



ORIGINAL RESEARCH PAPER

General Surgery

A CASE REPORT ON PRIMARY MESENTRIC HYDATID CYST - RARE MANIFESTATION OF HYDATID DISEASE

KEY WORDS: Hydatid, Cyst, Host, Abdominal Mass, Bowel

Dr. Vinodh Duraisami

M.S Assistant Professor, Institute of General Surgery, Madras Medical College, Chennai, Tamil Nadu, India.

Dr. D. Manivannan

M.S, Professor, Institute of General Surgery, Madras Medical College, Chennai, Tamil Nadu, India

Dr. Saarika. N*

Post Graduate, Institute of General Surgery, Madras Medical College, Chennai, Tamil Nadu, India *Corresponding Author

ABSTRACT

Hydatid disease caused by *Echinococcus granulosus* is a common parasitic infestation of the liver. The larva of the Cestode *Echinococcus* causes Echinococcosis (hydatid disease). Four species can cause infection in humans : *Echinococcus granulosus*, *Echinococcus multilocularis*, *Echinococcus vogeli* and *Echinococcus oligarthus*. The definitive host - dog and an intermediate host - sheep, accidental intermediate host - humans. The cestodes reside in the proximal small bowel of the dog and lay eggs which are passed in the faeces. Sheep ingest the eggs while grazing. Humans become infected through contact with a definitive host or ingestion of contaminated water or vegetables. In the intestine the embryo is released which through portal circulation reaches the liver where it develops into a cyst. Most common sites are liver 70% and lungs 25%. Intra peritoneal hydatid cysts are found in 13% and it is usually secondary to primary hepatic cyst. Primary intra peritoneal hydatid cyst is rare 2%. Here we present the cases of primary hydatid cyst of Mesentery presenting as abdominal mass.

INTRODUCTION

Hydatid disease is caused by *Echinococcus granulosus*, commonly called the dog tapeworm. The disease is globally distributed, while it is common in the tropics. The dog is the definitive host and is the commonest source of infection. Infection is transmitted to intermediate hosts - human, sheep and cattle from dogs. In the dog the adult worm reaches the small intestine and the eggs are passed in the faeces. These eggs are highly resistant to extremes of temperature and may survive for long periods. In the dog's intestine, the cyst wall is digested, allowing the protoscolices to develop into adult worms. Close contact with an infected dog causes contamination by the oral route, with the ovum thus gaining entry into the human gastrointestinal tract.

The cyst is characterised by three layers: an outer pericyst, which is derived from compressed host organ tissues; an intermediate hyaline ectocyst, which is non-infective; an inner endocyst, which is the germinal membrane and contains viable parasites that can separate, forming daughter cysts. Intra peritoneal hydatid cyst is usually secondary to rupture of primary hepatic cyst. Primary mesenteric hydatid cyst is very rare. Anaphylactic shock, cyst infection of the biliary tree and rupture into the peritoneum are the most severe complications.

Literature Survey

The most common locations of hydatid cyst are liver and lungs but unusual locations such as brain, heart, pericardium, kidney, peritoneum, retroperitoneum, bone, soft tissue, and breast have been reported in the literature. Primary peritoneal echinococcosis is very rare and has been reported to occur in 2% of all abdominal hydatid diseases. Clinical manifestations vary with the site and size of the cyst which ranges up to 10 cm and symptoms are due to space-occupying effect within the organs or systemic reactions due to perforation. There are no specific symptoms of mesenteric hydatid cyst and the disease usually remains asymptomatic for years. Clinical manifestation is due to the mass effect of enlarging abdominal cyst. The diagnosis may at times be difficult due to the unusual localization site; all abdominal cystic lesions including mesenteric, pancreatic, gastrointestinal duplication, ovarian cysts, and lymphangioma, must be considered in the differential diagnosis.

Case Report

A 58 year old female who is a known diabetic came with chief

complaints of abdominal distension for past 2 months and complaints of abdominal pain for past 10 days aggravated since 2 days, dull aching lower abdominal pain, non radiating, no aggravating factors, relieved by medications. On examination vitals normal and no tachycardia. Per abdominal examination distension present in the lower abdomen, umbilicus shifted upwards, two cystic mass of size 10*8 cm and 8*5cm present in left and right iliac fossa, well defined and mobile, lower border palpable.

CECT ABDOMEN with IV contrast was done - well defined hypodense cystic lesions with thin internal septations noted in bilateral iliac fossa.

MRI - two well defined T2 hyperintense multiseptate cystic lesions noted in intra peritoneal location largest measuring 6.7*6.8*7.5 cm.

Impression- multiple hydatid cysts CE2

CT CHEST - no evidence of hydatid cyst in lungs

RESULT

Patient was started albendazole 400mg twice a day and cardio respiratory and anaesthesia assessment was obtained. Exploratory laparotomy was done, cyst of size 7*6cm in the left iliac fossa adherent to the lateral pelvic wall, pericystectomy was done. Cyst of size 8*7cm in the proximal ileal Mesentery, resection anastomosis was done. Postoperative period was uneventful and albendazole was continued.

