



A RARE CASE OF PRIMARY PANCREATIC HYDATID CYST CAUSING BILIARY TREE DILATATION

Radiodiagnosis

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ABSTRACT

Echinococcus granulosus complex is the causative parasite of hydatid disease, endemic to regions with stock breeding and agriculture. We present a rare case of primary pancreatic hydatid disease in a 20-year-old female who had complaints of upper abdominal pain and epigastric fullness. The typical radiological findings in ultrasound, CT and MRI helps to differentiate this lesion from other cystic lesions in the pancreas. Therefore this lesion should be kept as a differential in endemic areas.

KEYWORDS

INTRODUCTION

Hydatid disease is a zoonosis caused by the larval or cystic stage of Echinococcus granulosus complex which is endemic to regions where stockbreeding and agriculture are a common occupation [1]. These include the Mediterranean region, Africa, South America, Australia, Middle East and India [2]. For Echinococcus granulosus, dogs are the definitive host whereas sheep and goats are the intermediate host. Man is an accidental dead-end host who becomes infected after consuming vegetables contaminated with dog feces containing Echinococcal eggs [3]. Pancreatic affection by hydatid cysts is very rare even in endemic areas. For pancreas, the head is more frequently involved (57%) followed by the body (24%) and the tail (19%) [4].

Case Report

A 20-year-old female presented with the complaints of abdominal pain and epigastric fullness for three months, she was referred for radiological investigations. There was no history of pancreatitis or history of prior surgeries.

B mode ultrasound of the abdomen (Figure 1) showed a well-defined smooth thick-walled cystic lesion measuring 5.8*5.8 cm in the region of the head of the pancreas. The cyst showed a detached irregular laminated membrane floating within it. The main pancreatic duct appeared prominent. There was upstream dilatation of the intra and extrahepatic biliary radicles. Gall bladder was distended with mild sludge within the lumen. There was vascularity surrounding the lesion. In CT, (Figure 2) the lesion was confirmed to be arising in the region of the head of the pancreas. The internal floating membrane was seen. No calcification was seen within or surrounding the lesion. There was no fat stranding or edematous wall thickening surrounding the lesion. MRI (Figure 3,4) showed dilatation of intra and extra hepatic biliary radicles. Diffusion restriction (Figure 5) was seen in the periphery of the lesion. The main pancreatic duct was seen to be displaced anteriorly by the lesion (Figure 4). The confluence of common bile duct and main pancreatic duct could not be visualized, separately from the lesion. There was no solid component or mural nodule within the lesion. There was no communication of the lesion with the biliary tree and the main pancreatic duct. There was no free fluid within the peritoneal cavity. Rest of the organs, namely the spleen, liver and kidneys appeared normal.

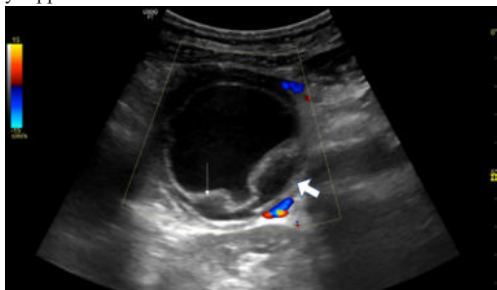


Figure 1: Colour doppler ultrasound image showing a thick walled

(thick arrow) cystic lesion with peripheral vascularity noted involving the head and uncinate process of the pancreas with a detached irregular laminated floating membrane (thin arrow) noted within the cyst. This is known as the 'water lily sign'.

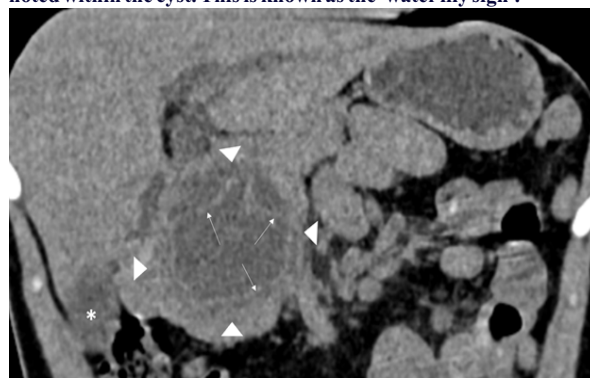


Figure 2: Coronal Non Contrast Ct Image Showing A Thick Walled Cystic Lesion In The Region Of The Head And Uncinate Process Of Pancreas (white Arrowheads). A Floating Membrane (thin Arrow) Is Seen Within. Gallbladder (asterisk) Is Seen Separately. There Was No Peripheral Or Central Calcification In The Cyst.

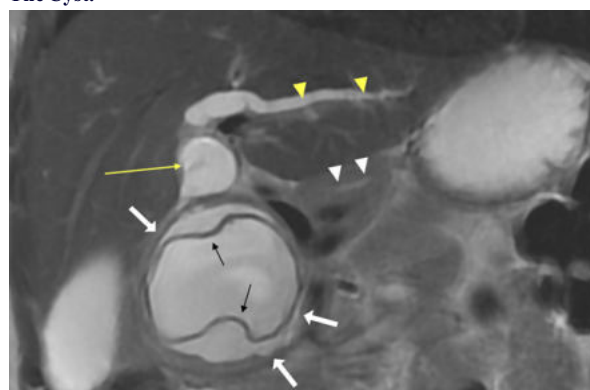


Figure 3: T2 Weighted Coronal Mri Image Showing Irregular Thick Walled Cystic Lesion (white Arrows) Noted In The Region Of The Head And Uncinate Of Pancreas. A Laminated Irregular Floating Membrane Is Seen Within (black Arrows). Main Pancreatic Duct In The Body Of The Pancreas Is Prominent (white Arrowheads). The Cyst Is Seen To Compress The Common Bile Duct, Causing Dilatation Of The Common Hepatic Duct (yellow Arrow) And Intra Hepatic Biliary Radicles (yellow Arrowheads).

