Asian Journal of Case Reports in Surgery

9(3): 7-11, 2021; Article no.AJCRS.68778

Primary Hydatid Cyst of Pancreas Mimicking Mucinous Cystic Neoplasm

Zuber Ansari[1*], Somak Das[1] and Jayanta Biswas[1]

[1]Department of Surgical Gastroenterology, School of Digestive and Liver Diseases, Institute of Postgraduate Medical Education and Research, 244 A.J.C. Bose Road, Kolkata-700020, Kolkata, West Bengal, India.

Authors' contributions

This work was carried out in collaboration among all authors. Author ZA was part of surgical team and drafted the manuscript. Authors SD and JB were part of surgical team and contributed to literature search and critical revision of manuscript. All authors read and approved the final manuscript.

Article Information

Editor(s):
(1) Prof. Arun Singh, Rohilkhand Medical College and Hospital, India.
Reviewers:
(1) Susanta Meher, Vikash Multi-Speciality Hospital, India.
(2) Amit Choraria, Regional Cancer Center, India.
Complete Peer review History: http://www.sdiarticle4.com/review-history/68778

Case Report

Received 26 March 2021
Accepted 02 June 2021
Published 07 June 2021

ABSTRACT

Hydatid cyst (HC) is a major health problem in endemic countries. Primary pancreatic hydatid disease (PHC) is exceedingly rare entity which may mimic other, more commonly encountered cystic neoplasms of pancreas. We report the case of a 55-year-old female who presented with abdominal pain. The treatment consisted of a distal pancreatectomy (DP) for suspected mucinous cystic neoplasm (MCN). A diagnosis of PHC was established during the surgery. Primary PHC, though exceedingly rare, should be considered in the differential diagnosis of cystic lesions of the pancreas in patients from endemic regions.

Keywords: Echinococcus; hydatid cyst; mucinous cystic neoplasm; pancreas.

1. INTRODUCTION

HC is a zoonotic parasitic disease caused by tapeworm *Echinococcus.* The disease is endemic in many countries and human infestation occurs when they accidentally ingest tapeworm eggs. HC may develop in almost any organ of the body; the liver (58%), lung (26%), kidneys (4%), spleen (3%) and brain (3%) are the most affected organs, with infestations of the

**Corresponding author: E-mail: zubair_mohammad@yahoo.ca;*

bone, pancreas, thyroid and breast rarely encountered [1]. Reported incidence of PHC varies from 0.1–2% even in those countries where the disease is endemic [2]. Pre-operative diagnosis of PHC can be difficult due to rarity of the disease as well as overlapping clinical and radiological features with that of other common cystic neoplasm of pancreas. We report a case of a 55-year-old woman who was suspected as a case of MCN of pancreas on pre-operative radiological imaging.

2. CASE REPORT

A 55-year-old woman without history of acute or chronic pancreatitis presented with mild abdominal pain of 6 months duration. On physical examination, there was a palpable non-tender mass in left upper quadrant. All routine laboratory studies including liver function test were within normal limits. Serum CA-19.9 was 14.5 U/ml. Abdominal sonography suggested a multiseptated cystic mass at the tail of pancreas. Contrast enhanced computed tomography (CECT) scan of abdomen revealed a 7.6 x 8.1 cm thick-walled cystic mass with enhancing margins and internal septations in the tail of pancreas [Fig. 1]. Endoscopic ultrasound (EUS) revealed complex solid-cystic tumour arising from pancreatic body and tail region, measuring 7.2x6.2 cm with thick irregular wall, multiple cysts of varying sizes and intramural solid component. There was no communication seen between cyst and pancreatic duct on EUS. Fine needle aspiration cytology (FNA) of cyst fluid was not performed due to lack of facility. Chest X-ray was within normal limits. A pre-operative probable diagnosis of MCN of the pancreas was considered. Open spleen preserving DP was planned. Chevron incision was given, a mass was found to be arising from body and tail of the pancreas and having dense adhesion to the adjacent small bowel and omentum [Fig. 2]. Spleen preserving DP was performed without rupturing the cyst. Rest of abdominal organs were normal. A single Jackson-Pratt (JP) drain was placed near pancreatic cut surface. Intraoperative blood loss was 150 ml. Operative time was 158 minutes. On-table gross examination of resected specimen revealed multiple daughter cysts confirming the diagnosis of primary PHC [Fig. 3]. Post-operative antibiotics were given for 48 hours. Normal oral diet was resumed on second post-operative day (POD). Drain fluid amylase (DFA) level were measured on third POD to rule out pancreatic leak. DFA level was within normal limit and JP drain was removed on fourth POD. Patient was discharged on fifth POD after having uneventful recovery. Albendazole therapy (10mg/kg/day) was given for 4 weeks after surgery.

