

Hydatid Cyst of Pancreas: A Rare Case at a Rural Hospital in India

Rohan Patil¹, Sandesh Gawade¹, Sachin Naik¹, Shailesh Puntambekar²

¹Department of General Surgery, MIMER Medical College, Talegaon Dabhade, Pune, Maharashtra, India, ²Department of Oncology and Laparoscopy Surgery, Galaxy CARE Laparoscopy Institute, Pune, Maharashtra, India

ABSTRACT

Hydatid disease is caused by *Echinococcus granulosus* and most commonly seen in liver and lung. Incidence of pancreatic hydatid cyst is very rare. A 45-year-old female housewife presented with lump in the right side of her hypochondrium that persisted for 1 year. She did not have a history of abdominal pain, jaundice or fever, loss of appetite, or weight loss. Her abdominal computed tomography revealed a 9.5 cm × 8 cm sized thick-walled cystic lesion with a wall thickness of 7 mm. The lesion was seen abutting liver, pancreatic head, adjacent bowel loops, superior mesenteric artery, superior mesenteric vein, and mass effect in the form of adjacent bowel loops. Considering the cystic lesion of pancreas, the patient was planned for exploratory laparotomy. Intraoperative findings were evident of cystic mass involving head of pancreas with adhesions and superior mesenteric vein. The patient was considered for pancreaticoduodenectomy with clinical suspicion of neoplastic lesion. Histopathology of specimen suggested hydatid cyst. The patient was given albendazole 15 mg/kg postoperatively. The patient was monitored in our outpatient department for 6 months. Hydatid cyst of the pancreas should be considered in the differential diagnosis of cystic lesion of the pancreas and thorough pre-operative assessment can offer appropriate choice of surgery for complete cure of the disease and avoid the complex post-operative course and prolonged hospitalization.

Key words: Hydatid cyst, pancreas, pancreaticoduodenectomy

INTRODUCTION

Hydatid disease is caused by the cystic stage of *Echinococcus granulosus*. Most hydatid cysts occur in the liver (59–75%), followed by the lung (27%). Involvement of the kidney (3%), bone (1–4%), and brain (1–2%) is rare. Other sites, such as the heart, spleen, pancreas, and

voluntary muscle, are very rarely involved, virtually no site is immune.^[1] The reported incidence of hydatid cyst of the pancreas is 0.25%.^[2]

CASE REPORT

A 45-year-old female housewife presented with lump on the right side of her hypochondrium that persisted for 1 year. She did not have a history of abdominal pain, jaundice or fever, loss of appetite, or weight loss. The patient did not have any history of migration or recent travel to hydatid prone region.

The patient was clinically normal. Her abdominal examination revealed a lump, size of around 8 cm × 6 cm in the right hypochondrium. On palpation, lump had smooth surface and consistency was firm. On

Access this article online	
Website: www.mmj.net.in	Quick Response Code 
DOI: 10.15713/ins.mmj.34	

Address for correspondence:

Sandesh Gawade, Department of General Surgery, MIMER Medical College, Talegaon Dabhade, Pune, Maharashtra, India. E-mail: drsandesh23@gmail.com

auscultation, there was no bruit. Systemic examination was essentially normal.

Hemoglobin, white cell count, and erythrocyte sedimentation rate were within normal range. Renal function tests, liver function tests, serum amylase levels, and CA 19/9 levels were within normal range.

Her X-ray chest was normal. Ultrasound examination revealed a large well-defined cystic lesion in the right flank, in the right lumbar region anterior to the right kidney, extending superiorly up to the inferior surface of liver and inferiorly up to the right iliac fossa, measuring $10.0 \times 7.2 \times 8.6$ cm in size. The liver, gallbladder, spleen, kidneys, and other organs were normal.

Her abdominal computed tomography (CT) with intravenous contrast revealed a 9.5×8 cm sized thick-walled cystic lesion with a wall thickness of 7 mm originating from head pancreas correlating the findings of ultrasound.

Considering the cystic lesion of pancreas, the patient was planned for diagnostic laparoscopy. It suggested a mass around head of pancreas of size around $10 \times 8 \times 7$ cm in dimensions, abutting liver with bosselated surface [Figure 1]. C-loop of duodenum was widened. Lower extension of duodenum could not assess due to adhesions. The patient was immediately considered for pancreaticoduodenectomy with clinical suspicion of neoplastic lesion.

Specimen was sent for histopathological examination. Drains were kept. The patient had uneventful post-operative course. The patient was hospitalized for 45 days. Histopathology suggested hydatid cyst. The patient was given albendazole 15 mg/kg postoperatively. The patient was monitored in our outpatient department for 6 months.

