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CASE REPORT

SINGLE GIANT ISOLATED HYDATID CYST IN LEFT LUNG: A RARE CASE REPORT

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ABSTRACT

Hydatid disease is a zoonotic parasitic infection caused by Echinococcus granulosus. Humans are accidental intermediate hosts. Hydatid disease is transmitted by the fecal-oral route through the ingestion of eggs of Echinococcus granulosus. Dogs (and other canines) are definitive host. Adult tapeworm lives in their intestines and sheds eggs in feces. Sheep, goats, cattle, sometimes humans (accidental) are intermediate host. In Humans infection occurs by Ingestion of eggs which hatch in the intestine to form larvae (oncospheres)which penetrate the intestinal wall and enter bloodstream to lateron lodge in liver, lungs, or other organs and form hydatid cysts. The lungs are the second most common site after the liver. Pulmonary hydatid cysts account for about 10–30% of all hydatid disease cases worldwide (1). Among these, single isolated pulmonary hydatid cysts (i.e.in lung only, without liver involvement) are reported in approximately 25–40% of pulmonary cases(2), Right lung more common than left. But left lung hydatid cysts can still occur, usually in lower lobes. Herein we present a rare case of left upper lingual hyatid cyst in a 16 yr old adolescent boy that was misdiagnosed as tuberculous loculated effusion in local health center. When sputum specimen was stained by acid-fast staining for detection of Mycobacterium tuberculosis, hooklets of Echinococcus granulosus were observed. A simple chest X-ray showed a homogeneous opacity in the upper and middle part of the left lung. Computed tomography scan verified existence of thin walled caviar lesion with irregular air–fluid level and was diagnosed as hyatid cyst, which was later confirmed during surgical removal. Misdiagnoses of pulmonary hydatid cyst may even lead to irreparable damages. Therefore, accurate diagnosis is necessary to prevent severe complications.

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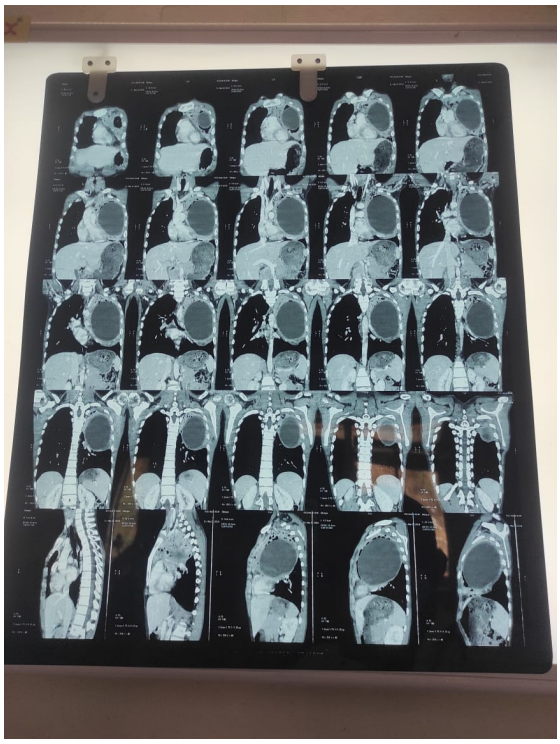
INTRODUCTION

Hydatid disease or echinococcosis, is a chronic zoonotic parasitic infection caused by the larval stage of the tapeworm Echinococcus granulosus. It is an important public health problem, particularly in rural, livestock-raising areas of the world, including parts of the Middle East, South America, Africa, and India. The life cycle of E. granulosus involves two hosts: Usually dogs and other canines, which harbor the adult tapeworms in their intestines and shed eggs in feces are definitive hosts. Intermediate host includes sheep, goats, cattle, and accidentally, humans who ingest the eggs. In humans, once the eggs are ingested, they hatch in the small intestine, and the released oncospheres penetrate the intestinal wall and disseminate via the bloodstream. These larvae most commonly localize in the liver (60–70%) and lungs (20–30%), where they develop into fluid-filled cysts known as hydatid cysts. Rarely, other organs such as the brain, heart, kidneys, bones, and spleen may be involved (3). Hydatid cysts typically grow slowly and remain asymptomatic for years. Clinical manifestations depend on the size, location, and complications such as rupture, infection, or pressure effects. Pulmonary hydatid cysts are often large and may rupture into bronchi or pleural space, leading to cough, hemoptysis, or anaphylaxis (4). Such cases, misdiagnosed with other common pulmonary diseases like tuberculosis and thus patients may not be receiving appropriate treatment. Herein we present a rare case of left upper lingular hyatid cyst in a adolescent boy that was misdiagnosed as tubercular loculated effusion in local health center.

