

Case Series

Isolated pancreatic hydatidosis

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ABSTRACT

Pancreatic hydatidosis is a rare infection with a frequency of less than one percent. Most of the abdominal hydatid cysts occur in liver. The purpose of this study was to present our experience of few rare cases of isolated pancreatic hydatid cyst, its presentation and management. Five pancreatic hydatidosis patients admitted in Gandhi Medical College, Secunderabad between 2021 to 2023 were reviewed. Demographic characteristics, clinical findings, and laboratory data were collected. Commonest symptom was pain in left upper quadrant followed by jaundice. The preoperative diagnosis was established in 3 patients by combination of ultrasonography, computed tomography, endoscopic ultrasonography and serological tests. Surgical treatment was done in three cases and two were medically treated. None of them had recurrence during a follow-up of 1 year. Pancreatic hydatid cyst even if rare should be considered in any pancreatic cystic mass in endemic countries like India.

Keywords: Pancreatic hydatidosis, Echinococcosis, Extrahepatic hydatid cyst

INTRODUCTION

Cystic echinococcosis is caused by adult or larval stages of tapeworms belonging to the species (*Echinococcus granulosus*) and human as an accidental intermediate host. Humans get infected through consuming food, water and vegetables contaminated with worm eggs. Cysts can occur in any tissues with varying frequency: the liver (70%), lung (10%), muscles (4.7%), spleen (2.1%) and brain (1.4%) are most commonly affected, with rare involvement of the bone, thyroid, breast and pancreas.¹ Hydatid cyst is very rare in pancreas as it accounts for less than 1%, even in countries where it is endemic.² Here we present a series of five cases of hydatid cyst of the isolated pancreas involvement.

CASE SERIES

Five patients were diagnosed in the Department of Medical Gastroenterology in Gandhi Medical College and

Hospital, Secunderabad as hydatid cyst of the pancreas during the period 2021 to 2023.

Demographic and clinical features of all the five cases are shown in Table 5. The five cases consisted of three women and two men with an average age of 28 years ranging from 19 to 42 years. Among the five patients, 3 presented with vague pain in the left upper quadrant, 1 with jaundice and pain in the epigastrium and for 1 patient it was an incidental finding.

Physical examination showed epigastric mass in two cases. Laboratory tests showed high serum bilirubin and alkaline phosphatase level in one case. Hydatid serology by ELISA was positive in three cases. Complete blood count revealed eosinophilia in 3 cases.

Abdominal ultrasonography and CT scan performed in all cases revealed cystic mass in the pancreatic head in 3 cases and in the body in 2 cases. The ultrasound classification of

the cyst according to Gharbi showed a type III cyst in all cases. The common bile duct was compressed by the cyst resulting in dilatation of the intra hepatic bile ducts in one case as shown by MRCP in Figure 1 (case 3). The

Endoscopic ultrasound was performed in one case, showed a cystic mass in the head of the pancreas with floating membrane as shown in Figure 2 (case 2). Size of the pancreatic cyst ranged from 2.5 to 22 cm in diameter.

Table 1: Demography and clinical features of all cases.

	Case 1	Case 2	Case 3	Case 4	Case 5
Age (years)	22	34	42	19	25
Sex	Female	Female	Male	Female	MALE
Complaints	Vague left hypochondrium pain	Vague left hypochondrium pain, early satiety	Jaundice, epigastric pain abdomen	Dyspeptic symptoms	Left hypochondrium pain ,early satiety
Physical examination	Normal	Mass in left upper quadrant extending up to epigastrium (20 cm)	Mass in left upper quadrant extending up to epigastrium (15 cm)	Normal	Normal
ELISA based hydatid serology	Positive	positive	negative	Positive	Negative
USG/CT scan	A cystic mass of size 3 x 2 cm in the body of pancreas	A cystic mass of size 20 x 18 cm in head region of pancreas	A cystic mass of size 10 x 12 cm in head region of pancreas	Cystic lesion of size 1.5 x 1.5 cm in head of pancreas	A cystic mass of size 5.5 x 5.7 cm in body of pancreas
Treatment	Albendazole for 1 months	Laparotomy with resection	Laparotomy with resection	Albendazole for 1 month	Laparotomy with resection
Follow up 24 months	No reoccurrence	No reoccurrence	No reoccurrence	No reoccurrence	No reoccurrence

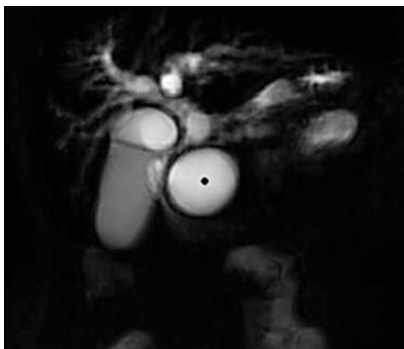


Figure 1 (case 3): Cystic mass in pancreatic head (marked with a arrow) causing obstruction to common bile duct, distended gallbladder and dilated extra- and intra-hepatic bile ducts

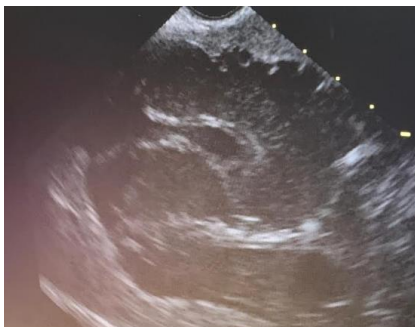


Figure 2 (case 2): Cystic lesion in the head region of pancreas with floating membrane.