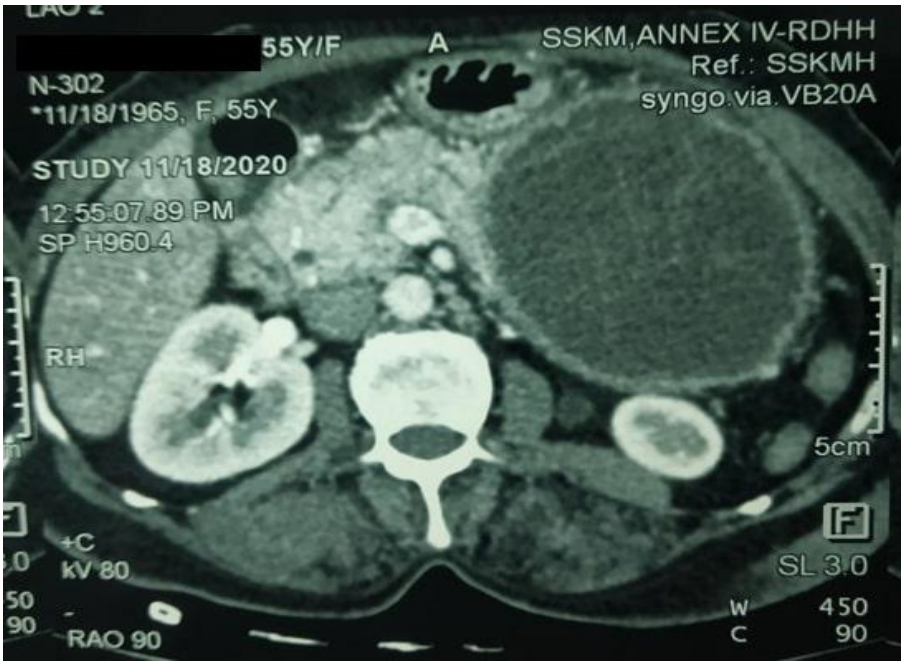

Fig. 1. Computed tomography scan showing cystic mass with internal septation in body and tail region of pancreas

