

ISOLATED PRIMARY HYDATID CYST OF THE PANCREAS:
A CASE REPORTMehmet Eren Yuksel¹, Bulent Aytac², Ahmet Karamercan²1 - Devrek State Hospital, Zonguldak, Turkey
2 - Gazi University School of Medicine, Ankara, Turkey

ABSTRACT

Hydatid disease is caused by tapeworm *Echinococcus granulosus*. *E. granulosus* forms hydatid cysts in human body, mostly in the liver and the lung. However, isolated primary hydatid cyst of the pancreas is rarely seen. Hereby, we report a 40-year-old Caucasian female with a hydatid cyst in the body of the pancreas. The patient, complaining of vague abdominal pain was examined with abdominal ultrasound. The ultrasound scan of abdomen revealed an exophytic cystic lesion in the body of the pancreas, approximately 7.5x5 cm in size. The defined lesion was thought to be compatible with hydatid cyst stage 4-5. The surgical team informed the patient about all possible treatment options. The patient was put on albendazole treatment, 400 mg twice daily, for two months. Despite the medical treatment, the patient complained about abdominal pain and discomfort affecting her daily life. Therefore, she decided for surgical intervention. Following the intraoperative application of scolicedal hypertonic 20% NaCl solution, partial cystectomy with capitonnage was performed. The patient did well postoperatively. Isolated primary hydatid cyst of the pancreas is rarely seen, however, it should be taken into account in the differential diagnosis of abdominal pain, especially in endemic areas.

UDC CODE & KEYWORDS

■ UDC: 6 ■ Pancreas ■ Echinococcus ■ Hydatid ■ Cyst

INTRODUCTION

Hydatid disease is caused by the larvae of dog and fox tapeworms of the genus *Echinococcus*. In humans, swallowed *Echinococcus* eggs hatch in the intestine to release oncospheres. Oncospheres pass through the intestinal wall and are carried in the blood system to various internal organs where they develop into hydatid cysts (McManus, Gray, Zhang, & Yang, 2012). *Echinococcus granulosus* is endemic in Turkey. High parasite prevalences are also found in parts of Eurasia, Africa, Australia, and South America (Eckert & Deplazes, 2004). *E. granulosus* cysts are found mainly in the liver and lungs of humans. Isolated pancreatic localisation of *E. granulosus* is rarely seen, 0.14 to 2%. The cystic lesion is mainly seen in the head (57%), corpus (24%) and tail (19%) of the pancreas, respectively (Jai et al., 2007).

Case report

A 40-year-old white Caucasian female, complaining of vague abdominal pain for the last two months, was admitted to the hospital for further clinical evaluation. Laboratory tests revealed mild increase in total / direct bilirubin: 2.7 / 1.72 mg/dl (reference range: 0.2-1.3 mg/dl, 0-0.5 mg/dl), ALT: 57 U/L (reference range: 0-40 U/L), GGT: 75 U/L (reference range: 0-50 U/L). Tumor markers, including CA-125, CA 19-9, AFP and CA 72-4 were all within normal limits. Viral hepatitis markers were all negative. Chest X-ray revealed no abnormalities. Past medical history was unremarkable. The patient denied to have contact with dogs, foxes or livestock in the past five years. Family history was remarkable as the father of the patient had type II diabetes mellitus. Physical examination of the abdomen revealed no abnormalities.

An ultrasound examination of the abdomen was performed. The abdominal ultrasound revealed an exophytic lesion in the body of the pancreas, approximately 7.5x5 cm in size. The lesion displaced the corpus of the stomach anteriorly and compressed the splenic vein. This heterogeneous hypoechoic lobulated structure had calcifications in the superior part of its wall. Color Doppler ultrasound of the lesion did not show any significant vascularization. The defined lesion was thought to be compatible with hydatid cyst stage 4-5 (Figure 1).

The patient was put on albendazole treatment, 400 mg twice daily, for two months. After treatment with albendazole, the cyst hydatid hemagglutination test was 1/80 + (reference range: 0-1/256). The patient complained about abdominal pain and discomfort affecting her daily life, thus she decided for surgical intervention. At laparotomy, the hydatid cyst lesion in the pancreatic body was found. To prevent protoscolex spillage, 20% NaCl-soaked surgical drapes were used. Intraoperatively, fine needle aspiration of the cystic fluid was performed. After the evacuation of the content of the cyst, the cavity of the cyst was filled up with protoscolicide 20% hypertonic NaCl solution. After 15 minutes, the 20% NaCl solution was meticulously reaspirated. Moreover, partial cystectomy with capitonnage was performed. The patient did well postoperatively. She was discharged home without any complications.