DISCUSSION

Primary hydatid cyst of the pancreas is a rare disease with incidence ranging from 0.14% to 2%.^[3] They are usually solitary (90%–91%) and distributed unevenly throughout the head (50%–58%), body (24%–34%), and tail (16%–19%).^[4] Hypothesis of hematogenous dissemination is considered to be the most common mode of spread to the pancreas. The other possible modes of spread are passage through the biliary system, lymphatic spread from the intestinal mucosa, direct spread through the pancreatic veins, and retroperitoneal dissemination.^[3,4]

Most hydatid cysts are asymptomatic and diagnosis is incidental. Primary symptoms are abdominal pain,

discomfort, and vomiting. Furthermore, it is sometimes associated with obstructive jaundice, weight loss, an epigastric mass, and/or recurrent acute pancreatitis. Definitive diagnosis of the disease can be made only at surgery. The differential diagnoses of hydatid cyst of the pancreas are pseudocyst, serous cystadenoma, and mucinous cystic neoplasm. A hydatid cyst and a pancreatic cystic tumor need to be distinguished by doing pre-operative ELISA which has a specificity of 85%.^[5] Furthermore, an endoscopic ultrasound could be of great help in diagnosis of such lesions. Although EUS morphology alone has limitations regarding definitive diagnosis, fluid aspirates can differentiate it from malignant cystic lesions. Comparison of radiological and serological findings confirms a good correlation between the two methods. Nevertheless, serology is more specific but less sensitive than radiology.^[6]

Radiological findings range from purely cystic lesions to solid-appearing masses. Sonography has most sensitivity for the detection of membranes, septa, and hydatid sand within the cyst. Ultrasonography may detect floating endocyst membranes inside the cavity, which has high specificity for hydatid disease. Water lily sign is seen if there is complete detachment of the membranes inside the cyst. Results of ultrasound and CT scan are same. Cyst fluid usually shows water attenuation (3–30 HU), and calcification is often detected by CT scan. T2-weighted images of magnetic resonance imaging (MRI) show the characteristic low-signal intensity rim of the hydatid cyst. MRI is better for demonstrating irregularities of the rim. These irregularities demonstrate incipient detachment of the membranes.^[7]



Figure 1: Intraoperative picture showing Hydatid Cyst of Pancreas

Hydatid cyst was found around head of the pancreas of our patient. Hydatid cysts can occur in any region of the pancreas. Krige *et al.*^[8] reported that in their series of 280 hydatid cysts, four patients had pancreatic hydatid cysts (PHC) and all were located in the head region of the pancreas. Safioleas *et al.*^[9] reported that out of five hydatid cysts that the majority of cysts were found in the tail region of the pancreas.

Primary hydatid cysts can be treated by one or a combination of several therapies, which includes open or laparoscopic surgical approach, minimally invasive approach (puncture-aspiration-injection-reaspiration or direct percutaneous catheterization), and medical therapy. Open surgery is the gold standard for the treatment of PHC disease. Selection of the appropriate management approach depends on many factors such as surgeon's experience, patient age, presence of comorbid conditions, pancreatic localization of cyst(s), cyst size, and relation of cyst to adjacent structures or the pancreatic and common bile ducts.^[4]

Hydatid cysts in the head of pancreas with no communication with biliary or pancreatic ducts can be managed with partial cystectomy + external drainage, partial cystectomy + omentopexy and pericystectomy, marsupialization, and pancreaticoduodenectomy procedures. Each method is associated with its own advantages and disadvantages. To avoid post-operative pancreatic fistula formation, cysts with communication with the pancreatic duct can be treated with cystojejunal, cystoduodenal, or cystogastric anastomosis techniques. For cysts located in the body or tail of pancreas, the most appropriate approach is a spleen-preserving distal pancreatectomy. In cases where the spleen cannot be preserved, pneumococcal and meningococcal vaccinations should be considered immediately to avoid post-splenectomy complications. Central pancreatectomy can be preferred if cysts are localized to the pancreatic body or neck. This method has the advantage of the preservation of pancreatic tissue and the minimization of complications such as diabetes or exocrine pancreatic insufficiency.^[4]

Masoodi *et al.*^[5] reported that, in a patient who underwent a distal pancreatectomy, hyperglycemia was so high that the patient required insulin injection. The role of pancreaticoduodenectomy is very limited for the management of hydatid cysts of the pancreatic head.^[10] Pancreaticoduodenectomy was performed in 3 of 19 patients of pancreatic head cysts.^[4] Whipple's procedure was considered in all three of these cases since the results of pre-operative radiological examination and/or intraoperative findings were consistent with

a cystic lesion of the pancreatic head. We experienced similar difficulties in our case. While the pre-operative investigations were consistent with a cystic lesion, the intraoperative findings were totally compatible with a mass in the pancreatic head. In retrospective analysis, we realize that the patient outcome can be much better if the diagnosis was made preoperatively and simple partial cystectomy and drainage were performed intraoperatively. Hence, our main objective for writing this manuscript is to make awareness about this topic with thorough pre-operative assessment which can avoid the major surgery and long hospitalization.

