



Isolated Hydatid Cyst of the Pancreas: An Unusual Location

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Authors' contributions

This work was carried out in collaboration among all authors. Author TE designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors IH, HB and MRL managed the analyses of the study and the literature searches. All authors read and approved the final manuscript.

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Case Report

ABSTRACT

Isolated pancreatic localization of hydatid cyst is very rare and unusual. The most probable mode of infestation is by hematological tract after passage of hepatic and pulmonary filters, but the peripancreatic lymphatic ducts and pancreatic-biliary ducts have also been reported. Diagnosis is mainly based on imaging and treatment is mostly surgical. An unusual observation of a primitive pancreatic hydatid cyst has been reported.

Keywords: Hydatid cyst; pancreas; surgery.

1. INTRODUCTION

Hydatidosis is a parasitic disease induced by the larval stage of *Echinococcus granulosus* in

humans. Hepatic and pulmonary localizations are the most common [1]. Pancreatic involvement is rare, accounting for less than 1% of all hydatid cysts in endemic areas [2]. We report an isolated

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case of hydatid cyst of the pancreas in a young patient treated surgically with a favorable clinical course.

2. CASE PRESENTATION

The patient was 20 years old, without any particular pathological history, she was consulting for chronic epigastric pain, without back irradiation, rebellious to symptomatic treatments for 2 years, without externalized digestive haemorrhage, vomiting or icterus. She was in good general condition, afebrile, the conjunctiva normocoloured, and the abdominal examination revealed an epigastric mass of 6 cm long axis, firm, painless to palpation, the rest of the examination showed no particularity, biological tests found Hemoglobin at 12 g /dl, leukocytes at 7000 ele/ mm³ with a hypereosinophilia, liver function tests were normal and hydatid serology was positive.

An abdominal ultrasound revealed a cystic formation of segments IV and V of the liver, rounded, well-limited, multivesicular, with thick partitions, not vascularized by doppler, all suggesting a hydatid cyst of liver classified as

type III according to the Gharbi classification (Fig. 1).

The abdominal CT scan confirmed the existence of a voluminous inter hepato-pancreatic, oval, cystic, multipartitioned formation with exophytic development measuring 16x13x11 cm, pushing up and back the right kidney (Fig. 2). Chest x-ray was normal.

The patient was operated on and surgical exploration found an isolated hydatid cyst measuring 16x12 cm, located in the head of the pancreas.

After protection with a hypertonic serum, the surgical procedure consisted of resection of the salient dome of the cyst and evacuation of its contents (Fig. 3) with drainage of the residual cavity. There was no detectable pancreatic fistula.

The post-operative follow-up was simple, the patient received medical treatment based on albendazol 400 mg per day for six weeks, the scan control after a six-month follow-up was normal.

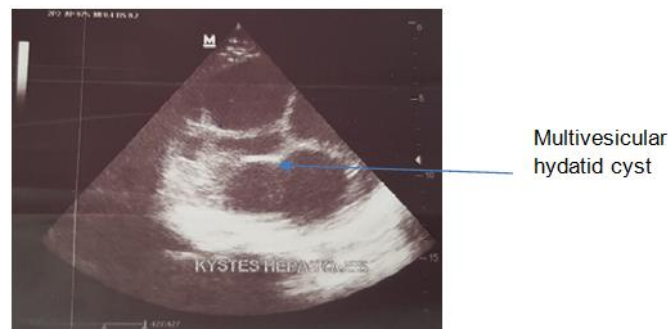


Fig. 1. Ultrasound multivesicular aspect of hydatid cyst

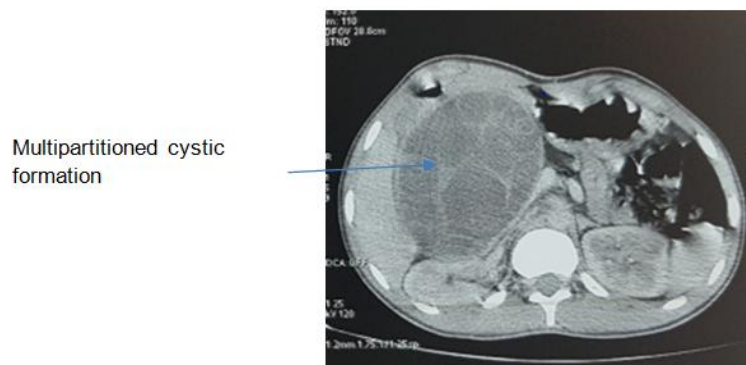


Fig. 2. A section of an abdominal CT scan showing a voluminous, multipartitioned, hepato-pancreatic cyst

