

Pancreatic Fistula Following Surgery of Primary Pancreatic Hydatid Cyst Causing Pancreatitis

Ghassan A.A.Nasir.FRCS-FICS, Senior consultant surgeon*
Raafat R.Ahmad.FICM (dig.surg.), CABS, FICM/S*

Introduction:

Hydatid cyst can affect any part of the body from the big toe to the crown and no tissue is immune except hair, nail and teeth. This serious disease is caused by larval stage of *Echinococcus granulosus* that belong to *Taenia* family. It occurs through out the world but endemic in Mediterranean, Middle East, South America, Austria, South Africa, and Eastern Europe⁽¹⁾. Although Iraq is endemic by hydatid cyst but it is rarely encountered a primary hydatid cyst of the pancreas.⁽²⁾

We report one rare case of solitary pancreatic hydatid cyst communicating with the main duct that causes recurrent acute and chronic pancreatitis when the patient presented with recurrent abdominal pain, diarrhea and loss of weight.

Case report:

A twenty-eight years old male was presented with recurrent upper abdominal pain of three years duration. The pain was radiating to the back and associated with vomiting and low-grade fever, which subsided after one or two days later. During the last six months the pain became more severe and associated with watery diarrhea and loss of weight.

On examination, there was nothing significant except mild tenderness but no definite mass.

The investigation revealed **PCV 47**, **WBC $10.5 \times 10^9/L$** , eosinophil 5%, neutrophil 75%, **ESR 75mm/h**, **TSB 14mmol/L**, **Alk.ph 87IU/L**.

The ultrasound revealed multiloculated cyst 11.2X6cm in the body and tail of the pancreas with other mass in the head of the pancreas measuring 3X5cm, which was suggestive of pancreatic cystic neoplasm (cystadenoma, cystadenocarcinoma) or pancreatic pseudocyst.

Abdominal CT scan with oral and I.V. contrast revealed that there was a solid-cystic mass, hypodense, 5X6cm with multiple septae in the body and tail of the pancreas and other hypodense mass at the head of pancreas measuring 5X4cm. The picture was suggestive of pancreatic cystadenoma or pancreatic pseudocyst (figure 1).

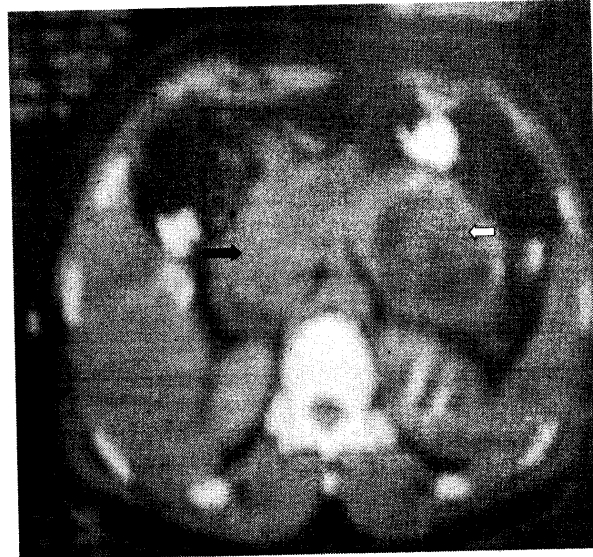


Figure 1 CT scan of the abdomen revealed cystic mass (white arrow) in the body and tail of the pancreas with other hypodense mass (black arrow) at the head of the pancreas.

The patient was explored through an upper midline incision, after mobilization of the spleen medially. There was a cystic mass at the body and tail of the pancreas measuring about 10cm. in diameter pointing mainly posteriorly. Aspiration revealed turbid greenish-white fluid and the laminated membrane expelled suddenly (figure 2). The cyst was completely evacuated and irrigated with normal saline and a tube drain was left.

On Kocherisation of the duodenum, there was diffuse enlargement of the head and body of the pancreas with no definite mass. Biopsy as well as FNA was taken from the head of the pancreas.

Post-operatively, the patient passed through uneventful recovery but in the third post-operative day intracystic drain started to discharge a clear white fluid 500cc/24h. The fluid was sent to measure amylase level, which was revealed 10350u/l. So the diagnosis of pancreatic fistula was proven, and the patient was kept on low fat diet and octerotide and was discharged home. Two weeks later there was no fluid discharge from the drain and it was removed. Biopsy that was taken from the head of the pancreas revealed chronic non-specific inflammation and fibrosis (figure3).

* Medical City-Baghdad



Figure 2 laminated membrane expelled form the cyst in the tail of the pancreas.

Discussion:

Primary pancreatic hydatid disease rarely occurs even in endemic area Al-Bahrani et al reviewed 791 patient with abdominal hydatidosis and they found that only 0.4% of abdominal hydatid cysts were found in the pancreas⁽²⁾.

About 90% of recurrent acute pancreatitis is caused by either biliary tract disease or to alcohol intake.

Recurrent acute pancreatitis due to hydatid cysts is extremely rare; as far as we know; there are only four cases in the literatures but no case in the English medical literatures^(3, 4, 5, and 6).

Possible sources of infestation of the pancreas by hydatid cyst include hematogenous dissemination, local spread via pancreatobiliary ducts and peripancreatic lymphatic invasion⁽⁷⁾.

The clinical presentation is the result of the pressure generated by the cyst on adjacent structures and depends largely on the size and anatomic location of the cyst.

