Kocatepe Tıp Dergisi
The Medical Journal of Kocatepe
7: 9-12 / Mayıs 2006
Afyon Kocatepe Üniversitesi

Hydatid Cyst in The Head Of The Pancreas in An Adult: Case Report

Erişkin Pankreas Başı Kist Hidatiği: Vaka Sunumu

Nazif ZEYBEK[1], Hüseyin TAŞ[1], Nihat KAYMAKÇIOĞLU[1], Ayhan ÖZCAN[2], Sadetin ÇETİNER[1], Turgut TUFAN[1]

[1] *Gulhane Military Medical Academy General Surgery Department, Ankara*
[2] *Gulhane Military Medical Academy Pathology Department, Ankara.*

ABSTRACT: A 21-year-old man was admitted with epigastric pain, and a cystic mass in the pancreas was detected by computerized tomography. Hydatid disease was diagnosed during surgery. Hydatid disease must be considered in the differential diagnosis of pancreatic cysts, especially in areas where the disease is endemic. Preoperative diagnosis can be supported by specific antigenic tests, and preoperative medical therapy can be given appropriately to reduce the risk of recurrence.
Key Words: Hydatid Cyst, Pancreas, Pancreatic pseudocyst, Pancreatic cyst.

ÖZET: Epigastrik ağrı şikayeti ile hastanemize başvuran 21 yaşında ki erkek hastanın, çekilen batın tomografisinde pankreasta kistik bir kitle tespit edildi. Kist hidatik tanısı cerrahi operasyon esnasında konuldu. Kist hidatik hastalığı pankreatik kistlerin ayrıcı tanısında özelikle hastalığın endemik olduğu bölgelerde göz önünde bulundurulmalıdır. Preoperative tanı spesifik antijenik testlerle desteklenebilir ve operasyon öncesi medikal tedavi ile nüks riski azaltılabilir.
Anahtar Kelimeler: Kist Hidatik, Pankreas, Pankreatik Psödokist, Pankreatik Kist.

INTRODUCTION

Hydatid disease is still a serious problem in certain areas of the world. Echinococcosis, an endemic disease in Mediterranean, Middle East and South America, is caused by the tapeworm Echinococcus granulosus, which produces cysts in the liver and other organs. The incidence of hydatid disease is 1:2,000 in the Turkish population[1]. Although the liver and lungs are the most commonly involved organs, hydatid disease can occur in all viscera from brain to soft tissues. Primary pancreatic hydatidosis is extraordinarily rare with an incidence of <0.2 per 100 cases[2].

We report a patient with a hydatid cyst in the head of the pancreas, who was suspected to have a pancreatic pseudo cyst preoperatively.

CASE REPORT

A 21-year-old man presented with epigastric pain radiating to the back accompanied by nausea and vomiting; identical episodes had been occurring for 2 months. He had no weight loss, jaundice or diarrhea. Neither history of alcohol abuse, abdominal trauma, hyperlipidemia, nor family history of pancreatitis was present. In the physical examination, epigastric region was tender with abdominal palpation. All laboratory test results, including serum amylase were in normal ranges. Ultrasound (US) examination of abdomen displayed a 4.5-cm-diametered cyst located in the head of the pancreas. Computerized tomography (CT) disclosed enlargement of the head of the pancreas with narrowing of the distal pancreatic duct and dilation of the proximal pancreatic duct, and a 5.5 x 4.5 cm cystic lesion in the head of the pancreas (Fig-1). Endoscopic retrograde cholangiopancreatography revealed a narrowed distal pancreatic duct and dilated proximal pancreatic duct with a narrowed ductus choledochus adjacent to the distal pancreatic duct.

According to the results of the analysis; percutaneous drainage was performed to the patient with prediagnosis of pancreatic pseudo cyst. The patient was discharged after the downsizing of the cyst. Cytologic analysis of the cyst fluid was reported as hypocellular smear with rare macrophages. In the follow-up examination performed 2 months later, the cyst was detected to be oversized by US examination, coming back to its previous size. Upon these findings a laparotomy was decided.

Corresponding Author; Nazif ZEYBEK M.D., Gulhane Military Medical Academy General Surgery Department 06018 Etlik/ANKARA/TURKEY
Phone: +90 312 304 51 13 Fax: +90 312 304 50 02
e-mail: nzeybek@hotmail.com)

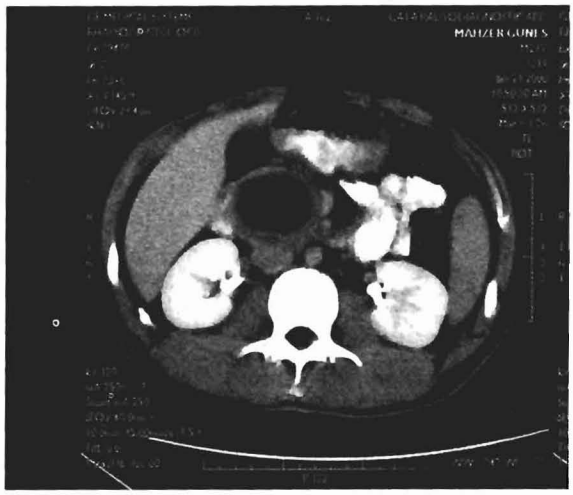

Fig - 1: Appearance of cystic lesion arising from the head of the pancreas in computerized tomography.

