



Radiological Diagnosis of Hydatidosis – A Case Report with Discussion

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Abstract

Introduction: Hydatid disease involves mainly the liver (66% of the cases) and the lungs (22%), recurrence rate is around 10 percent. CT and sonography remain the best modality for initial diagnosis and long-term follow-up [1]. Radiological diagnosis is more sensitive compared to serology [5].

Case report: Here we report a case of hydatidosis of lungs and pelvis with a follow-up of 7 years.

We present CT and sonography images of abdominal lesions followed by a succinct discussion of diagnostic modalities in current diagnosis of hydatidosis.

Conclusion: 1. Such a long asymptomatic period confirms that it is not possible to consider hydatidosis as being completely cured without the confirmation of a long-term follow-up.

2. CT and sonography remain the best modalities for initial diagnosis and long-term follow-up [5].

Background: Hydatidosis is a zoonotic infection caused by tapeworms belonging to the class Cestoda, in the family Taeniidae, of the genus *Echinococcus*.

The adult worm (3 to 6 mm long) lives in the small intestine of the definitive hosts, i.e. dogs or other canids.

The dog becomes infected after swallowing the cyst-containing organs of the slaughtered parasitized herbivores.

The ingested protoscolices attach to the intestinal mucosa, and develop into adult stage tapeworms within 32–80 days. Humans are accidental hosts that become infected by ingesting the eggs and, just like the aforementioned herbivorous hosts, allow the development of cysts in various organs [2].



Case presentation

Our patient initially presented in 2014 with the complaints of shortness of breath and chronic cough for last 2 months. A routine chest radiograph revealed a left sided pleural effusion.

Inflammatory markers were within the normal limits, the next natural step in the diagnostic ladder was aspiration of the effusion to check for protein levels and cytology.

Aspiration was done under ultrasound guidance, patient developed anaphylactic shock during the procedure and had to be resuscitated, microscopic analysis of the effusion led towards

echinococcus infection. Patient was commenced on albendazole treatment followed by surgical management.

Patient presented again in 2021 with complaints of vague abdominal pain and constipation, on ultrasound a cystic mass was seen posteriorly to bladder, CT was done to further elucidate the lesion, which again revealed cystic lesions.

Patient was started and treatment dose of albendazole again with a view to involve surgery in future if it fails to resolve the lesion.

Radiological findings:

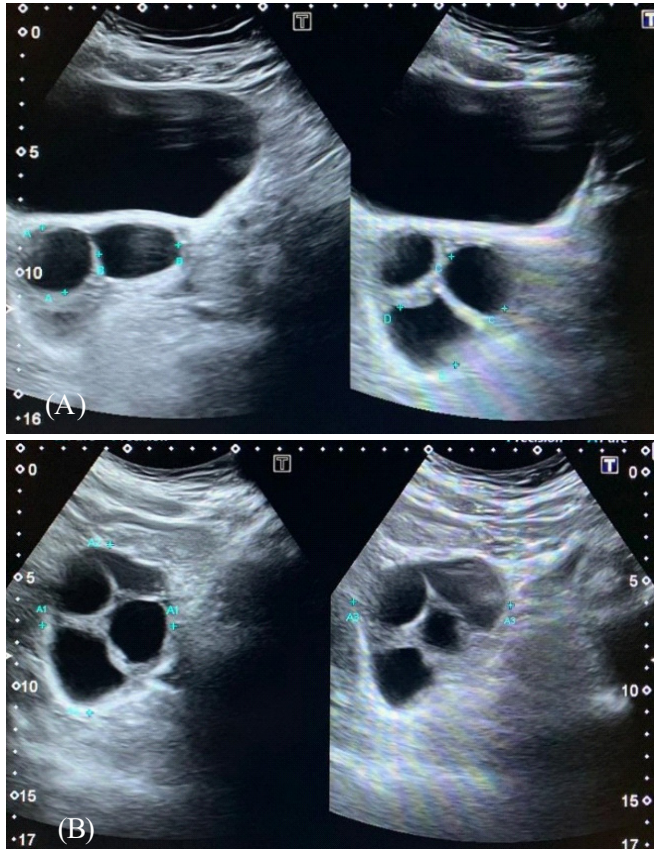


Figure E: Fibrotic and atelectatic bands in pulmonary region previously affected by echinococcus.

Case discussion

Cystic echinococcosis is endemic in certain parts of the world. The growth of the cyst is often slow, and the liver and lungs are the most frequently involved organs. Diagnosis is based on clinical signs and symptoms and epidemiological data, while ultrasonography is important for the classification of hydatid cysts [4].

British Medical Journal best practice guidelines list the first three investigations to perform as full blood count, stool examination and serology [7].

Habba et al in their paper "Comparison of radiology with 6 serologic techniques confirmed a good correlation between the two methods. Nevertheless, their study showed serology is more specific but less sensitive than imagery [5].

Preoperative diagnosis of hydatid cysts can be made ultrasonically and confirmed by CT scan.

Intestinal infection is treated with antiparasitic therapy only, while extra-intestinal infection requires additional treatments including corticosteroids, anticonvulsants, and surgical intervention. [1]

Treatment of hydatid cysts is principally surgical. However pre- and post-operative 1 month course of Albendazole and 2 weeks of Praziquantel should be considered in order to sterilize the cyst, decrease the change of anaphylaxis, decrease the tension in the cyst wall (thus reducing the risk of spillage during surgery) and to reduce the recurrence rate post operatively [1].

Intra operatively the use of hypertonic saline or 0.5 percent silver nitrate solutions before opening the cavities tends to kill

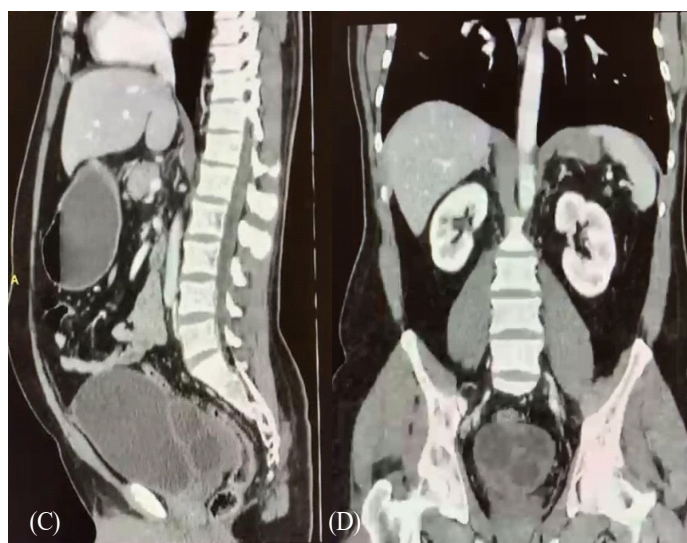


Figure C & D: Saggital and Coronal slices showing thick-walled cystic lesion in lower pelvis.

the daughter cysts and therefore prevent further spread or anaphylactic reaction.

Recurrence rate of echinococcosis is at about 10 percent according to literature review [1].

Summary

We conclude that *Echinococcus granulosus* can affect any organ in the body and high suspicion of this disease is justified in any cystic neoplasm of any organ, especially in endemic regions. According to literature review, medical treatment should precede and follow the surgical intervention. Radiology is more sensitive compared to serology in diagnosis.

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