

# Isolated pulmonary hydatid cyst: Misinterpreted as metastatic pulmonary lesion in an operated case of carcinoma breast in young female

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### ABSTRACT

Hydatidosis is caused by *Echinococcus granulosus*. Humans may be infected incidentally as intermediate host by the accidental consumption of soil, water, or food contaminated by fecal matter of an infected animal. Hydatidosis is one of the most symptomatic parasitic infections in various livestock - raising countries. Lung is the second most commonly affected organ following the liver. The symptoms depend on the size and site of the lesion. It can present as an asymptomatic pulmonary lesion to hemoptysis, chest pain, coughing anaphylaxis, and shock. There are very few reported cases of isolated lung hydatidosis without exposure to animals or nonvegetarian diet. For hydatidosis, serology and imaging are diagnostic tools. Surgical removal and/or chemotherapy are the main-stay of treatment. Here, we discuss a case of persistent left lower lobe cystic lesion in young female with a history of operated left breast carcinoma which was thought to be of metastatic lesion but ultimately confirmed as pulmonary hydatid cyst after unintended aspiration of cystic fluid to rule out malignancy. Pulmonary hydatidosis should always be considered as a differential diagnosis when dealing with a cystic lesion on radiology.

**Keywords:** *Echinococcus granulosus*, metastasis, pulmonary hydatidosis

### Introduction

Cystic hydatid disease is a zoonotic disease caused by the larval stage of dog tapeworm *Echinococcus granulosus* and is endemic in various livestock - raising countries like India also.<sup>[1-3]</sup> The cyst may develop practically in any organ of the body. A single organ is involved in 85–90% cases, pulmonary involvement occurs in 10–30% of cases, being the second only to the hepatic involvement.<sup>[3,4]</sup> A simple pulmonary hydatid cyst can arise anywhere in the lung, but is more common in the right side and the lower lobe.<sup>[5]</sup> However, in our case, it was present in the left lower lobe. Diagnosis

is usually made by history and radiological examinations such as chest X-ray, ultrasonography, and computerized tomography (CT). Serological diagnosis lacks sensitivity and specificity. Percutaneous aspiration of a suspected hydatid cyst is controversial generally because of the risk of an allergic reaction, which can be serious with asthma or systemic anaphylaxis, and because of the danger of the spread of the disease by spillage of the cyst's contents.<sup>[6]</sup> However, in our case, percutaneous aspiration was performed to rule out metastatic lesion as the patient had a history of carcinoma breast which ultimately confirmed the diagnosis of hydatid disease as hooklets of *Echinococcus* was found on microscopy. Finally, the patient underwent for surgical intervention and the left lower lobe lobectomy.

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**How to cite this article:** Kshatriya R, Prajapati D, Khara N, Paliwal R, Patel S. Isolated pulmonary hydatid cyst: Misinterpreted as metastatic pulmonary lesion in an operated case of carcinoma breast in young female. J Family Med Prim Care 2016;5:701-3.

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**Website:**  
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**DOI:**  
10.4103/2249-4863.197299

## Case Report

A 36-year-old female presented with cough with expectoration, left-sided pleuritic chest pain, and episodes of trace hemoptysis for the past 1 month. She had a history of infiltrating ductal carcinoma of the left breast for which she was operated before 3 years. She had rounded lesion in the left lower zone in chest X-ray and in CT [Figures 1 and 2] which was thought to be metastatic in view of the positive history of malignancy. She was vegetarian with no exposure to any animals. During this episode, physical examination revealed dull note on percussion and diminished breath sounds heard over the left lower chest. Blood reports showed eosinophilia with normal leukocytes. Chest radiograph was interpreted to have a left lower zone round opacity (possibly metastatic) which has increased in size as compared to the previous X-ray [Figure 3], and on ultrasound and CT scan [Figure 4], it was found to be a cystic lesion with fluid collection. Hence, diagnostic fluid aspiration was performed, and surprisingly, hooklets of *Echinococcus* were found on microscopy which confirmed the diagnosis of hydatid cyst [Figure 5]. Abdominal ultrasound was normal including liver. The patient was referred for surgical intervention and underwent left lower

lobectomy, and after surgery, there were no complications and patient was absolutely fine.

## Discussion

Pulmonary hydatid disease can be presented as isolated single organ involvement without liver involvement. We may not be able to elicit a clear history of exposure to any animal or source for acquiring infection. Diagnosis of pulmonary hydatid disease can be established with imaging examinations, including chest X-rays, CT, and magnetic resonance imaging.<sup>[7]</sup> Serological tests lack sensitivity and specificity and mostly used as a supporting diagnostic tool and can be used in follow-up to check recurrence.<sup>[8]</sup> There is controversy regarding the role of aspiration of cystic fluid for cytology in the diagnosis of pulmonary hydatid cyst as there may be a high possibility of rupture of the cyst, anaphylaxis, and dissemination. However, many cases of unintended fine-needle aspiration of pulmonary hydatid cyst have been reported and still are increasing in several occasions to obtain material for diagnosis of suspected isolated unclear pulmonary lesion on imaging which may be of cystic or mass type without any untoward complications.<sup>[6,9,10]</sup> Same, in our case, as it was not obvious to have hydatid cyst from ultrasonography and CT of the chest, we went percutaneous aspiration of the lesion which confirmed the diagnosis without having any complications. Active hydatid cysts exhibit clear watery fluid containing



