

Spontaneous rupture of Hydatid cyst of liver presenting as anaphylactic shock: A rare Case Report.

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Abstract :

Aims : Spontaneous rupture of Hydatid cyst of liver presenting as anaphylactic shock is rarely reported. To this date, there are very less number of cases in literature about this condition. The aim of this report is to highlight life-threatening complications such as anaphylactic shock in case of Hydatid cyst rupture.

Materials and Methods : We report a case of a 52 year old diabetic male who presented with acute onset itching, breathlessness, wheeze, and later on, right upper quadrant tenderness. He was icteric and in shock on admission. Complete blood counts showed leukocytosis, sepsis work up were negative. Blood and urine culture and sensitivity was done which did not grow any organism after 5 days of incubation.

Results : Abdominal ultrasound showed a big Hydatid cyst. CT abdomen confirmed cyst and spontaneous rupture. Management was mainly supportive. Shock was treated with fluids and vasopressors. Later surgical excision of cyst was done.

Conclusion : Anaphylaxis with spontaneous rupture of primary isolated hepatic Hydatid cyst has rarely been reported in a non-endemic area. The main purpose of this report is to show that Hydatid cyst rupture can be considered as an important cause of anaphylactic shock in endemic and non-endemic area.

Introduction :

Hydatid disease (HD) caused by larva of *Echinococcus granulosus*, is a common parasitic infestation especially in endemic regions such as the Middle East, Mediterranean, and South American Countries. It continues to be a major health problem in many countries. It is present all over India like south Punjab, Delhi. But the highest incidence is found in Andhra Pradesh and Tamil Nadu¹. Liver is the organ most commonly involved (65–70%) followed by the lungs (25%). Less frequently it involves the spleen (generally, a mean incidence of 3% is reported), kidneys, peritoneum, brain, heart, and bones^{2,3}.

Case Report :

A 52-year-old male patient arrived to the emergency department with rashes on the whole body, sudden-onset abdominal pain in the right upper part, dyspnea, wheezing, pruritus, and urticarial day prior to admission. He was diabetic since 5 yrs. His blood pressure was 90/60 mmHg, heart rate 113/min, and temperature 37.0°C, oxygen saturation of 86% on room air. On physical examination, abdomen was soft but

revealed tenderness in the right hypochondriac quadrant. Respiratory system on auscultation he had bilateral extensive rhonchi scattered all over lung fields. Laboratory work up showed leucocytosis with eosinophil dominance and mildly deranged liver function tests. Sepsis and cardiac workup was negative. Oxygen, Fluid resuscitation, steroids, and antihistamines were used to treat the possible anaphylactic reaction. The patient recovered after emergency medications and then abdominal ultrasound was performed which revealed Hydatid cyst in right lobe of liver with a daughter cyst inside. So the possibility of the cyst rupture was thought and computed tomography (CT) abdomen was performed which revealed a cystic lesion in right lobe of liver measuring about 7.3×6.9 cm in diameters and containing floating membranes. The right lateral wall of the cyst showed discontinuity at a point (Type 3 Hydatid cyst according to Gharbi classification of Hydatid cysts). Surgical excision of cyst was done. The patient was discharged after 10 days with albendazole, 10 mg/kg/day for 6 months.

Discussion :

Hydatid disease is a parasitic infestation caused by the larva of *echinococcus granulosus*. It lives in the gut of dog, wild canines, and carnivorous animals that represent the definitive hosts⁴. Humans become intermediate hosts by accidentally ingesting *Taenia* eggs.

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The hexacanth embryos are usually trapped in the liver (first Lemman's filter) or lung (second Lemman's filter), but will be trapped in the splenic capillaries once in the systemic circulation. Patients remain asymptomatic for about 5–20 years and are usually diagnosed during investigations for other reasons. When the slowly growing echinococcal cysts become huge, patients present with symptoms like pain in the right upper quadrant. Fever and leucocytosis develop when the cyst gets infected, or abscess is formed. Because the Hydatid fluid is antigenic and highly toxic, anaphylactic reaction to the Hydatid fluid usually occurs after microscopic or macroscopic rupture of the cyst and leakage of contents into the peritoneum or blood circulation especially cysts which are subcapsularly located which is a rare but serious complication⁵. The response can vary from a mild hypersensitivity reaction to a fatal anaphylactic shock. Rupture is commonly secondary to trauma, but it may also rarely occur spontaneously as in our patient. The diagnosis is mainly based on the historical and geographic background of the patient, physical examination, radiologic examination in the liver or other organs. At present, ultrasonography is the most valuable and most widely available imaging modality for the diagnosis, classification, and follow-up of Hydatid cysts. CT is more sensitive than sonograms in depicting subtle cyst wall calcification, actual number and location of the cysts with detection of membrane-like structures inside the cyst and discontinuity of the wall which are considered diagnostic for ruptured Hydatid cysts as in our patient. Ultrasound and CT are complementary investigations for diagnosis⁶. Medical treatment is indicated in cysts inaccessible for surgical removal or as a complementary therapy to prevent recurrence.

Albendazole is indicated for 4-6 weeks to reduce the risk of distant recurrence⁷. Emergency surgery remains the only effective therapy for a ruptured cyst. The surgical procedure consists of removing the cyst and possible daughter cysts spilled into the abdominal cavity in combination with peritoneal washing⁸.

Conclusion :

In summary, the Hydatid disease is still a serious health problem in endemic areas as well as in our country. Cyst rupturing into the peritoneal cavity represents a rare but serious complication. Hydatid cyst rupture must be considered in the differential diagnosis of patients presenting with anaphylactic shock in areas where the disease is endemic and even in nonendemic. Early diagnosis with CT and appropriate treatments are essential for favourable outcomes.

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