

Primary Hydatid Disease of the Pancreas Mimicking Pancreatic Pseudo-Cyst in a Child: Case Report and Review of the Literature

Pankreas Pseudo-Kistini Taklit Eden Primer Pankreas Hidatik Hastalığı: Olgu Sunumu

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ABSTRACT

Primary hydatid disease of the pancreas is very rare. We report the case of a 7-year-old girl who presented with abdominal pain and an epigastric mass. The Casoni and indirect hemagglutination test for hydatid disease were negative. A diagnosis of a pancreatic pseudocyst was established by ultrasonography (US) and computed tomography scan before surgery. Ultrasound guided percutaneous drainage was planned as treatment. During the procedure, the cyst was perforated and as germinative membrane was seen by US, we arranged surgery. Hydatid disease should be considered in the differential diagnosis of all cystic masses in the pancreas, even if Casoni and indirect hemagglutination tests negative, especially in geographic regions like Turkey, where the disease is endemic. (*Türkiye Parazitol Derg* 2011; 35: 50-2)

Key Words: Hydatid disease, child, pancreas

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ÖZET

Pankreasın primer hidatik hastalığı enderdir. Bu çalışmada, karın ağrısı ve epigastrik kitle ile başvuran yedi yaşında primer kist hidatikli kız hasta sunulmuştur. Hastanın kist hidatiğe yönelik Casoni ve indirekt hemagglütinasyon testleri negatifti. Hastaya ultrasonografi (US) ve bilgisayarlı tomografi (BT) bulgularıyla pankreatik psödokist tanısı konuldu. Ultrasonografi eşliğinde perkütan drenaj planlandı. İşlem sırasında, kistin perfore olmasıyla US'de germinatif membran görüldüğünden kistin, hidatik kist olduğu düşünülerek açık cerrahiye karar verildi. Operasyonda kistin germinatif membranı görüldü kısmi kistektomi sonrası kist kavitesine bir adet dren konularak işleme son verildi. Alınan kist materyalleri hidatik kistle uyumlu idi. Sonuç olarak, Casoni ve indirekt hemagglütinasyon testleri negatif bile olsa Türkiye gibi endemik bölgelerde, pankreasın tüm kistik kitlelerinin ayırıcı tanısında kist hidatik özellikle dikkate alınmalıdır. (*Türkiye Parazitol Derg* 2011; 35: 50-2)

Anahtar Sözcükler: Hidatik hastalık, çocuk, pankreas

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Hydatid cyst caused by *Echinococcus granulosus* is endemic in Turkey, and is an important health problem. Although hydatid cysts are mostly found in the liver and lung, it can arise anywhere in the body. Primary hydatid cyst of the pancreas is extremely rare, especially in childhood (1-4). The preoperative diagnosis is very difficult. Establishing a pre-

cise diagnosis may be difficult because the presenting symptoms and the findings of clinical investigations may be similar to some other more commonly encountered cystic lesions of the pancreas. In this article, we present a child with an isolated hydatid cyst of the pancreas, which mimicked a pseudocyst.

This study is presented in 5th National Congress on Hidatidology which was held in Antakya between 1 and 7 November 2009.

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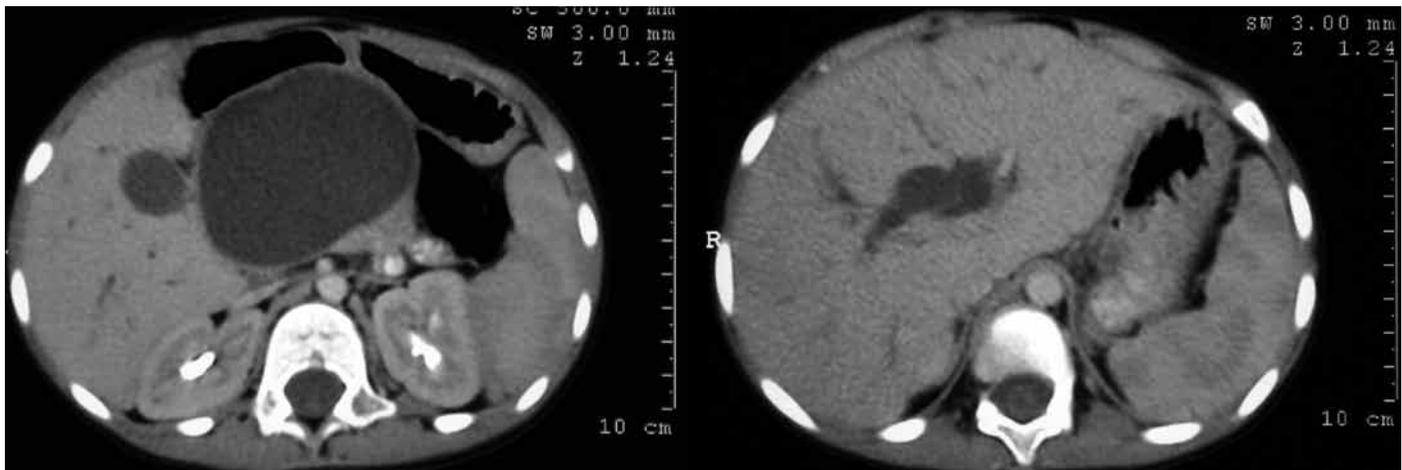