Figure 1: Initial X-ray suggestive of the left lower zone opacity

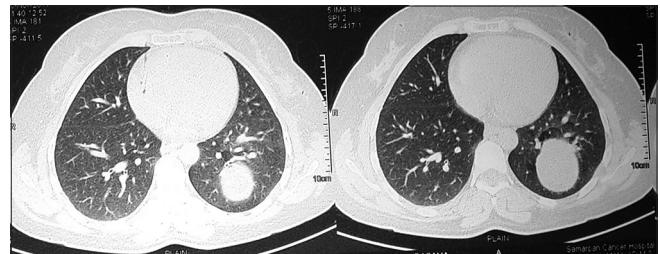


Figure 2: Initial computerized tomography scan suggestive of the left lower lobe opacity



Figure 3: Chest X-ray suggestive of increased opacity in left lower zone

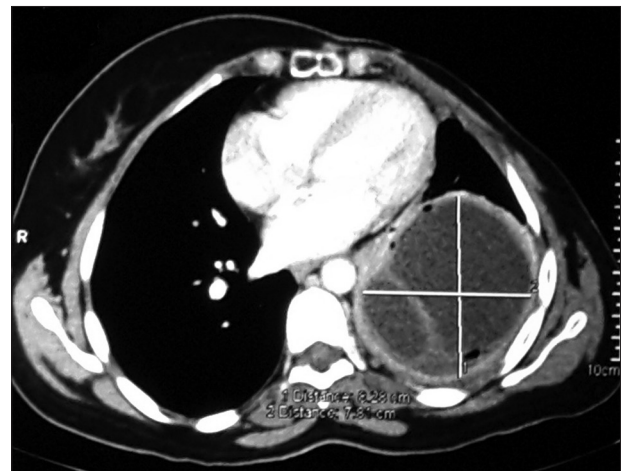
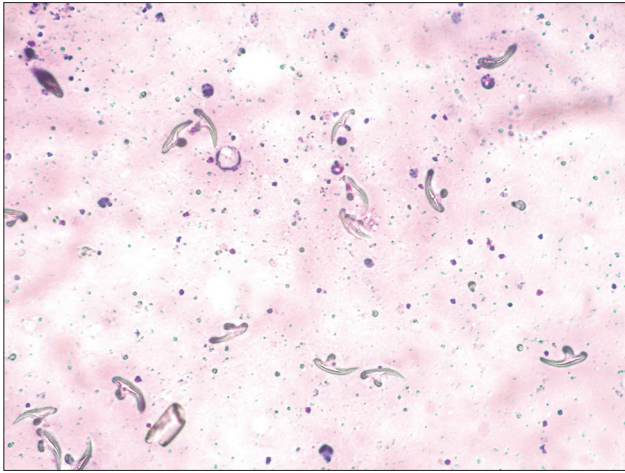


Figure 4: Computerized tomography scan suggestive of cystic lesion in the left lower lobe



**Figure 5:** Microscopic view of *Echinococcus granulosus* (hooklets)

scolices and show elevated pressure, whereas inactive cysts exhibit cloudy fluid without detectable scolices and do not show elevated pressure.<sup>[6,10]</sup> Surgical removal is recommended in such type of cases with albendazole therapy.

### Conclusion

Pulmonary hydatidosis should always be considered as a differential diagnosis when dealing with a cystic lesion on radiology in our country. Although percutaneous aspiration is controversial, it may help in diagnosis with minimal to no complications if performed carefully.

### Acknowledgment

We would like to thank the patient and present institute where case was managed.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

### References

1. McManus DP. Echinococcosis with particular reference to Southeast Asia. *Adv Parasitol* 2010;72:267-303.
2. Moro PL, McDonald J, Gilman RH, Silva B, Verastegui M, Malqui V, *et al.* Epidemiology of *Echinococcus granulosus* infection in the central Peruvian Andes. *Bull World Health Organ* 1997;75:553-61.
3. Kulpati DD, Hagroo AA, Talukdar CK, Ray D. Hydatid disease of the lung. *Indian J Chest Dis* 1974;16:406-10.
4. Reddy CR, Narasiah IL, Parvathi G, Rao MS. Epidemiology of hydatid disease in Kurnool. *Indian J Med Res* 1968;56:1205-20.
5. Morar R, Feldman C. Pulmonary echinococcosis. *Eur Respir J* 2003;21:1069-77.
6. McCorkell SJ. Unintended percutaneous aspiration of pulmonary echinococcal cysts. *AJR Am J Roentgenol* 1984;143:123-6.
7. Santivanez S, Garcia HH. Pulmonary cystic echinococcosis. *Curr Opin Pulm Med* 2010;16:257-61.
8. Ortona E, Riganò R, Margutti P, Notargiacomo S, Ioppolo S, Vaccari S, *et al.* Native and recombinant antigens in the immunodiagnosis of human cystic echinococcosis. *Parasite Immunol* 2000;22:553-9.
9. Saenz-Santamaria J, Moreno-Casado J, Nuñez C. Role of fine-needle biopsy in the diagnosis of hydatid cyst. *Diagn Cytopathol* 1995;13:229-32.
10. al Karawi MA, Mohamed AR, el Tayeb BO, Yasawy MI. Unintentional percutaneous aspiration of a pleural hydatid cyst. *Thorax* 1991;46:859-60.