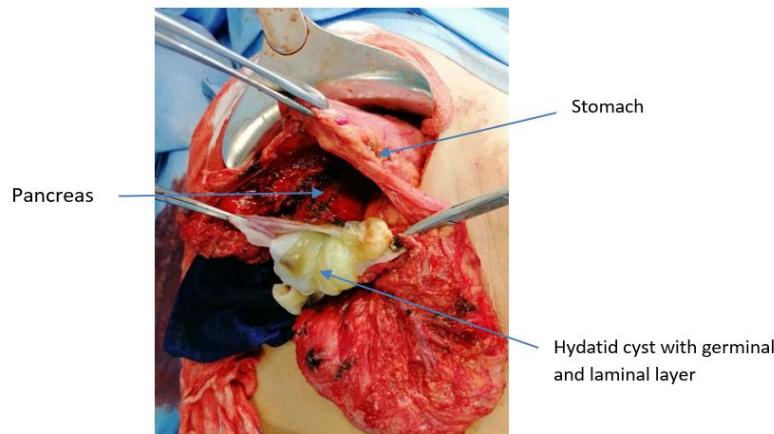


Fig. 3. Intraoperative image of the hydatid cyst of the pancreas

3. DISCUSSION

Hydatidosis is a cosmopolitan zoonosis, the most widespread in traditional breeding countries. The dog is the final host while sheep and goats are the intermediate host. Humans are accidental hosts that become infected after eating vegetables contaminated with dog feces containing eggs of the parasite [3]. Hydatid cysts are solitary in 90% of cases but can affect several organs at once [4]. The main organ affected is the liver in 60-70% of cases, followed by the lungs (10-25%) and sporadic cases in other organs such as the spleen, brain, bones, pancreas and muscles [5].

Hydatid localization of the pancreas is very rare, even in endemic areas with an incidence of less than 1% [6]. Cystic localization at the head of the pancreas accounts for 50% of cases, 24-34% in the body and 16-19% in the tail [7].

The clinical manifestations are variable, depending on the size of the cyst and the site, it is often asymptomatic at first, they can take years to become symptomatic, with a very variable volume [8]. Pancreatic cysts increase in size, compress and then erode neighbouring organs; cysts of the head may manifest as retentional jaundice following extrinsic compression of the bile duct [9], cysts in the body and tail of the pancreas are usually asymptomatic until they become large enough to present as an abdominal mass or generate symptoms due to the compression of adjacent structures, such as epigastric pain, or vomiting [3] as it may occur following a complication such as cholangitis, rupture of the bile duct or peritoneal cavity, and recurrent pancreatitis [10], cysts of the tail of the pancreas may result in portal hypertension and/or splenomegaly [3].

Ultrasonography, computed tomography and magnetic resonance imaging (MRI) allow the diagnosis of a pancreatic cystic lesion without confirming its hydatid nature despite the presence of some directional signs such as cystic calcifications, the presence of intracystic vesicles, or the presence of other usual localization of hydatid cysts, notably the liver [4], Ultrasound sensitivity is low due to deep retroperitoneal localization and overlying intestinal gases, whereas echo-endoscopy allows a better assessment of the nature of the pancreatic cyst, by showing floating membranes within the cyst as serpentine linear structures specific to hydatid disease [8,10]. These described radiological features are often not present, which is a differential diagnosis with cystic tumours and pancreatic pseudocysts [4,7], therefore surgery is sometimes indicated for diagnostic and therapeutic purposes [5].

Hydatid serology is positive in more than 85% of cases [3].