Pancreatic hydatids in the tail can be successfully treated with distal pancreatectomy, while cysts in the body and head of the pancreas have been treated with proper evacuation, pericystectomy, and omentoplasty.^[9] Yattoo *et al.* reported successful ultrasound-guided drainage of a hydatid cyst in the pancreatic head region in a patient with obstructive jaundice.^[11]

Endoscopic retrograde cholangiopancreatography and mini-sphincterotomy in a patient with cholangitis due to PHC before definitive surgery for the hydatid cyst were reported by Angelescu *et al.*^[12]

We conclude that hydatid cyst of the pancreas should be considered in the differential diagnosis of cystic lesion of the pancreas and thorough pre-operative assessment can offer appropriate choice of surgery for complete cure of the disease and avoid the complex post-operative course and prolonged hospitalization.

REFERENCES

1. Bedioui H, Chebbi F, Ayadi S, Daghfous A, Bakhtri M, Jouini M, *et al.* Primary hydatid cyst of the pancreas: Diagnosis and surgical procedures. Report of three cases. *Gastroenterol Clin Biol* 2008;32:102-6.
2. Moosavi SR, Kermany HK. Epigastric mass due to a hydatid cyst of the pancreas. A case report and review of the literature. *JOP* 2007;8:232-4.
3. Shah OJ, Robbani I, Zargar SA, Yattoo GN, Shah P, Ali S, *et al.* Hydatid cyst of the pancreas. An experience with six cases. *JOP* 2010;11:575-81.
4. Akbulut S, Yavuz R, Sogutcu N, Kaya B, Hatipoglu S, Senol A, *et al.* Hydatid cyst of the pancreas: Report of an undiagnosed case of pancreatic hydatid cyst and brief literature review. *World J Gastrointest Surg* 2014; 6:190-200.
5. Masoodi MI, Nabi G, Kumar R, Lone MA, Khan BA, Naseer Al Sayari K, *et al.* Hydatid cyst of the pancreas: A case report and brief review. *Turk J Gastroenterol* 2011; 22:430-2.

6. Babba H, Messedi A, Masmoudi S, Zribi M, Grillot R, Ambriose-Thomas P, *et al.* Diagnosis of human hydatidosis: Comparison between imagery and six serologic techniques. *Am J Trop Med Hyg* 1994;50:64-8.
7. Ilica AT, Kocaoglu M, Zeybek N, Guven S, Adaletli I, Basgul A, *et al.* Extrahepatic abdominal hydatid disease caused by *Echinococcus granulosus*: Imaging findings. *AJR Am J Roentgenol* 2007;189:337-43.
8. Krige JE, Mirza K, Bornman PC, Beningfield SJ. Primary hydatid cysts of the pancreas. *S Afr J Surg* 2005;43:37-40.
9. Safioleas MC, Moulakakis KG, Manti C, Kostakis A. Clinical considerations of primary hydatid disease of the pancreas. *Pancreatology* 2005;5:457-61.
10. Bhat NA, Rashid KA, Wani I, Wani S, Syeed A. Hydatid cyst of the pancreas mimicking choledochal cyst. *Ann Saudi Med* 2011;31:536-8.
11. Yattoo GN, Khuroo MS, Zargar SA, Bhat FA, Sofi BA. Case report: Percutaneous drainage of the pancreatic head hydatid cyst with obstructive jaundice. *J Gastroenterol Hepatol* 1999;14:931-4.
12. Angelescu N, Cristian D, Bordea A, Jitea N, Racoveanu I. Hydatid cyst of the head of the pancreas-a clinical case. *Chirurgia (Bucur)* 1997;92:325-30.

How to cite: Patil R, Gawade S, Naik S, Puntambekar S. Hydatid cyst of pancreas: A rare case at a rural hospital in India. *MIMER Med J* 2018;2(2):48-51.

Source of Support: Nil. **Conflict of Interest:** None declared.

This work is licensed under a Creative Commons Attribution 4.0 International License. The images or other third party material in this article are included in the article's Creative Commons license, unless indicated otherwise in the credit line; if the material is not included under the Creative Commons license, users will need to obtain permission from the license holder to reproduce the material. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/> © Patil R, Gawade S, Naik S, Puntambekar S. 2018