Figure 1. (a) Axial CT images; pancreas shows cystic lesion with smooth borders in body and tail of pancreas. (b) Dilatation of the intrahepatic bile ducts due to pressure of the cyst

CASE REPORT

A 7-year-old girl complaining of abdominal pain was transferred to our department from a state hospital. The patient had been admitted to the state hospital with lack of appetite and loss of weight. She had no history of jaundice. She had a history of minor trauma. On physical examination, there was an epigastric mass, but no tenderness. Laboratory examinations revealed mild leukocytosis (13100/ μ l) and serum amylase, lactate hydrogenase, and gamma glutamyl transferase levels were high. A 72x54 mm diameter cystic mass in the pancreas was shown by abdominal ultrasonography (US). Computed tomography (CT) showed a 70x55x60 mm cystic mass between the corpus and the tail of the pancreas (Figure 1 a and b). The cyst was homogenous and sharply delineated, and it had no internal structure. There were no cysts in other abdominal viscera. Plain chest x-ray was normal. The Casoni skin test and indirect haemagglutination test for hydatid cyst were negative. As she had a history of trauma, she was diagnosed as having a pancreatic pseudocyst. We decided to carry out ultrasound guided percutaneous drainage. The cyst was perforated during the procedure, and we saw the germinative membrane by US. Therefore we arranged open surgery. In the abdominal exploration, a cyst between the corpus and tail of the pancreas was found. Clear cystic fluid was aspirated from the abdominal cavity. The abdominal cavity was thoroughly irrigated with chlorhexidine solution. No connection could be demonstrated with the pancreatic duct. The surgically excised cyst was reported as a hydatid cyst by the pathology laboratory. On the third postoperative day, pancreatic juice began to pass through the drain, in amounts ranging from 100 to 150 mL per day. On the fifth postoperative day, subcutaneous injections of a somatostatin analogue, octreolide acetate (2.5 μ g/kg/d) was commenced. Drained fluid gradually decreased and ceased in the postoperative 16th day; the drainage tube was removed on the postoperative 18th day. The patient was discharged in good condition on postoperative day 20. Two years clinical and US follow-up shown no recurrence.

DISCUSSION

Isolated pancreatic localisation of the hydatid cyst is rare; it has been estimated to be 0.14-2% in the literature (5). The head of

the pancreas is the most frequently involved location (57%), followed by the corpus (24%) and the tail (19%) (6). Clinical presentation varies according to the anatomic location of the cyst (1). The diagnosis may be difficult because of the similarity of the presenting symptoms and findings to other, more commonly encountered, cystic lesions of the pancreas (7).

The first description of a pancreatic pseudocyst was made in 1761 by Morgagni (8). With the advent of better imaging techniques and interventional radiology, percutaneous techniques have gained popularity. Although a report as early as 1865 described percutaneous drainage of a posttraumatic pseudocyst (9), it was not until the 1980s that this technique gained acceptance as a primary modality of treatment for pancreatic pseudocysts. Recent studies of external percutaneous drainage of pancreatic pseudocyst have reported failure rates ranging between 25-55%, caused by sepsis, bleeding, recurrence, or the need for a subsequent salvage surgical drainage (10).

