CASE REPORT

Isolated hydatid cyst of the pancreas masquerading as pancreatic pseudocyst

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SUMMARY

Hydatid cyst of the pancreas is very rare and usually presents with obstructive jaundice. We report a case of a 7-year-old girl with cyst of the pancreas without any obstructive jaundice. The child was treated surgically and hydatid cyst of pancreas was found. Partial pericystectomy was performed. After 1 month on follow-up, the child developed pseudocyst of pancreas, which needed cystogastrostomy. Postoperatively, the child improved and is remaining well after 3 months of follow-up. Hydatid cysts of pancreas are very difficult to diagnose preoperatively and should be kept as a differential diagnosis of cystic intrapancreatic lesions. Serological tests can help in early diagnosis.

BACKGROUND

Hydatid cyst is a major health problem in developing countries such as India. Although the liver and lungs are commonly involved, other organ involvement is also reported. It should be considered in the differential diagnosis of cystic intrapancreatic lesions. In endemic areas, serological investigations for hydatid disease should be carried out for cystic intrapancreatic lesions. They can be helpful in diagnosing this disease pre operatively so that albendazole treatment can be started. This is important as albendazole before surgical intervention can result in reduced recurrence rates. Also, after any surgery on the pancreas, pseudocyst formation may occur, as was the scenario in the index case. Hence close follow-up should be maintained in such patients.

CASE PRESENTATION

A 7-year-old girl weighing 19 kgs was admitted with a history of intermittent upper abdominal pain for 1 year. On physical examination, the child was afebrile and anicteric; no pallor or lymphadenopathy was seen. No lump was palpable in the abdomen. The patient had no other associated medical problems. Social and family histories were not significant.

INVESTIGATIONS

The patient's Hb level was 12.5 g/dL and leucocyte count 10.6×10^3 , without any raised eosinophil count. Her liver function tests were within normal limits. Ultrasonography (USG) showed a 4.1×3.2 cm well-defined cystic lesion with 1.3 mm wall thickness in the region of the epigastrium, abutting the left lobe of the liver, anterior to the head of the pancreas and duodenum. Contrast-enhanced CT (CECT) of the abdomen showed a well-defined non-enhancing hypodense

lesion within the head and proximal body of the pancreas, mildly indenting the posterior wall of the stomach and mildly effacing the portal vein, suggestive of cystic intrapancreatic lesion (figure 1).

DIFFERENTIAL DIAGNOSIS

Intrapancreatic cystic lesion or pseudocyst of pancreas was suspected preoperatively.

TREATMENT

Exploratory laparotomy was performed and a 4×4 cm cystic mass was found arising from the pancreas behind the stomach. Clear fluid was aspirated from the cyst. On opening, the cyst germinal layer was seen and all its contents were removed and sent for histopathological examination (figure 2). Partial pericystectomy was performed and the cyst cavity was irrigated with hypertonic saline. No connection was seen with the main pancreatic duct. Omental tissue was placed inside the cyst cavity. The histopathology report confirmed the cyst to be a hydatid cyst including a part of acini of pancreas.

OUTCOME AND FOLLOW-UP

Postoperatively, the child remained well and was discharged on the seventh postoperative day. A course of albendazole 10 mg/kg was prescribed for 3 months. But after 15 days, the child was readmitted with abdominal pain and progressive abdominal distention along with vomiting. Per abdomen a lump was palpable in the epigastric region. The lump was tender. Repeat investigations showed haemoglobin (Hb) 12.5, total leucocyte

Figure 1 Axial contrast-enhanced CT of the abdomen reveals a well defined cystic lesion (arrow) in the region of the head of the pancreas, with no internal septations or solid component.

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Figure 2 Operative photograph showing hydatid cyst of pancreas.

count (TLC) 20 200 and platelets 350 000. Serum amylase was increased. The rest of the investigations, including liver function tests and renal function tests, were within normal limits except for serum LDH, which was 296. CECT of the abdomen was carried out, which showed a well-defined peripherally enhancing hypodense collection in the lesser sac with non-visualisation of the proximal body of the pancreas, and adjacent fat stranding with mass effect and ascites suggestive of pancreatitis (figure 3). Subsequently, the child was taken up for surgical exploration. Intraoperatively, there was a large 15×15 cm cyst approximately posterior to the stomach displacing the stomach anteriorly. White turbid fluid was aspirated from the cyst with a wall thickness of about 6 mm. Cystogastrostomy was performed. Postoperatively, the child remained well and was discharged on the seventh postoperative day. Albendazole was continued for 3 months. The child was well after 3 months of follow-up.

