

Hepatic Hydatid Cyst in a Young Rural Female: A Case Report

Hoshy MS¹ and Hassan FA^{2*}

¹Faculty of Medicine, Department of Chest Disease, Alexandria University, Alexandria, Egypt

²Faculty of Medicine, Department of Medical Parasitology, Alexandria University, Sohag, Egypt

Abstract

Introduction: Hydatid disease in humans occurs as result of infection by the larval stages (hydatid cysts) of taeniid cestodes of the genus *Echinococcus*. The growth of the hydatid cysts in the internal organs (mainly liver and lungs) of humans may affect the health and lead to appearance of the disease manifestations.

Case report: We report a case of hydatid cyst of the liver in a 29-years-old woman who originally lived in Jizan in Saudi Arabia and presented to Jeddah King Fahad hospital emergency unit with abdominal pain radiated to the right shoulder. Physical examination and imaging investigation in the form of chest X-ray, abdominal sonography and computed tomography were done to her.

Results: Imaging investigations demonstrated a cystic lesion within right lobe of the liver extending to adjacent part of the left lobe. A hydatid cyst was diagnosed. The patient underwent radical excision of the cyst with total removal. She also received pre and postoperative oral albendazole.

Conclusion: Hydatid disease cases of the liver may remain silent and become symptomatic and are usually diagnosed in adult patients because of the slowly growing nature of the cyst. The diagnosis needs careful history taking, examination and imaging investigations.

Keywords: Patient; Tomography; Echinococcosis

Introduction

Echinococcosis also called hydatid disease or hydatidosis is a zoonosis and in humans it occurs as result of infection by the larval stages of taeniid cestodes of the genus *Echinococcus*. It is characterized by the growth of the larval stages (hydatid cysts) in the internal organs (mainly liver and lungs) of the intermediate host. Accidentally humans act as intermediate host but don't play a role in the natural life cycle of the parasite [1]. Human cystic *Echinococcosis* is the most common type and accounts for >95% of the estimated 2-3 million cases in the globe [2]. Mammals such as sheep, camels and cattle serve as intermediate host for the larvae [3].

The prevalence of the disease is reported to be high in Middle Eastern countries including Saudi Arabia. This is due to the presence of sheep and dogs living in close contact with humans, especially among the Bedouins [4]. *Echinococcosis* is an increasing public health concern and can be regarded as re-emerging diseases [5]. The most common site of occurrence of hydatid cysts in humans is the liver (50%-93%). Liver hydatid cysts if left untreated grow and follow one of several courses; develop fistulae with adjacent organs or the biliary system, rupture into the peritoneal cavity seeding daughter cysts, and develop daughter cysts within or rarely die [6].

Case Report

A 29-years-old female from Jizan presented to Jeddah King Fahad hospital emergency unit suffering from abdominal pain radiated to the right shoulder, non-projectile vomiting and constipation for 3 days. The patient had no history of cardiac disease, and the pain was not associated with cough, wheezing, shortness of breath or haemoptysis. On physical examination, patient was afebrile. The respiratory rate, pulse and blood pressure were normal. General examination reveals pale skin and leg emphysema.

Abdominal examination on inspection shows epigastric bulge, on palpation there was tenderness on the epigastrium and Rt. hypochondrium, hepatomegaly up to approximately 12 cm below the costal margin with smooth surface, spleen was not palpable. Routine blood shows low HGb (9.1), low HcT (31.8) and low blood indices

(MCV=60, MCH=17, MCHC=28.3) and normal liver function tests. Chest X- ray huge abdominal mass displacing the lungs and heart upwards with continuous chest and abdominal surgical emphysema on the right side. Emphysema was only abdominal on the left side (Figure 1). Abdominal ultrasound scan reveals hepatic fluid filled cyst with multiple daughter cysts (Figure 2).

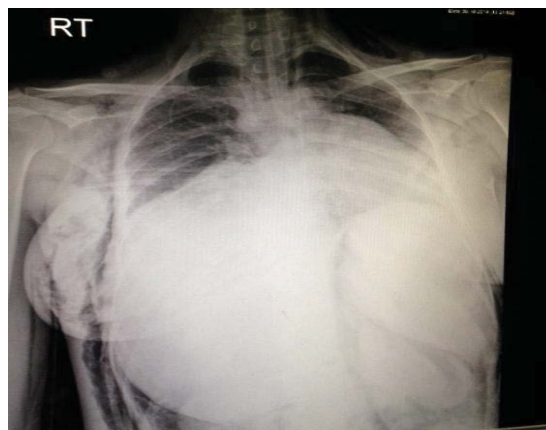


Figure 1: Chest X-ray posteroanterior view: Upwards displacement of the lungs and heart by abdominal mass, chest and abdominal surgical emphysema on the right side and abdominal emphysema on the left side.

***Corresponding author:** Hassan FA, Faculty of Medicine, Department of Medical Parasitology, Alexandria University, Sohag, Egypt, Tel: +966 2 2649600; E-mail: faten.rashad@gmail.com

Received February 20, 2019; **Accepted** March 01, 2019; **Published** March 07, 2019

Citation: Hoshy MS, Hassan FA (2019) Hepatic Hydatid Cyst in a Young Rural Female: A Case Report. J Clin Case Rep 9: 1218. doi: [10.4172/2165-7920.10001218](https://doi.org/10.4172/2165-7920.10001218)

Copyright: © 2019 Hoshy MS, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Computed tomography shows cyst with multiple daughter cysts involving both right and left lobes of the liver (Figures 3 and 4) ERCP was done to the patient 5 days after the admission to exclude cystobiliary fistula, external compression of the hepatic biliary system,



Figure 2: Trans abdominal ultrasound scan image: Hepatic fluid filled cyst with multiple daughter cysts.