Histopathology - cystic structure with acellular laminated membrane and outer fibrous layer containing inflammatory cells and multinucleated giant cells. Foci show germinal membrane and occasional protoscolices seen. Consistent with hydatid cyst.

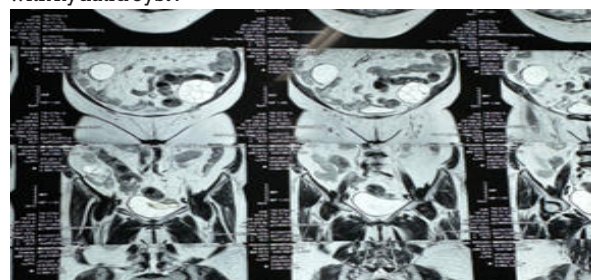


Figure 1 : MRI Image Showing Active Hydatid Cyst.



Figure 2 : Intra-operative Image Showing Hydatid Cyst Ileal Mesentery



Figure 3 : Active Hydatid Cyst

DISCUSSION

Isolated mesenteric cyst is a unique manifestation of hydatid disease. Owing to its rarity in area other than endemic areas and variable imaging appearances preoperative diagnosis of peritoneal/mesenteric hydatid disease is a clinical challenge so a suspicion of this disease is justified in all patients presenting with cystic mass, especially in endemic areas. The combinations of radiologic and serologic tests, especially in patients living in the endemic areas contribute to the diagnosis. High-resolution ultrasonography is the first line of screening for mesenteric hydatid cyst. CT scan is of particular importance. The common complications are hydatid peritonitis (due to rupture of the cyst responsible for anaphylactic reaction), infection of the cyst, and compression of adjacent organs responsible for an occlusive syndrome.

Humans are usually asymptomatic for a long period while the cysts are growing slowly. In most cases, there is only one cyst, whereas in some cases, multiple cysts may be present (20%–40%). Symptoms depend on the size and the number of cysts and possible compression of surrounding structures. As in the present case, signs of mesenteric hydatid disease may include nonspecific abdominal mass, pain due to traction on the mesentery, and pressure effects on adjacent organs. The signs and symptoms of liver hydatid disease, when present, include hepatomegaly, right upper abdominal or epigastric pain, nausea, and vomiting. Cyst leakage or rupture may lead to systemic immunological responses. Rupture in the peritoneal cavity may also cause secondary disease. In case of involvement of portal vein or biliary tract, cysts may be responsible for segmental or lobar liver atrophy. Retrograde spread from the liver via the hepatic and portal veins into the peritoneal cavity has also been reported.

The treatment of choice is principally a careful and complete surgical excision; the partial or subtotal cystectomy can be performed to avoid adjacent organs injury. The use of hypertonic saline or hydrogen peroxide solutions before opening the cavities tends to kill the daughter cysts and therefore prevent further spread or anaphylactic reaction. Mebendazole or albendazole are used as adjuvant therapy to surgery to prevent recurrence.

CONCLUSION

Isolated mesenteric cyst is a unique manifestation of hydatid disease. Owing to its rarity in area other than endemic areas and variable imaging appearances preoperative diagnosis of peritoneal/mesenteric hydatid disease is a clinical challenge

so a suspicion of this disease is justified in all patients presenting with a cystic mass within the peritoneal cavity, especially in endemic areas. High-resolution ultrasonography is the first-line imaging investigation of choice in the diagnosis of primary mesenteric hydatid cyst and surgical excision remains the mainstay of treatment.

REFERENCES

1. Jatal, S.N., Jatal, S., & Ingle, S. (2023). Primary Mesenteric Hydatid Cyst – A Rare Case Report. *Asian Journal of Case Reports in Surgery*, 6(2), 439–444. <https://journalajcrs.com/index.php/AJCRS/article/view/448>
2. Kushwaha, J.K., Gupta, R., Mohanti, S., & Kumar, S. (2012). Primary mesenteric hydatid cyst. *BMJ Case Reports*, 2012,bcr0320125996. <https://doi.org/10.1136/bcr.03.2012.5996>
3. Najih, M., Chabni, A., Attoulou, G., Yamoul, R., Yakka, M., Ehrichtou, A., & colleagues. (2012). Isolated primary hydatid cyst of small intestinal mesentery: An exceptional location of hydatid disease. *Pan African Medical Journal*, 13, 17. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3527067/>
4. Urval, M., Pai, B. Srinivas, & Mulla, S.A. (2020). Primary hydatid cyst of the mesentery presenting as a small bowel volvulus. *International Surgery Journal*, 7(10), 3490–3492. <https://doi.org/10.18203/2349-2902.isj20204165>
5. Ranjan, R., Kumari, K., Milan, K.C., Awale, L., & Khaniya, B. (2023). Mesenteric hydatid cyst mimicking an ovarian cyst – A case report. *International Journal of Surgery Case Reports*, 106, 108260. <https://doi.org/10.1016/j.ijscr.2023.108260>