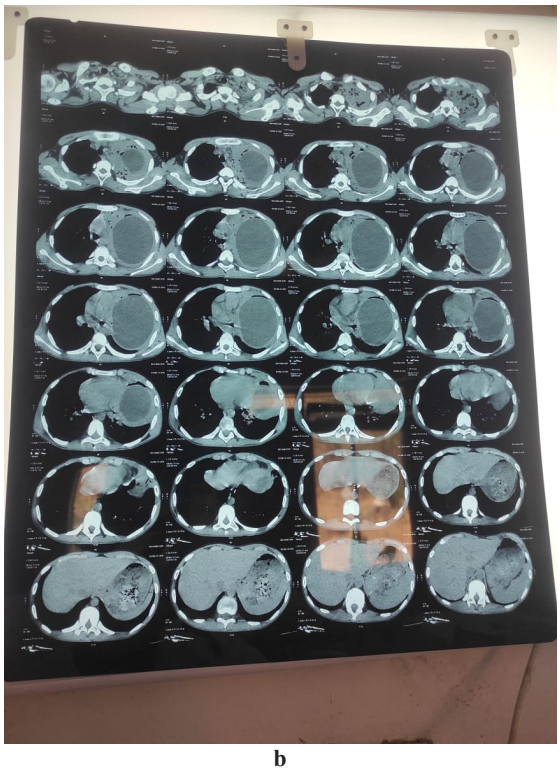
CASE PRESENTATION

A16 year old boy from a village of southern Rajasthan presented with a 4month history of fever, severe cough, left sided chest pain and decreased appetite. Gradually he suffered from shortness of breath and weight loss. He had history of blood in sputum 1 month Back. The patient had no known previous medical problems. Complete blood count revealed leukocytosis (12800 WBCs per microliter) with 4% eosinophilia and anemia (hemoglobin- 9.4mg/dl,) with a hematocrit of 26.4%. Erythrocyte sedimentation rate was 90 mm/h. The patient, who was an inhabitant of a rural area, Rajsamand, he had a history of prolonged exposure to domestic dogs and sheep. Under National Tuberculosis control program, two sputum specimens were collected from patient. The direct smear Zeihl Neelsen stained smears were sent to observe acid-fast bacilli. However, the acid-fast bacilli were not seen on the smear but instead, many hooklets of protoscoleces in different shape and sizes were observed. A simple chest X-ray showed large lobulated mass in the upper and middle zone of the left lung (Fig.2). Computed tomography scan verified existence of thin walled

caviar lesion with irregular air–fluid level in favor of a hydatid cyst. In addition, adjacent parenchymal infiltration and fibrosis, pleural thickening and mild pleural effusion were observed in left lung. Right lung was normal. Bronchovascular patterns of both lungs were also normal. Abdominal tomography did not reveal any abnormality. Patient was referred to MBGH CTVS department for surgical removal. A posterolateral thoracotomy was performed and cyst evacuated. Albendazole was prescribed in the dose of 15 mg/kg/day as a postoperative prophylactic measure to inhibit recurrence. The patient was discharged on the 10th post-operative day with good and stable vital signs. Six months later, chest X-ray showed a well expanded left lung. In follow up after 6 months and 1 year, the patient showed a complete resolution of all the symptoms with normal chest X-ray.



a



b

c

Figure 1(a,b,c) CECT thorax - A well-defined, large, rounded cystic lesion with thin walls and air-fluid level can be seen in the left upper and middle lung zones, likely corresponding to the lingular segment. No evident calcification or daughter cysts are noted on these images, which supports an uncomplicated pulmonary hydatid cyst rather than a complicated or ruptured one. Adjacent lung parenchymal reaction and pleural thickening are visible. Mediastinal shift or gross lymphadenopathy is not evident. No involvement of liver or other intra-abdominal organs is visualized in the coronal sections, supporting the diagnosis of a single isolated pulmonary hydatid cyst.

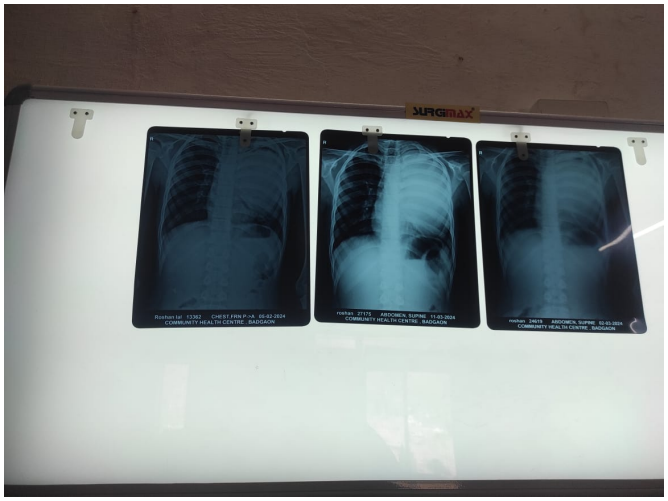


Figure 2. Cxray - well-circumscribed homogeneous rounded opacity is seen in the left mid-zone, which corresponds to the location seen in the CT scan—suggestive of a pulmonary hydatid cyst

DISCUSSION

This case illustrates a rare presentation of a hydatid cyst in the left upper lingular segment mimicking tubercular loculated effusion. Misdiagnosis of hydatid disease in TB-endemic regions is common due to overlapping clinical and radiological features. However, eosinophilia, rural background, and unusual cystic lesions on imaging should prompt suspicion of echinococcosis. Early diagnosis and combined surgical and medical treatment offer excellent outcomes.

CONCLUSION

Accurate diagnosis of pulmonary hydatid cysts, especially in endemic areas, is crucial to avoid mismanagement and complications. Awareness and early imaging, along with cytological clues such as hooklets on sputum smear, can be vital for timely intervention.

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