The operative procedure varies according to the location of the pancreatic cyst and whether or not there is a cysto-ductal fistula. Resection of the salient dome is the reference treatment for hydatid cysts of the head of the pancreas, but in the presence of a ductal fistula, it must be associated with a type of cysto-digestive anastomosis, cysto-duodenal, or cysto-jejunal on a Y-shaped loop [3,5], a duct suture on a stent drain is indicated in the case of friable parenchyma preventing anastomosis, cephalic duodenopancreatectomy is a radical procedure necessary when the possibility of neoplastic cysts cannot be excluded but seems excessive for a benign pathology [5].

Hydatid cysts of the body or tail of the pancreas can be treated by peri-cystectomy, central pancreatectomy, or caudal pancreatectomy [4].

Medical treatment with prophylactic antihelmintics (Albendazole 10 mg / kg / day) for 2 to 4 weeks and then continued postoperatively for at least 4 weeks, is indicated for cases diagnosed preoperatively to prevent the risk of an anaphylactic reaction in the event of intraoperative rupture of the cyst and reduce the risk of postoperative recurrence [10,11].

4. CONCLUSION

The hydatid cyst of the pancreas is a rare or even exceptional localization in humans, which must be mentioned in any person coming from an endemic area on a epidemiological, clinical, biological and especially radiological arguments. Surgery is the reference treatment, which varies essentially according to the site of the cyst and whether or not there is a pancreatic fistula.

CONSENT

As per international standard or university standard, patient's consent has been collected and preserved by the authors.

ETHICAL APPROVAL

As per international standard, written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Çöl C, Çöl M, Lafci H. Unusual localizations of hydatid disease. *Acta Medica Austriaca*. 2003;30(2):61-64.
2. Eljai Rifki Saad, Boufettal Rachid, Farah Robleh Hassan, et al. Pancreatic hydatid cyst: A case about. *The Pan African Medical Journal*. 2015;21:273-273.
3. Ahmed Zeeshan, Chhabra Sanjeev, Massey Ashish, et al. Primary hydatid cyst of pancreas: Case report and review of literature. *International Journal of Surgery Case Reports*. 2016;27:74-77.
4. Zarbaliyev Elbrus, Hacısalıhoğlu Payam, Sarsenov Dauren. A rare case of pancreatic tail hydatid cyst with incidental adenocarcinoma of the pancreatic body. *Cureus*. 2019;11(1).
5. Brown RA, Millar AJW, Steiner Z, et al. Hydatid cyst of the pancreas-a case report in a child. *European Journal of Pediatric Surgery*. 1995;5(02):121-123.
6. Hijjawi Nawal S, Al-Radaideh Ali M, Rababah Eman M, et al. Cystic echinococcosis in Jordan: A review of causative species, previous studies, serological and radiological diagnosis. *Acta Tropica*. 2018;179:10-16.
7. Keser Sevinç Hallaç, Selek Ayşegül, Ece Dilek, et al. Review of hydatid cyst with focus on cases with unusual locations. *Türk Patoloji Derg*. 2017;33(1):30-6.
8. Soin Priti, Sharma Pranav, Kochar Puneet Singh. Pancreatic echinococcosis. In: *Baylor University Medical Center Proceedings*. Taylor & Francis. 2019;85-87.
9. Boyce Dacia SK, Ellis John S, Hightower Stephanie L, et al. Recurrent inactive hydatid cyst of the liver causing restrictive pulmonary physiology. *Hawai'i Journal of Health & Social Welfare*. 2019;78(7):230.
10. Kowalczyk Marek, Kurpiewski Waldemar, Zieliński Ewa, et al. A rare case of the simultaneous location of *Echinococcus multilocularis* in the liver and the head of the pancreas: Case report analysis and review of literature. *BMC Infectious Diseases*. 2019;19(1):661.
11. Moradi Maryam, Rampisheh Zahra, Roozbehani Mona, et al. A retrospective study of hydatid cysts in patients undergoing liver and lung surgery in Tehran, Iran. *Heliyon*. 2019;5(6):e01897.

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