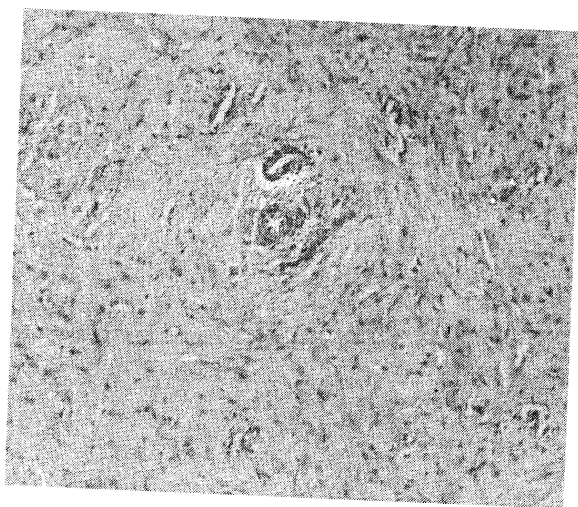


Figure 3 histopathology of the biopsy taken from the head of the pancreas showing features of chronic pancreatitis.

The cyst is localized in the head of the pancreas in 50% of cases^(8, 9), and the patient may present with jaundice⁽¹⁰⁾. But if the cyst is in the body and tail of the pancreas, it may present with recurrent abdominal pain or features of recurrent pancreatitis⁽³⁾.

Partial duct obstruction, along with the stimulation of pancreatic secretion, produces a pancreatic inflammation. Duct obstruction of brief duration may cause acute pancreatitis, when it is persistent over months or years, it is a recognized cause of chronic pancreatitis as in our case^(3,4,5,6).

Although the cystic lesion of the pancreas may be identified by US or CT scan, the diagnosis of hydatid cyst of the pancreas is extremely difficult and can rarely be established pre-operatively unless the hydatid disease is suspected especially in endemic area.^(3,5,6) The cyst may be easily confused with cystadenoma, cystadenocarcinoma or pseudocyst of the pancreas. In the present case, the CT of the pancreas (Fig.1), failed to diagnose the hydatid cyst of the pancreas, but showed cystic lesion of the body and tail of the pancreas with edema of the head and body of the pancreas indicating pancreatitis.

The treatment of hydatid disease of the pancreas is partial pancreatectomy when their location permits that. Other options of the treatment are pericystectomy to release the pressure.

If there is a communication with the duct, a stent should be inserted to the duct during surgery or cysto-gastrostomy might be the procedure of choice^(3, 11). In our case the cyst was infected and was treated by pericystectomy and drainage, which led to pancreatic fistula that was treated by octreotid and conservative treatment. The fistula was closed within two weeks.

In conclusion hydatid cyst of the pancreas is extremely rare condition but it may be a causative factor for recurrent pancreatitis.

References:

1. Stephen A. Barnes, Keith D. Lillemo. Liver Abscess and Hydatid Cyst Disease. In Michael J. Zimmer, Seymour I. Schwartz, Harold Ellis. *Maingot's Abdominal Operation, 10th ed.* Appleton and Lange, Connecticut, 1997:p1553
2. Ahmed R. Al-Bahrani, Mohamed A. Al-Maiyah, Zuhair R. Al-Bahrani Survey of Abdominal Hydatidosis. Review of 791 patients in Iraq. *The Arab J. Gastroenterology* 2003;4:152-156.
3. Ozmen M.M, Moran M, Coskum F. Recurrent acute pancreatitis due to hydatid cyst of pancreatic head, case report and review of the literature. *Journal of pancreas* 2005; 6: 4, 354-358
4. Sebbag H, Partensky C, Roche J, Ponchon T, Martins A. Recurrent acute pancreatitis from the rupture of a solitary pancreatic hydatid cyst in the Wirsung's canal. *Gastroenterol Clin Biol* 1999; 23:793-4 [PMID 10470541]
5. Augustin N, Gamstatter G, Neher M, Schreyer T, Storkel S. *Echinococcus cysticus of the pancreas in the clinical picture of the acute pancreatitis.* *Chirurg* 1984; 55:661-4 [PMID 6391863]
6. Kakhouda N, Legoff D, Tricarico A, Castillo L, Bertrand M, Mouiel J. hydatid cyst of the pancreas responsible for chronic recurrent pancreatitis. *Presse Med* 1988; 17:2021-3 [PMID 2974547]

7. Brown RA, Millar AJ, Steiner Z, Krige JE, Burkimsher D, Cywes S. Hydatid cyst of the pancreas a case report in child. *Eur J Pediatr Surg* 1995; 5:121-4 [PMID 7612583]
8. Coskun T, Kama NA, Dener C, Gozalan U. Primary hydatid disease of the pancreas. *Am J Gastroenterol* 1997; 92:899-900 [PMID 9149214]
9. 15. Kayabali I, Haluk GI, Necati O. Surgical treatment of hydatid cysts of the pancreas. *Int. Surg* 1991; 76:185-8 [PMID 1938210]
10. Hamaci EO, Besim H, Korkmaz A. Unusual locations of the hydatid disease and surgical approach. *ANZ J Surg.* 2004; 74:356-60 [PMID 15144257]
11. Oruc MT, Kulacoglu IH, Hatipoglu S, Kulah B, Ozmen MM, Coskun F. Primary Hydatid cyst of the pancreas related to main pancreatic duct. *Hepatogastroenterology* 2002; 49:383-4 [PMID 11995456]