At laparotomy, a 6 x 5 x 5 cm tense cystic mass was detected in the head of the pancreas. There were no cysts on the surfaces of other abdominal viscera. The cyst was freed from all adhesions, and clear cystic fluid was aspirated. The cyst was opened, and germinative membrane was seen and removed. Upon detection of the germinative membrane hydatid disease was considered and cyst cavity was filled with hypertonic saline solution and saline was aspirated after 15 minutes. Precise diagnosis of hydatid disease could be made after seeing the scolices within the aspirated cystic fluid (Fig-2). No communication with the main pancreatic duct could be demonstrated. Part of the remaining adventitial ectocyst wall was excised and Roux-en-Y cystojejunostomy was performed.

Postoperatively the patient was treated with albendazole at an oral dose of 400 mg bid for twelve weeks. Twenty four month clinical and ultrasonographic follow-up showed no evidence of recurrence.

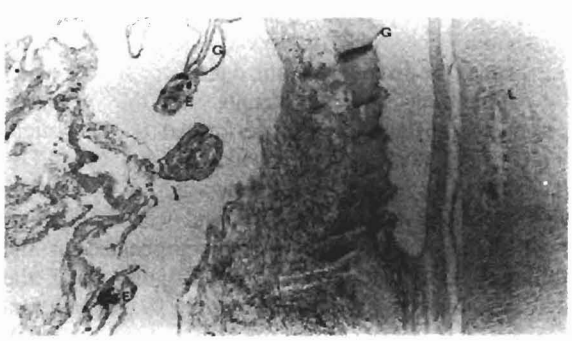

Fig - 2: Echinococcal cyst contents. Protoscolex of Echinococcus granulosus within daughter cyst (E). Note the cyst wall (right) with thin germinal layer (G) and adjacent avascular laminated membrane (L) (HEx100)

DISCUSSION

Pancreatic hydatid disease is rare. Echinococcosis produces cystic infestations primarily in the liver or lung. The location is mostly hepatic (75%) and pulmonary (15%), and only 10% occur in the rest of the body[3]. Isolated extra hepatic disease in spleen, kidneys, heart, bones, and central nervous system is unusual, and echinococcal involvement of the pancreas is extremely rare, accounting for about 0.2% of all cases of hydatid disease[2]. The cysts occur commonly in the head of the pancreas, although cysts in the body and tail of the pancreas have also been reported[4].

Clinical symptoms depend on the size and location of the cyst. The main clinical manifestations are jaundice, abdominal pain, weight loss, fever, anemia, palpable abdominal masses, and signs of portal hypertension. Other gastrointestinal symptoms can be caused by rupture of the cyst into the digestive tract, the biliary tree, the peritoneum, or the pancreatic duct[5]. Acute pancreatitis also has been reported[6].Chronic pancreatitis seems to be a very rare presentation of hydatid cyst disease[7]. The pancreatic cyst may be asymptomatic and may be an incidental finding during imaging procedures. In our case epigastric pain, which is reported to be the most common symptom of hydatid disease in the liver and pancreas, was the major symptom. Nonspecific symptoms such as nausea and vomiting were accompanying to epigastric pain.

The most sensitive and effective procedures for preoperative diagnosis are US, CT, and magnetic resonance imaging. US and CT have great value in the diagnosis, although several ultrasonographic features and patterns of hydatid cysts of the liver have been defined by various authors[8,9,10], the preoperative diagnosis of a pancreatic hydatid cyst by imaging is extremely difficult. In our case neither US nor CT have considered hydatid disease in differential diagnosis of the pancreatic cyst. A high index of suspicion, peripheral eosinophilia, positive echinococcal antigen immunofluorescence or hemagglutination tests, typical findings on imaging studies (CT or US), and a history of exposure in an endemic area are some hints to the diagnosis. Eosinophilia, usually normal, can be slightly increased at the beginning of infection or in case of cystic leakage[11]. Our patient had normal peripheral eosinophil count preoperatively. Results of indirect hemaglutination tests are not reliable in the diagnosis of hydatid disease owing to low sensibility. Determination of specific antigens and immune complexes of the cyst with an enzyme

linked immunosorbent assay (ELISA) yields a positive result in more than 90% of the patients[12]. As the results of preoperative imaging studies did not bring hydatid disease into consideration we did not perform these tests preoperatively. After this case, we believe hydatid disease must be considered in the differential diagnosis of pancreatic cysts, especially in countries where echinococcosis is endemic. In this condition, use of specific antigenic tests can be helpful for preoperative diagnosis and appropriate management of the disease.