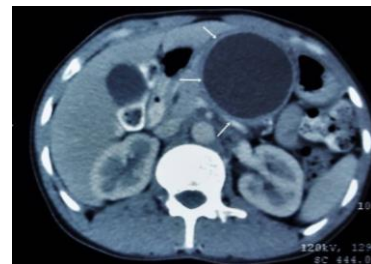


Figure 3 (case 5): Contrast enhanced CT abdomen (axial section) showing well defined round cystic lesion of size approximately 5.5 × 5.7 cm (thick white arrow), near pancreatic body causing compression to the stomach and pancreatic parenchyma (thin white arrow showing enhancing margin of cyst).



Figure 4 (case 5): Intra-operative photograph showing the opened cyst and its contents (thick white arrow). c: ectocyst; g: germinal membrane; p: pancreatic parenchyma.

Laparotomy was performed in 3 cases. Partial cystectomy was performed in all the 3 cases and no communication was found between cyst and the pancreatic or the biliary ducts. Two patients were given oral dose of albendazole for 1 month followed by repeat ultrasound. Patients were free of symptoms and were followed up for 24 months without any recurrence at abdominal ultrasonography.

DISCUSSION

Cystic echinococcosis has a prevalence exceeding 5% of the general population in endemic countries, affecting mainly the liver (70%) and the lungs (20%).¹ Pancreatic location is very rare with a prevalence of 0.14% to 0.2%.³ Pancreas Involvement mainly occurs via arterial route after crossing the hepatic and pulmonary filters.⁴ Other routes can be passage of cystic elements through biliary ducts, lymphatics or retroperitoneal route.⁴ In the pancreas commonest location is head of pancreas (57%) followed by body (24%) and the tail (19%).⁵ In our case series pancreatic head was the most common location involving 3 out of 5 patients (cases 2-4).

The clinical features depend on their size and the locations. Hydatid cysts of the pancreatic head can present with obstructive jaundice, either due to compression of the common bile duct or fistulization and spillage of scolices into the biliary tree.^{6,7} This was also seen in one of our patient. Cysts of the body and tail of the pancreas have usually nonspecific symptoms such as abdominal pain, discomfort, fullness and early satiety due to compression of the stomach by large cysts. This was again consistent with our series where 2 patients had cyst localized to pancreatic body and both of them had nonspecific symptoms (cases 1 and 5). Many cysts are found incidentally on imaging which is done for other symptoms.

Hydatid cyst should be considered in the differential diagnosis of pancreatic cysts, especially in endemic areas. The peripheral eosinophilia and hydatid serology are not positive in all cases.⁸ In our study, hydatid serology was positive in 3 cases and eosinophilia was also present in three cases (Cases 1,2,4).

The radiological features most useful for differentiating hydatid cyst from other cystic lesions are the presence of curvilinear calcification in the wall of the cyst, the presence of daughter cysts, hydatid sand, septations, or floating membrane.⁹ Despite of this it is sometimes difficult to differentiate these from pancreatic pseudocysts or cystic neoplasms. In such situations ELISA based antibody test to echinococcal antigen, which is positive in 85% of cases can be helpful.⁴ In our series, diagnosis was confirmed on laparotomy in 2 cases (cases 3 and 5), serology was positive in 3 cases (cases 1,2,4) and in one case endoscopic ultrasound was done suggestive of floating membrane in the cystic lesion (case 2).

Surgery is the treatment of choice in hydatid disease. Among the various available surgical procedures, choice

will depend on the location of the cyst and the presence of complications like communication with the pancreatic and biliary ducts.¹⁰ Open resections has been the standard of care for the treatment of pancreatic echinococcosis due to delicate nature of the laparoscopic procedure and the importance of avoiding spillage of the cyst's contents. Preoperative and Post-operative anti helminthic is recommended. In our series 2 patient was treated medically (cases 1 and 4) because of asymptomatic, small sized cystic lesion. Two patient underwent laparotomy (cases 2 and 3) due to symptomatic hydatid cyst while laparotomy was done in one patient due to dignostic dilemma (case 5) Regarding hydatid cyst of the pancreas, PAIR technique is advised against because of the risk of complications.¹⁰

CONCLUSION

We conclude that pancreatic hydatid disease, even if it is rare, should be considered in the differential diagnosis of cystic lesions of the pancreas. Serological tests can sometimes be helpful in difficult situations when radiological features are not characteristic. Surgical treatment is to be considered whenever it is possible The conservative treatment (partial or total pericystectomy) is the procedure of choice and resection should be reserved for selective cases.

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