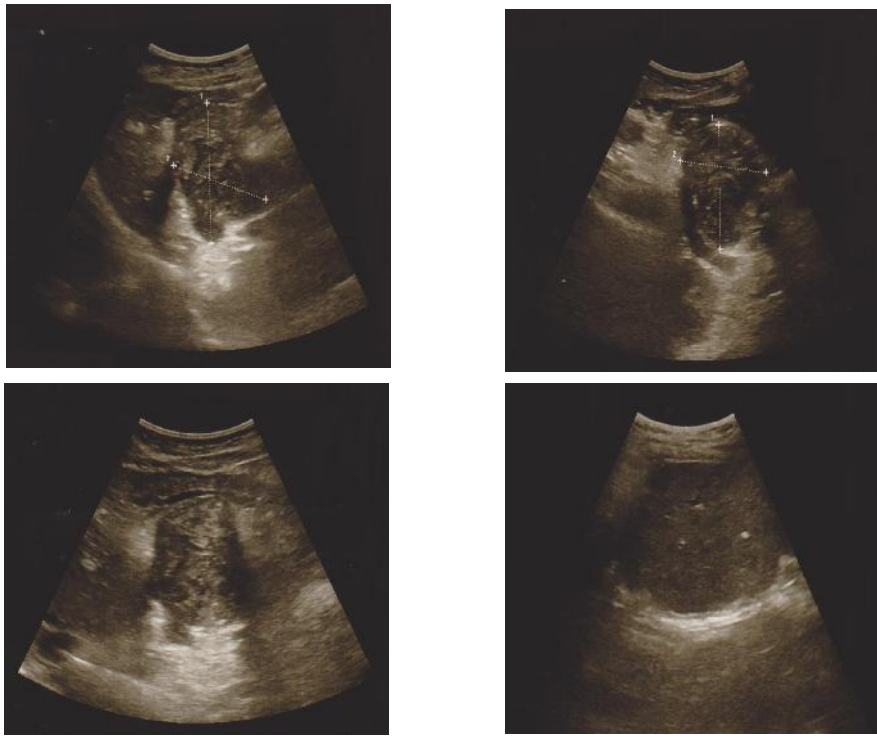
Discussion

Hydatid disease, also known as cystic echinococcosis, is caused by *Echinococcus granulosus*. *E. granulosus* is endemic in Turkey. Even hydatid disease is endemic in Turkey, isolated pancreatic localisation of *E. granulosus* is rarely seen, 0.14 to 2% (Jai et al., 2007).

Abdominal ultrasound is helpful in the diagnosis of hydatid disease. In 2002, World Health Organization (WHO) Informal Working Group declared international classification of ultrasound images in cystic echinococcus for application in clinical and field epidemiological settings (WHO Informal Working Group, 2003). According to this classification echinococcosis cyst types are divided into five groups. Type 1 and 2 are active cysts, usually containing viable protoscolexes. Type 3 cysts

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Figure 1: Abdominal ultrasound imaging reveals hydatid cyst of the pancreas. The hydatid cyst is localized in the pancreatic body, approximately 7.5x5 cm in size. The heterogeneous hypoechoic lobulated structure has calcifications in the superior part of its wall



Source: Gazi University School of Medicine, Department of Radiology

enter a transitional stage; cysts start to degenerate but may contain viable protoscoleces. Type 4 and 5 are degenerative inactive cysts without fertility. In this case presented above, the lesion detected in the body of the pancreas during abdominal ultrasonography had type 4-5 imaging features. The cyst had heterogenous hypoechoic contents, without daughter cysts. The partial calcified wall of the cyst was remarkable. The radiological features were not pathognomonic but highly suggestive for *E. granulosus*.

Surgical treatment of pancreatic hydatid cysts depend on the localization and type of the cysts. Several procedures have been proposed, ranging from cyst fenestration to distal pancreatectomy (Diop et al., 2010). In 2009, WHO-Infomal Working Group on Echinococcosis (WHO-IWGE) provided expert consensus for the diagnosis and treatment of cystic and alveolar echinococcosis in humans (Brunetti, Kern, & Vuitton, 2010). WHO-IWGE suggests "watch and wait" method for type 4 and 5 cystic echinococcus lesions. The patient was informed about all possible treatment options. However, the patient complained about the abdominal pain and discomfort affecting her daily life, thus she decided for surgical intervention. The abdominal pain and discomfort were attributed to the pressure exertion of pancreatic hydatid cyst on adjacent vital organs, as the hydatid cyst displaced the corpus of the stomach anteriorly and compressed the splenic vein. Therefore, partial cystectomy with capitonnage was performed. The patient did well postoperatively.

Conclusion

In conclusion, hydatid disease might occur in unusual localizations in the human body. Therefore, pancreatic localization of hydatid cyst should be kept in mind in the diffential diagnosis of abdominal pain where *E. granulosus* is endemic.

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