

Spontaneous Intra Peritoneal Rupture of a Hepatic Hydatid Cyst: A Case Report

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DOI: [10.36347/sjmcr.2023.v11i04.011](https://doi.org/10.36347/sjmcr.2023.v11i04.011)

| Received: 26.02.2023 | Accepted: 31.03.2023 | Published: 09.04.2023

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Abstract

Case Report

Hydatid disease in people is mainly caused by infection with the larval stage of the dog tapeworm *Echinococcus granulosus*. A 27-year-old man was admitted with a more than a week history of abdominal pain with a perception of an abdominal mass, the evolution was marked by the disappearance of the abdominal mass and installation of an abdominal distention with a generalized pruritus and cutaneous erythema; the chest X-Ray showed an elevation of the right diaphragmatic dome. An abdominal ultrasound was performed demonstrating a cystic formation, appearing to develop in the right liver, containing multiple membranous formations and floating serpiginous with peritoneal effusion of great abundance finely echogenic, it associates vesicular formations visible at the pelvic; The abdominal CT confirmed ruptured hepatic cyst; the patient was managed in the surgical unit and was initiated on albendazole treatment with good follow up. Rupture into the free peritoneum is a complication that occurs in 2-7% of cases. Rupture rate is commonly reported as approximately 20% and is associated with young age, superficial localization, trauma, and large cyst size. The anaphylaxis rate has been reported as 10% in all ruptured cases in one series. The rupture can occur after a trauma, or spontaneously as a result of increased intracystic pressure. The spontaneous intra peritoneal rupture of a hepatic hydatid cyst is a serious complication and a particular situation from its clinical presentation to imaging features.

Keywords: Hepatic hydatid cyst, spontaneous intra peritoneal rupture.

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INTRODUCTION

Hydatid disease in people is mainly caused by infection with the larval stage of the dog tapeworm *Echinococcus granulosus*. It is an important pathogenic, zoonotic and parasitic infection (acquired from animals) of humans, following ingestion of tapeworm eggs excreted in the faeces of infected dogs. Hydatid disease is a major endemic health problem in certain areas of the world [1-3].

CASE REPORT

A 27-year-old man was admitted to our department with a more than a week history of abdominal pain, with initially a feeling of heaviness in the right hypochondrium with a perception of an abdominal mass, the history of the disease was marked

by the disappearance of the abdominal mass and installation of an abdominal distention with a notion of generalized pruritus and generalized cutaneous erythema.

There was no history of trauma, medicine intake, surgery, systemic disease, or similar previous complaints on clinical examination, the patient was hemodynamically stable, afebrile, the patient was tachypnea (22/min). On clinical examination: mild Generalized abdominal tenderness.

Initial laboratory investigations revealed hyperleukocytosis, and his liver function tests were normal. Chest X-ray showed an elevation of the right diaphragmatic dome (fig. 1).