DISCUSSION

Humans have no role in the life cycle of echinococcosis. Man is an accidental host. The commonest site of hydatid cyst is the liver. Isolated pancreatic hydatid cyst is rare; it has been estimated to be 0.14–2% in the literature.¹ These cysts are generally thought to occur due to haematological dissemination, from pancreatic and bile ducts or from the peripancreatic lymphatics.

Figure 3 Postoperative pseudocyst. Coronal contrast-enhanced CT of the abdomen image taken after surgery depicts a well-defined cystic lesion in the lesser sac posteroinferior to the stomach.

They are seen more in the head of the pancreas (57%), followed by the body (24%) and tail (17%).²

Pancreatic cysts grow slowly (0.3–2 cm per year), and some patients remain asymptomatic for years before a diagnosis is reached.³ They may present with intermittent abdominal pain, abdominal mass and other pressure symptoms, depending on the size and location of the cyst. There are case reports in the literature showing hydatid cysts of the head of the pancreas presenting with obstructive jaundice due to compression of the common bile duct.⁴ Cholangitis, rupture into the biliary tree, pancreatitis, pancreatic abscess, pancreatic fistula and compression due to erosion of pancreatic ducts are other unusual complications.^{4–6} Cysts of the body and tail are usually asymptomatic, as in the index case.

Diagnosis based on radiological imaging is very difficult. In a patient with pancreatic cyst, USG and CT of the abdomen are commonly performed. The appearance of a cystic mass, sometimes with an indulating membrane, and a CT appearance of multiple degenerating daughter cysts within the mother cyst may alert the clinician to the possibility of pancreatic hydatid disease. Conversely, radiological examinations alone may not be sufficient to diagnose primary pancreatic hydatid disease. In our case, USG and CT were useful in diagnosing the cystic mass in the head of the pancreas, but were not diagnostic for primary hydatid disease of the pancreas.

The first and most important step in the diagnosis of primary hydatid cyst is clinical suspicion. Important clues include residence in an endemic region or previous hydatid cyst surgery. These clues may increase diagnostic yield when assessed in conjunction with results from radiological studies and serological tests. It may masquerade as pseudocyst of pancreas, cystic pancreatic neoplasms or even gastric duplication cyst. In the index case, USG and CT were also inconclusive regarding the diagnosis, and possibility of pancreatic pseudocyst was considered preoperatively. We had not performed a serological test initially as we had not considered hydatid in the differential diagnosis. The serological tests used commonly for the diagnosis of hydatid cysts are ELISA, indirect haemagglutination, serum immunoelectrophoresis, complement fixation test and immunofluorescence assay.⁷ ELISA gives positive results in about 85% of cases.⁸

Many studies in the literature have advocated the role of preoperative and postoperative albendazole. Preoperative albendazole therapy in the dose of 10 mg/kg/day in divided doses for a period of 8–12 weeks has been shown to kill the protoscolices in hydatid cysts. However, it could not be started in our case because the diagnosis was not suspected. Postoperative albendazole therapy in similar dose has been shown to reduce the recurrence rates.^{9–10} In this case, we started albendazole in the postoperative period.

Surgical excision is the treatment of choice, but in cases where the cyst is in close proximity to other anatomical structures, as in our case, evacuation of cyst contents with partial cystectomy is preferred. After excision, the cavity should be washed with cetrimide or hypertonic saline solutions and the cavity should be preferably packed with omentum. Other chemicals used as scolicidal agents are 0.9% NaCl, 20% NaCl (hypertonic saline), 20% silver nitrate, albendazole 20 mg/cm³, 50% dextrose (hypertonic glucose) and 20% mannitol.¹¹ If the cyst is found to have connections with the pancreatic duct, more aggressive resection such as Whipple's procedure should be considered. Percutaneous drainage of the cyst has also been reported in the literature in patients with high surgical risk and in such cases it must be combined with medical chemoprophylaxis using albendazole.¹²

Pseudocyst of pancreas in the childhood age group is rare and mostly associated with trauma. The incidence of pancreatic pseudocyst formation after post-traumatic pancreatitis ranges from 0% to 69%.¹³ In our case, the prior pancreatic surgery must have caused some pancreatic duct injury resulting in the pseudocyst formation.

Learning points

- ▶ Hydatid cyst of the pancreas, though rare, should be considered a possibility when dealing with cystic lesion of pancreas, especially in endemic areas.
- ▶ Serological tests for hydatid should be carried out in the preoperative period for diagnosis in children with cyst of pancreas so that albendazole can be given before intervention.
- ▶ Any surgery of pancreas may result in pseudocyst formation and close follow-up should be maintained in such patients.

Competing interests None declared.

Patient consent Obtained.

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