Spontaneous perforation or rupture into the peritoneal cavity has been reported in 9.3% of cases of pancreatic hydatid cysts (11). Rupture of a hydatid cyst may produce fever, acute abdominal pain, and anaphylactic reaction. The serological diagnosis is based on many different tests, mainly enzyme-linked immunosorbant assay (ELISA) for anti-echinococcal antibody, which is positive in over 85% of infected patients (12). A definitive diagnosis of hydatid disease of the pancreas can be made only at surgery and, during surgical treatment; extreme caution must be taken to avoid rupture of the cysts, which would release protozoa into the peritoneal cavity.

In a patient with pancreatic cyst, US and CT of the abdomen should be performed. The appearance of a cystic mass, sometimes with an undulating membrane (13), and a CT appearance of multiple degenerating daughter cysts within the mother cyst (14) may alert the clinician to the possibility of pancreatic hydatid disease. Conversely, radiologic examinations alone may not be sufficient to diagnose primary pancreatic hydatid disease. In our case, both US 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, similar to other cases reports (2, 3).

CONCLUSION

Hydatid cyst should be included in the differential diagnosis of cystic lesions of the pancreas, especially in endemic areas, even with a negative indirect hemagglutination test for *Echinococcus granulosus*. Radiological examination of the abdomen may not be demonstrative for hydatid cysts.

In conclusion, we believe that correct diagnosis of the primary hydatid cyst of the pancreas without opening the cystic cavity is the key to avoiding recurrence.

Conflict of Interest

No conflict of interest was declared by the authors.

REFERENCES

1. Arıkan A, Sayan A, Erikci VS. Hydatid cyst of the pancreas: a case report with 5 years' follow-up. *Pediatr Surg Int* 1999; 15: 579-81.
2. Barrera MC, Villanua J, Barrena JF, Nogues A. Pancreatic hydatid disease. *Pediatr Radiol* 1995; 25 Suppl 1: 169-70.
3. Brown RA, Millar AJ, Steiner Z, Krige JE, Burkimsher D, Cywes S. Hydatid cyst of the pancreas-a case report in a child. *Eur J Pediatr Surg* 1995; 5: 121-3. [\[CrossRef\]](#)
4. Erdener A, Sahin AH, Ozcan C. Primary pancreatic hydatid disease in a child: case report and review of the literature. *J Pediatr Surg* 1999; 34: 491-2. [\[CrossRef\]](#)
5. Jai SR, El Hattabi K, Bensardi F, Chehab F, Khaiz D, Bouzidi A. Primary hydatid cyst of the pancreas causing obstructive jaundice. *Saudi J Gastroenterol* 2007; 13: 191-3. [\[CrossRef\]](#)
6. Ousadden A, Elbouhaddouti H, Ibnmajdoub KH, Mazaz K, Aittaleb K. Primary hydatid cyst of the pancreas with a hepatic pedicle compression. *Cases J* 2009; 18: 201. [\[CrossRef\]](#)
7. Krige JE, Mirza K, Bornman PC, Beningfield SJ. Primary hydatid cysts of the pancreas. *S Afr J Surg* 2005; 43: 37-40.
8. Morgagni JB. *De sedibuset causis morborum per anatomen indagatis*, vol. 4. Paris. 1821. p. 86-123.
9. LeDentu M. Rapport sur l'observation precedent. *Bulletins de la Societe Anatomique de paris*, 1865; 10: 197-213.
10. Bergman S, Melvin WS. Operative and nonoperative management of pancreatic pseudocysts. *Surg Clin North Am* 2007; 87: 1447-60. [\[CrossRef\]](#)
11. Köylüoğlu G, Öztoprak I. Unusual Presentation of Pancreatic Hydatid Cyst in a Child *Pancreas* 2002; 24: 410-1. [\[CrossRef\]](#)
12. Sayek I, Onat D. Diagnosis and treatment of uncomplicated hydatid cyst of the liver. *World J Surg* 2001; 25: 21-7.
13. Lewall DB, McCorkell SJ. Hepatic echinococcal cysts: sonographic appearance and classification. *Radiology* 1985; 155: 773-5. [\[CrossRef\]](#)
14. Kalovidouris A, Pissiotis C, Pontifex G, Gouliamos A, Pentea S, Papavassiliou C. CT characterization of multivesicular hydatid cysts. *J Comput Assist Tomogr* 1986; 10: 428-31.