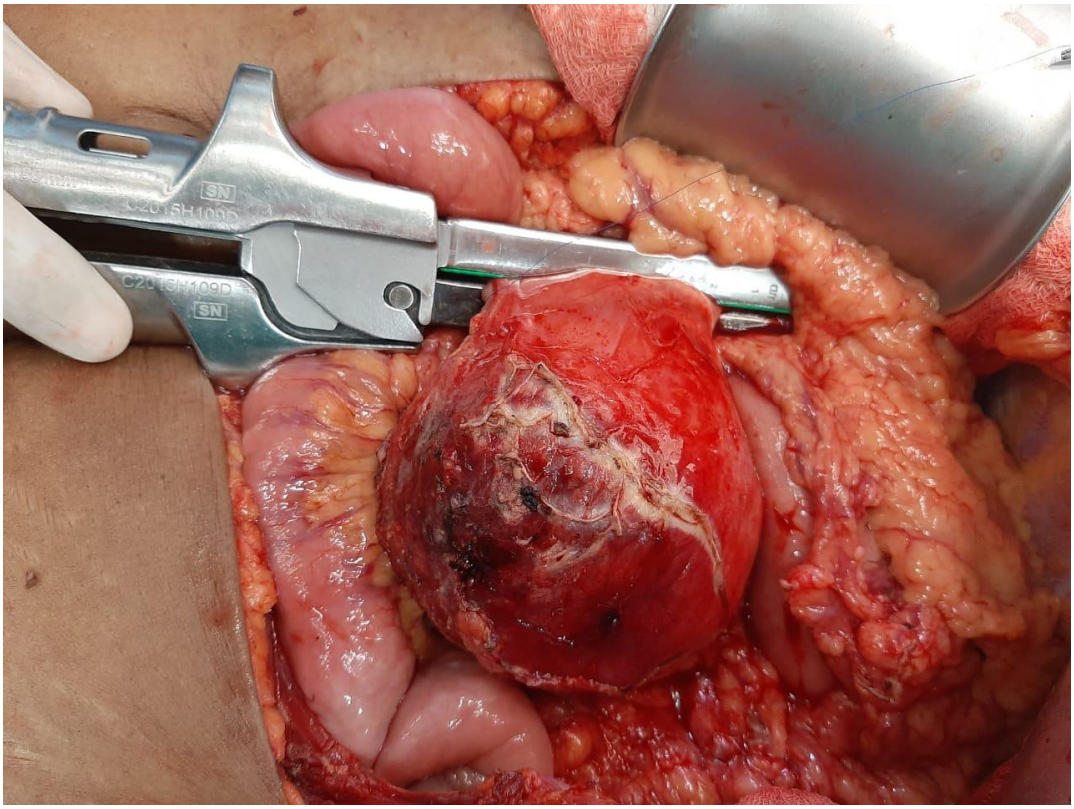

Fig. 2. Intraoperative appearance of cyst after mobilizing the pancreatic tail

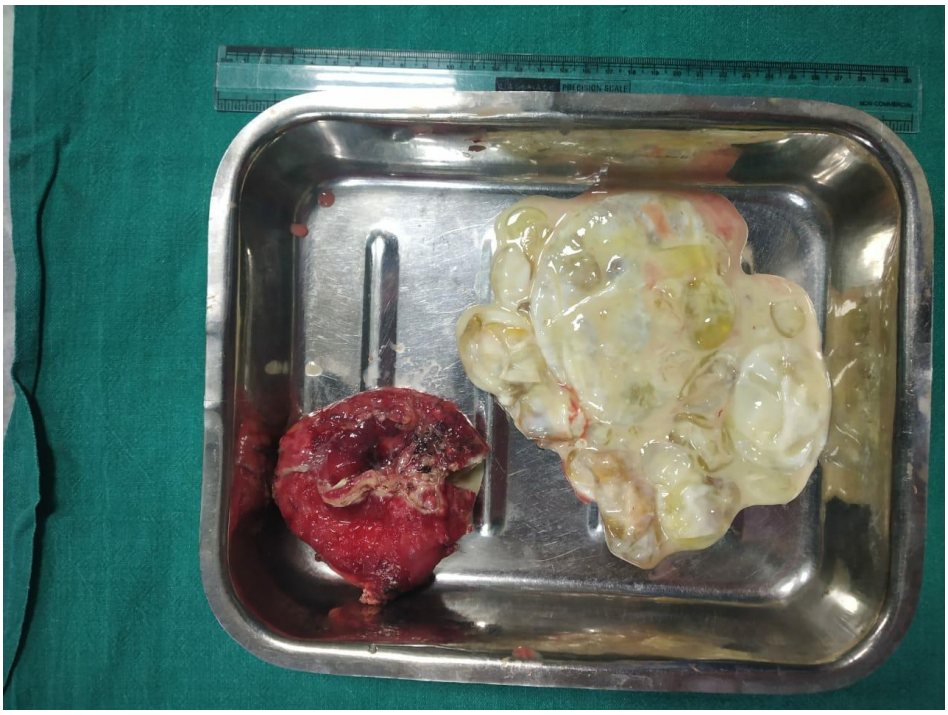

Fig. 3.Gross examination of specimen revealing multiple daughter cysts

3. DISCUSSION

Hydatid cyst (HC) is a major health problem in endemic countries. There are four known different species of *Echinococcus*. Among the four known species of *Echinococcus*, three are of medical importance in humans. These are; *Echinococcus multilocularis*, causing alveolar echinococcosis; *Echinococcus granulosus*, causing cystic echinococcosis and *Echinococcus vogeli*. This disease is caused by larval stage of *E granulosus*. Liver and lung are the most common sites to be involved. Pancreatic location of hydatid disease is rare (less than 1%) compared to the other sites of hydatid disease. The mode of infestation is either hematogenous, when there is a failure of trapping oncosphere by the liver and lung filters, or more rarely through lymphatic spread [3]. The cyst can be found in the head (50- 57%), in the body (24-34%) or in the tail region (16-19%) of pancreas [4]. Clinical manifestation of PHC depends upon the anatomical location and potential complications of cyst in pancreas. Patient may present with jaundice when the cyst is present in head due to external compression of bile duct, however, patient may be asymptomatic or present as abdominal lump and recurrent abdominal pain when the cyst is present in body or tail of pancreas. Rarely, patient may develop acute pancreatitis, infection, biliary or intestinal fistula, segmental portal hypertension, vascular thrombosis, acute or chronic pancreatitis, rupture of cyst in peritoneal cavity or communication with pancreatic duct [5]. Preoperative diagnosis of hydatid cyst of pancreas can be exceedingly difficult unless hydatid disease is suspected and modern serology tests such as indirect fluorescent antibody test, latex agglutination test, and enzyme-linked immuno-absorbent assay test for echinococcal antigens are positive. However, these serological tests are not widely available in countries where hydatid disease is endemic. Most cystic lesions in the pancreas are pseudocysts (80%) followed by cystic neoplasms including MCN (10%) [6]. Most MCNs are oligolocular lesions and their similarity to the detached membranes of PHC in such cases can be confusing on imaging [7]. Considering radiological findings, our patient had type CE III-B HC involving the pancreatic body and tail region. In favour of similarity, most MCNs are typically located in the body and the tail of the pancreas (93%) and in almost all cases are seen in women (>90%) [6]. Some authors suggested EUS guided FNA biopsy to differentiate a hydatid cyst from other common cystic lesions [8]. However, it is operator dependent and available only in high-volume centres. A definitive diagnosis of HC of the pancreas can be made mainly at surgery [9]. Surgery remains the treatment of choice for primary PHC. Type of surgery depends on the site of cyst and communication