Medical treatment of hydatid disease with benzimidazole compounds such as mebendazole and albendazole has been advocated by some investigators, their efficacy remains questionable[13]. Albendazole therapy with surgical resection is the treatment of choice for hepatic and pancreatic echinococcal cysts[14]. Partial cystectomy had resulted in the development of pancreatic fistulas, especially if the pancreatic duct is in continuity with the cyst cavity[4]. For cysts located on the head of the pancreas, if total cystectomy is not possible, marsupialization and external or internal drainage may be other therapeutic options[4].

The principal objectives to be achieved by surgical treatment are total removal of all parasitic elements, avoidance of spillage of contents of the cyst, and management of the residual pericyst cavity. Recurrent disease has been reported in 10% of patients undergoing hydatid cyst surgery[15]. Perioperative chemotherapy using albendazole has been shown to reduce the incidence of recurrent disease[16]. Finally, with the known recurring nature of the disease, periodic surveillance using echinococcal serology and abdominal CT or US seem to be appropriate.

Consequently, although primary hydatid disease of the pancreas is extremely rare, it should be suspected in patients from endemic areas who present with pancreatitis, abdominal pain, and cystic lesions of the pancreas. As specific antigenic tests may be helpful in preoperative diagnosis, they must be considered in the preoperative management of such patients. Preoperative medical therapy with albendazole or mebendazole can be started to decrease recurrence rates whenever diagnosis of hydatid disease is supported by these tests.

REFERENCES

1. Aytaç A, Yurdakul Y, İkizler C: Pulmonary hydatid disease: Report of 100 patients. Ann Thorac Surg 1997; 23:145–151.
2. Khiari A, Mzali R, Ouali M, Kharrat M, Kechaou MS, Beyrouti MI: Hydatid cyst of the pancreas. A propose of 7 cases. Ann Gastroenterol Hepatol (Paris) 1994; 30:87-91.
3. Kires DA, Karabacakoğlu A, Odev K, Karakose S: Uncommon locations of hydatid cyst. Acta Radiol 2003; 44(6):622-36.
4. Kayabali I, Gokcora IH, Ormeci N: Surgical treatment of hydatid disease of the pancreas. Int Surg 1991; 76:185-8.
5. Khiari A, Mseddi MA, Hadiji S, Mnif J, Kharrat M, Jlidi R: A hydatid cyst of the head of the pancreas causing a fistula into the duodenum. A propose of a case. Ann Gastroenterol Hepatol (Paris) 1994; 30:57-9.
6. Ghidirim G, Misin I, Gutu E, Gagauz I, Danci A, Vezian M, Zastavnitchi G: Intrabiliary rupture of the hydatic cyst complicated with acute pancreatitis. Chirurgia (Bucur) 2006; 101(4):429-32.
7. Mathai V, Banerijee Jesudason SR, Muthurami JC, Kuruvilla R, Idikula J, Sada P: Chronic pancreatitis caused by intraductal hydatid cysts of the pancreas. Br J Surg 1994; 81:1029.
8. Niron EA, Özer H: Ultrasound appearances of liver hydatid disease. Br J Radiol 1981; 54:335.
9. Gharbi HA, Hassine W, Brauner MW, Dupuch K: Ultrasound examination of hydatic liver. Radiology 1981; 139:459.
10. Milicevic M: Hydatid disease. In Surgery of the Liver and Biliary Tract, 2nd edition, Blumgart LH., editor, London, Churchill Livingstone, 1994; p.1121–1150.
11. Biave MF, Dao A, Fortier B: Laboratory Diagnosis of Cystic Hydatid Disease. World J Surg 2001; 25:10–14.
12. Sayek I,Onat D: Diagnosis and Treatment of Uncomplicated Hydatid Cyst of the Liver. World J Surg 2001; 25:21–27.
13. Tsimoyiannis EC, Siakas P, Moutesidou KJ, Karayianni M, Kontoyiannis DS, Gossios KJ: Perioperative benzimidazole therapy in human hydatid liver disease. Int Surg 1995; 80:131.
14. Gil-Grande LA, Rodriguez-Caaberio F, Prieto JG, Sanchez-Ruano JJ, Brasa C, Aguilar L, Garcia-Hoz F, Casado N, Barcena R, Alvarez AI: Randomized controlled trial of efficacy of albendazole in intra-abdominal hydatid disease. Lancet 1993; 342:1269-72.
15. Sielaff TD, Taylor B, Langer B: Recurrence of Hydatid Disease. World J Surg 200125:83–86.
16. Morris DL: Pre-operative albendazole therapy for hydatid cyst. Br J Surg 1987; 74:805-6