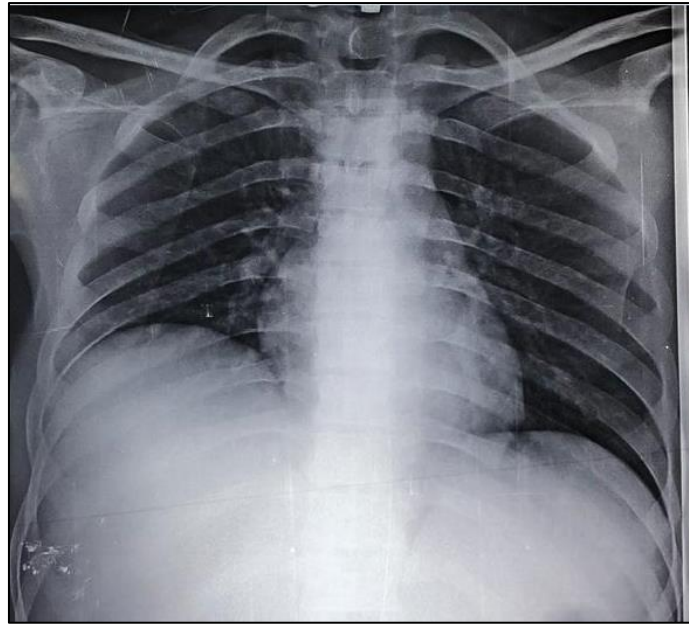


Fig. 1: Chest X-Ray demonstrating an elevation of the right diaphragmatic dome

- An abdominal ultrasound were performed demonstrating a cystic formation, measuring 16x8x7 cm, appearing to develop in the right liver, poorly defined, thin-walled, containing multiple membranous formations and floating serpiginous, non-vascularized with color Doppler. This mass represses the left liver
- within, the right kidney out and back and the diaphragmatic dome upwards.
- Peritoneal effusion of great abundance finely echogenic and partitioned, it associates vesicular formations of infra-centimeter size visible at the pelvic level (Fig. 2).

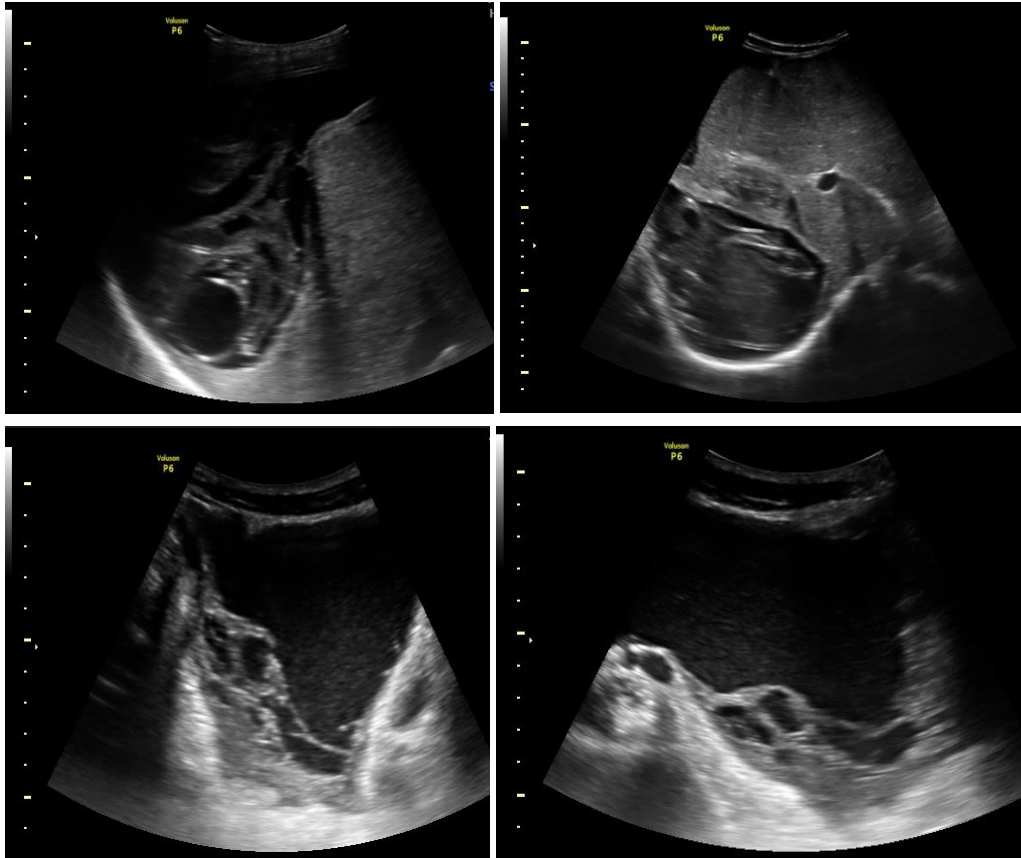


Fig. 2: Pictures of ultrasound exam demonstrating a cystic formation in both of liver and pelvic

- An abdominal computed tomography scan demonstrated a lesion measuring 17,6x14x10 cm that completely filled the right lobe of the liver, which was likely to be a ruptured hydatid

and significant free fluid in the perihepatic and perisplenic areas and pelvis, with scalloped thin wall, containing multiple floating membranes and two vesicular lesions (Fig. 3).