with pancreatic duct. Surgical procedures ranging from deroofing of cyst to some type of pancreatic resection. During surgery, extreme caution must be taken to avoid rupture of the cysts, which would release protoscolices into the peritoneal cavity. For cysts located in the head, pericystectomy is the ideal method of treatment. A HC in the tail of the pancreas can be treated with a DP [10]. If there is a known pancreatic fistula before surgery or communication between the cyst and pancreatic or biliary ducts seen during operation, internal drainage is advised; such cysto-gastrostomy or Roux-en-Y pancreatico-jejunostomy [11,12]. Role of percutaneous aspiration and chemotherapy in primary PHC is not well established [13].

4. CONCLUSION

The preoperative diagnosis of PHC is challenging because it can mimic a pseudocyst or cystic neoplasm of the pancreas. It should be considered in the differential diagnosis of cystic lesions of the pancreas in patients from endemic regions.

CONSENT

Informed consent was obtained from the patient for this case report.

ETHICAL APPROVAL

As per international standard or university 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. Amr SS, Amr ZS, Jitawi S, et al. Hydatidosis in Jordan: an epidemiological study of 306 cases. Ann Trop Med Parasitol. 1994;88(6):623-7.
2. Hamamci EO, Besim H, Korkmaz A. Unusual locations of hydatid disease and

surgical approach. ANZ J Surg. 2004;74(5):356-60.
3. Dziri C. Hydatid disease–continuing serious public health problem: introduction. World J Surg. 2001;25:1-3.
4. Hammad A, Mentouri B. Acute pancreatitis in Algeria. Report of 221cases. Am J Surg. 1985;149:709-711.
5. Ozmen MM, Moran M, Karakahya M, et al. Recurrent acute pancreatitis due to a hydatid cyst of the pancreatic head: a case report and review of the literature. JOP. 2005;6(4):354-8.
6. Kalb B, Sarmiento JM, Kooby DA, et al. MR imaging of cystic lesions of the pancreas. Radiographics. 2009;29(6):1749-65.
7. Mitrovic M, Tadic B, Kovac J, et al. Pancreatic Hydatid Cyst Misdiagnosed as Mucinous Cystadenoma: CT and MRI Findings. Medicina (Kaunas). 2020;56(3):124.
8. Sharma S, Sarin H, Guleria M, et al. Endoscopic ultrasound-guided FNA: Emerging technique to diagnose hydatid cyst of pancreas. J Cytol. 2015;32(3):211-212.
9. Heis HA, Bani-Hani KE, Elheis MA. Primary Hydatid Cyst of the Pancreas, Acta Chirurgica Belgica. 2009;109(5):626-628.
10. Safioleas MC, Moulakakis KG, Manti C, Kostakis A. Clinical considerations of primary hydatid disease of the pancreas. Pancreatology. 2005;5(4-5):457-61.
11. Bedioui H, Chebbi F, Ayadi S, et al. Primary hydatid cyst of the pancreas: diagnosis and surgical procedures: report of three cases. Gastroenterol Clin Biol 2008; 32:102-6.
12. Ibis C, Albayrak D, Altan A. Primary hydatid disease of pancreas mimicking cystic neoplasm. South Med J. 2009;102: 529-30.
13. Dziri C, Dougaz W, Bouasker I. Surgery of the pancreatic cystic echinococcosis: systematic review. Transl Gastroenterol Hepatol. 2017;2:105.

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/68778