Figure 3: Abdominal computed tomography scan: Multiple daughter cysts involving both right and left lobes of the liver.



Figure 4: Abdominal computed tomography scan: Shows the involvement of the left lobes of the liver.

hydatid vesicles within the biliary tract and it was complicated with iatrogenic duodenal injury. Surgical treatment was decided, and the patient was given albendazole prior to surgical intervention.

Discussion

Human echinococcosis is a zoonotic infection caused by the tapeworm of the genus *Echinococcus*. It is a zoonotic disease where the dog is the definitive host and man becomes an accidental intermediate host. Human beings who are closely associated with livestock and poor socio-economic conditions are likely to be infected [7].

Echinococcus species of medical importance in the human beings are *Echinococcus granulosus*, echinococcosis, *Echinococcus multilocularis* and *Echinococcus vogeli*. *Echinococcus granulosus* causing cystic *Echinococcosis* is the commonest and *Echinococcus vogeli* is the rarest. *Echinococcus multilocularis* is rare but is the most virulent. Humans are considered as accidental intermediate host as they will harbour the larval stage of the parasite-hydatid cyst-whereas the dog is the definitive host [8].

The eggs laid by the adults in the environment to be ingested by the intermediate host and hatches in his intestine. The liberated larva penetrates the gut wall, and travels to the liver, lungs, and other organs through the lymphatic or blood vessels. Many mammals act as intermediate hosts, particularly sheep and horses [9]. In the human beings, hydatid cyst disease most commonly occurs in the liver (55-70%) followed by the lung (18-35%), although these two organs can be affected simultaneously in about 5-13% of cases [10,11].

The incidence of hydatid disease is relatively high in the Middle East and humans are frequently infected in childhood [12]. Saudi Arabia and other Arab countries in the Middle East and North Africa sharing similar socio-cultural attitude to female involvement in animal farming and animal husbandry [13-15] explains the young age and the female gender of the patient.

Conclusion

Hydatidosis in humans has variable clinical manifestations, most patients tolerate the infection for extended periods without any symptoms, or they may suddenly show dramatic and acute symptoms. Diagnosis of this case being hydatid cyst affecting the liver was made by ultrasonically and confirmed by a CT scan. Sonography of this case showed the multivesicular cyst. Computed tomography scan was the best test to confirm diagnosis and differentiate hydatid cysts from amebic and pyogenic cysts in the liver, the presence of thin rim of calcification delineating a cyst more noticed on the right Side of the cyst in this case is suggestive of an echinococcal cyst. Calcification indicates that it is old lesion as most cases of liver become symptomatic and are diagnosed in adult patients because of the slowly growing nature of the echinococcal cyst. Only 10-20% of cases are diagnosed in patients younger than 16 years. Emphysema noticed by the chest X-ray in this case was first thought to be ruptured cyst, but sonography and CT scan revealed that the cyst isn't collapsed, so the iatrogenic duodenal injury complicating ERCP was the best explanation to the emphysema.

References

1. Mandal S, Mandal MD (2012) Human cystic echinococcosis: Epidemiologic, zoonotic, clinical, diagnostic and therapeutic aspects. Asian Pac J Trop Med 5: 253-260.
2. Craige PS, McMaus DP, Lightowlers MW, Chabalgoity JA, Garcia HH, et al. (2007) Prevention and control of cystic echinococcosis. Lancet Infect Dis 7: 385-394.

3. Bouree P (2001) Hydatidosis: Dynamics of transmission. *World J Surg* 25: 4-9.
4. Alam A (1999) Epidemiology of hydatid disease in Riyadh: A hospital-based study. *Ann Saudi Med* 19: 450-452.
5. Moro P, Schantz PM (2009) Echinococcosis: A review. *Int Soc Infect Dis* 13: 125-133.
6. Kammerer WS, Schantz PM (1993) Echinococcal disease. *Infect Dis Clin North Am* 7: 605-618.
7. Rodulfo J, Carrión M, Freitas M, Real J, Merchán M (2013) Hidatidosis pulmonar. *Neumol Pediatr* 8: 5-9.
8. Paredes P, Toapanta I, Aguayo A, Morales M, Bravo A (2017) Pulmonary hydatid disease in an adolescent: A case report. *Arch Parasitol* 1: 113.
9. Pan Z, Hunter W (2006) Hydatid Cyst of The Liver: A Case Report and Review of the Literature. *J Paras Dis* 2.
10. Altinors N, Senveli E, Donmez T, Bavbek M, Kars Z, et al. (1995) Management of problematic intracranial hydatid cysts. *Infect* 23: 283-287.
11. Brown RA, Millar AIW, Steiner Z, Krige JEJ, Burkimsher D, et al. (1995) Hydatid cyst of the pancreas: A case report in a child. *Eur J Pediatr Surg* 5: 121-124.
12. Weirich WL (1979) Hydatid disease of the liver. *Am J Surg* 138: 805-808.
13. Onnuola A, Hoogar M (2004) Primary ovarian hydatid disease in the Kingdom of Saudi Arabia. *Saudi Med J* 25: 1697-1700.
14. Taylor BR, Langer B (1997) Current surgical management of hepatic cyst disease. *Adv Surg* 31: 127-148.
15. Kir A, Baran E (1995) Simultaneous operation for hydatid cyst of right lung and liver. *Thorac Cardiovasc Surgeon* 43: 62-64.