Fig. 3: An abdominal computed tomography scan demonstrated multiples serpiginus structures in the right lobe of the liver with fluid effusion and some cystic structures in the pelvic cavity suggesting the Rupture of a hepatic hydatid Cyst

The patient was managed in the surgical unit and was initiated on albendazole treatment with good follow up.

DISCUSSION

Cystic hydatid disease usually affects the liver (50–70%) and less frequently the lung, the spleen, the kidney, the bones, and the brain [1-3].

Liver hydatidosis can cause dissemination or anaphylaxis after a cyst ruptures into the peritoneum or biliary tract. Infection of the cyst can facilitate the development of liver abscesses and mechanic local complications, such as mass effect on bile ducts and vessels that can induce cholestasis, portal hypertension, and Budd-Chiari syndrome [4].

The most common disease is seen in the right lobe of the liver. Most patients have one cyst (70%), but some have multiple cysts (20%-40%). The diameter of cysts varies from few centimeters to as large as 20–30 cm.

Radiography, ultrasonography (USG), computed tomography (CT), and magnetic resonance imaging (MRI) is commonly used imaging modalities.

Radiography is helpful in chest and for demonstrating calcification. USG demonstrates characteristic findings such as cystic nature, daughter vesicles, membranes, septa, and hydatid sand.

CT and MRI are modalities of choice for number, size, anatomic location, identification of local complications, and systemic spread. CT is especially helpful for osseous involvement, and MRI is better for biliary and neurological involvement. Knowledge of these imaging findings helps in early diagnosis and timely initiation of appropriate therapy [7].

Complications occur in one third of liver hydatid cysts [1]. Rupture into the free peritoneum is a complication that occurs in 2-7% of cases [2, 6, 7]. The case we report is an abrupt spillage of the contents of the liver hydatid cyst into the peritoneum by massive rupture. This is only one clinical aspect of peritoneal hydatidosis. The latter corresponds to all the phenomena produced by the seeding of the peritoneum, whether primary (haematogenous) or secondary (fissure), by *Echinococcus granulosus* larvae [9].

Rupture rate is commonly reported as approximately 20% and is associated with young age, superficial localization, trauma, and large cyst size. Complications vary from abdominal pain to death according to anaphylaxis, including biliary relation, cholangitis, portal hypertension, ascites, and abscess. The anaphylaxis rate has been reported as 10% in all ruptured cases in one series [5, 6].

Hydatid cyst rupture into abdominal cavity is a serious complication. The rupture can occur after a trauma, or spontaneously as a result of increased intracystic pressure.

In this context, the clinical expression is noisy, associating an acute abdominal pain syndrome and manifestations of anaphylaxis [1, 4, 7]. According to some, these allergic manifestations are present in only 16.7 to 25% of cases of rupture [1]. In the face of this symptomatology, surgical intervention is immediately necessary.

The frugal aspect of the digestive manifestations [8] observed in our patient and especially the absence of allergic reaction [2, 3] may be the cause of the delay in therapeutic management and may have a fatal outcome [3, 10].

The efficacy of albendazole has been proven [11]. Initially, medical treatment was reserved for diffuse and/or non-operable forms and its results were unconvincing due to treatment in the form of 4-6 courses of 28 days with 14-day drug-free intervals [9, 12-14].

The current trend of long-term, uninterrupted medical treatment with albendazole seems to be very successful [11, 12].

The discovery of the residual cyst was predictable at the final CT scan. No treatment of the residual cavity had been performed during the operation. The purpose of puncturing the cyst was to check the nature of its contents. It is certain that if the contents of the cyst had shown the existence of parasitic activity, medical treatment would have been continued and percutaneous treatment of the residual cyst would have been performed [16-18].

CONCLUSION

The spontaneous intra peritoneal rupture of a hepatic hydatid cyst is a serious complication and a particular situation from its clinical presentation to imaging features.

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