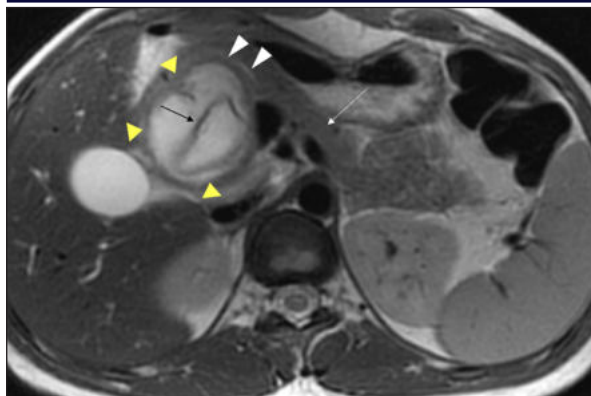


Figure 4: T2 weighted Axial MRI image showing Irregular thick walled cystic lesion (yellow arrowheads) noted in the region of the head and uncinate process of pancreas. A laminated irregular floating membrane is seen within (black arrow). Main pancreatic duct in the head of the pancreas is prominent (white arrowheads). The body of the pancreas is seen (white arrow).

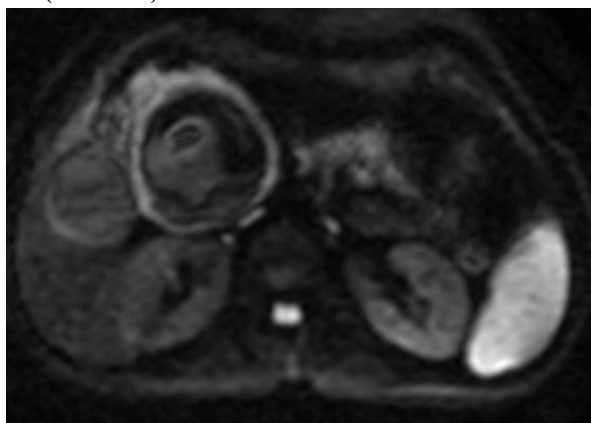


Figure 5: Axial diffusion weighted MRI image showing mild peripheral diffusion restriction in the cystic lesion.

We further evaluated the patient using Enzyme-linked immunosorbent assay [ELISA] which turned out to be positive. The liver function test showed features of cholestasis. Patient was planned for surgery but was lost to follow up.

DISCUSSION

Due to its rarity and similarity with more common pancreatic cystic conditions, diagnosis of pancreatic hydatid cyst may be challenging.[5] As in most cases, hydatid cysts are usually asymptomatic; however, the patients may complain of abdominal pain, vomiting or complications as obstructive jaundice or acute pancreatitis. Past history of travelling or immigration should make physicians aware of the possibility of hydatid disease even in non-endemic areas.[6]

Clinical presentation depends on the location of the cyst within the pancreas. Cysts located in the head can present as obstructive jaundice due to external compression of the common bile duct and masquerade as a choledochal cyst [8,9]. Cysts located in the body and tail of pancreas are usually asymptomatic until they become large enough to present as an abdominal lump or cause symptoms due to compression of adjacent structures like epigastric pain, nausea and vomiting [1]. Rarely, cysts located in the pancreatic tail can result in splenomegaly and portal hypertension [7]. Complications like cholangitis, rupture into the biliary tree or peritoneal cavity, pancreatic fistula, recurrent pancreatitis and abscess have also been described [8].

Enzyme-linked immunosorbent assay (ELISA) test for echinococcal antigens is a helpful tool with an overall specificity of about 85%.[4] Abdominal sonography is considered the most sensitive tool detecting the floating membranes, hydatid sand and floating daughter cysts. Water lily sign, water attenuation and calcifications detected by CT scanning are also highly suggestive of hydatid cyst. [7] This was seen in our case. It's difficult to diagnose pancreatic hydatid cyst on ultrasound and CT scan as classical findings are not present. But in our

case, we present a pancreatic hydatid cyst with classical radiological findings.

Primary hydatid cyst of the pancreas is an extremely rare entity. Our intention in presenting the case is to highlight the fact that hydatid cyst can masquerade as more common cystic lesions of the pancreas. The presence of the laminated floating membrane, ruled out the possibilities of mucinous cystic neoplasm and cystic neuroendocrine tumor. Absence of communication with the main pancreatic duct, ruled out the diagnosis of intraductal papillary mucinous neoplasm. A pancreatic pseudocyst was one of the differentials, however, there was no history of pancreatitis. Physicians who have not encountered a pancreatic hydatid cyst may not consider it in the differential diagnosis. In patients from endemic areas, a pancreatic hydatid cyst should always be considered in the differential diagnosis.

CONCLUSION

PHCs can masquerade as more common lesions of the pancreas like pseudocyst or cystic pancreatic neoplasms. PHCs should always be kept in the differential diagnosis in case of cystic pancreatic mass in patients from endemic areas.

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