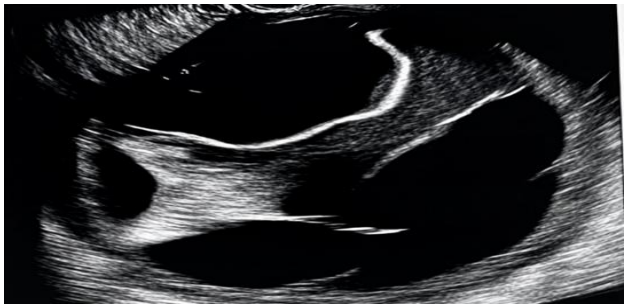


Figure 2: EUS: Large heterogenous well circumscribed cystic at body of pancreas, with floating membranes and daughter cysts (waterlily sign).

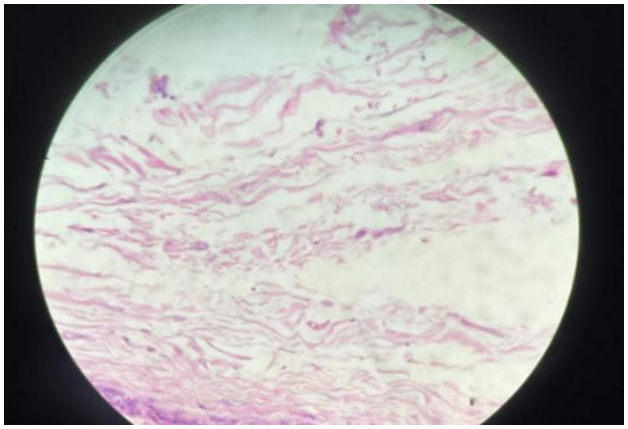


Figure 3: Histopathology: Thick fibro-collagenous cyst wall with acellular, eosinophilic laminated membrane surrounded by fibrosis and inflammatory reaction.

DISCUSSION

Echinococcus or adult hydatid worm is a parasite of dog (rarely wild animals) and resides in the intestine of primary host. Embryonated eggs pass down the faeces of dog and may be accidentally ingested by human beings, where the oncosphere(larva) is released into intestine, penetrates the mucosa and enters portal circulation and gets filtered mostly in liver and develops into a hydatid cyst which increases in size and produces protoscolices.[1] In human beings, life cycle of hydatid ends, whereas in animals like sheep it further continues; once an infected meat of sheep is ingested by the dog, life cycle proceeds in the intestine of a canine.

Hydatid cyst disease of humans affects liver in 60-70%, followed by lungs (10-30%), peritoneal cavity (8%), kidneys (2%), heart, brain (1%) and other organs like muscle, bone and pancreas in a small proportion. Antibody detection by ELISA is a sensitive and specific test among the available assays. Antigen detection from the cyst fluid by ELISA is also known but not usually performed. Radiological imaging divides the cyst into active cysts, transitional cysts and inactive cyst (WHO classification). A unilocular cyst with double lining of wall constitutes active cyst; detached laminar membranes (Water lily sign) or partially collapsed cyst is transitional cyst and calcified cyst is an inactive cyst.[1,3,4]

Treatment may be based on the activity of cysts. Small, unilocular cysts may be treated with albendazole; calcified cysts may be left alone and rest of the cysts may be considered for surgery and sometimes aspirational treatment with scolicidal agents and reaspiration (especially in non-communicating cysts.[2]

Hydatid cyst of pancreas is a rare presentation of hydatid disease and is rarely encountered in clinical practice. Patients usually present with vague symptoms such as abdominal pain or a palpable abdominal mass, making diagnosis challenging. High clinical suspicion is needed especially in endemic areas, as the clinical and radiological features overlap with other pancreatic cystic lesions.[4] In our patient, abdominal pain and swelling were presenting symptoms; CT suggested pancreatic pseudocyst, endoscopic ultrasound demonstrated characteristic water-lily sign and daughter cysts, leading to a strong preoperative diagnosis.[2]

Brunetti et al proposed that the diagnosis of hydatid disease should be based primarily on clinical features and imaging findings. Serological tests should be performed as ancillary investigations. They also recommended surgical intervention in case of larger or symptomatic cysts and albendazole therapy to minimize the risk of recurrence. In our patient, EUS showed typical hydatid cyst features and was subjected for laparoscopic surgery followed by postoperative albendazole therapy with good clinical outcome.[4]

Akbulut et al reported that pancreatic hydatid cyst is difficult to diagnose preoperatively as it closely mimics other pancreatic cystic lesions. In their report, diagnosis was confirmed intraoperatively and patient underwent complete excision of the cyst with good recovery.[2] However, in our patient preoperative diagnosis was possible in view of EUS demonstrating characteristic water-lily sign and daughter cysts. Instead of complete cyst excision, our patient was treated by laparoscopic marsupialization with omentopexy. According to Pedrosa et al the imaging hallmarks of hydatid disease are the water-lily sign, detached membranes and daughter cysts.[3] They emphasized that these findings are useful in differentiating hydatid cysts from other pancreatic cystic lesions. In our patient EUS revealed floating membranes and daughter cysts that confirmed the diagnosis and allowed for planning an appropriate surgical treatment. Mc Manus et al stressed that successful treatment of hydatid disease requires correct diagnosis, suitable surgery, histopathological confirmation and albendazole therapy to prevent recurrence.[5] Histopathology confirmed the diagnosis in our patient. Laparoscopic marsupialization and postoperative albendazole ensured an uneventful recovery. This case highlights the importance of considering hydatid disease in the differential diagnosis of cystic lesions of the pancreas, especially in endemic regions.

CONCLUSION

Pancreatic hydatid cyst is a rare cause of pancreatic cystic lesion and can mimic more common pancreatic diseases. Careful evaluation with imaging techniques, especially endoscopic ultrasound, can provide important diagnostic clues. Surgical management combined with postoperative albendazole therapy offers good clinical outcomes. Early diagnosis and timely treatment help prevent complications and the risk of recurrence. Presence of a large abdominal mass and enormous size of the cyst highlights the late presentation.

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