

Pulmonary hydatid cyst presenting with hemoptysis

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Abstract

Echinococcosis and/or hydatidosis is one of the most important zoonotic diseases in the world. Hydatid disease of the lung is uncommon and usually caused by *Echinococcus granulosus*. Hemoptysis in adults is most often caused by tuberculosis, bronchitis, bronchiectasis, aspergilloma, trauma or bronchogenic carcinoma. Here, we report an unusual cause of hemoptysis, which was due to pulmonary hydatidosis.

Keywords: Cyst; *Echinococcus*; Hemoptysis; Scolices; Serology

Introduction

Diseases due to cestode worms (segmented worms) are an important cause of morbidity, especially in developing countries [1]. At any point of time more than 1 million people are affected with echinococcosis. In human most of the times hydatid disease of lung is asymptomatic. Echinococcosis occurs in 4 forms Cystic echinococcosis – *Echinococcus granulosus*, Alveolar echinococcosis—*E. multilocularis*, Polycystic echinococcosis—*E. vogeli*, Unicystic echinococcosis—*E. oligarthus*.

Hydatid disease is a parasitic infestation caused by *Echinococcus granulosus* characterized by cystic lesions in liver and other parts of the body [2]. The sites of hydatid disease includes liver, lung, central nervous system, heart, bone of which liver lung are most common. One-fifth of clinically diagnosed cysts are in the lungs [3,4]. Hydatid disease of lung is most frequent in children but can also be seen in older adults [5]. Humans obtained the disease from various sources of water or food or by direct contact with dogs. If the hexacanth embryos overcome the hepatic obstacle, they lodge in the lungs, where they transform into hydatids. The embryos can reach the lung via the lymphatics, bypassing the liver, and disease can be contracted through the bronchi also [6]. Here we present a case of hydatid cyst presenting with complaint of haemoptysis.

Case History

17 years old non-smoker young male presented to our side with complaints of haemoptysis (10–20 ml) for 15 days, fever and generalised weakness for 2 days. No past history of tuberculosis, recurrent infections, trauma was present. On examination patient was oriented and conscious with blood pressure of 104/64 mm Hg, heart rate of 94/min, respiratory rate of 20/min, pallor was present, peripheral lymphadenopathy and clubbing were absent. On auscultation decreased breath sound in left infrascapular area was observed. Routine blood counts revealed Hb- 10.8 gm%, TLC(total leucocyte count)-

3900 /mm³, DLC(differential leucocyte count)- P(polymorph)55%,L(lymphocyte)-39% ,E (eosinophil) 4%. Chest X-ray was done and showed a well-defined round opacity involving middle zone of left hemithorax [Fig. 1].



Fig. 1: Chest X-ray showing a well-defined round opacity in left hemitho

Initially cystic lung lesion was suspected and ultrasound guided aspiration was attempted and around 200 ml of clear fluid was aspirated and sent for scolices and broods capsules for *E. granulosus*, but was negative. Serum IgG for echinococcus antigen was also negative. Sputum for scolices and broods for *E. granulosus* was also negative. Presumptively patient was treated as hydatid cyst of lung, as other possibilities for well-defined opacity with clear fluid on aspiration were unlikely at this age. Patient was started on Albendazole 400 mg twice daily for 28 days cycle. Total of 4 cycles were given with a gap 2 week between each cycle. Patient improved clinically and radiologically on treatment. On follow up, Chest X- ray [Fig. 2] and CECT thorax [Fig. 3 & 4] were done which showed resolution of hydatid cyst.



Fig. 2: Chest X- ray on follow-up showing resolution of round opacity



Fig. 3 & 4: CECT Thorax showing resolution of round opacity

Discussion

A hydatid cyst enlarges slowly and is generally well tolerated by an infected person until it is large enough to cause a notable mass effect. Signs and symptoms depend on cyst size and location. Haemoptysis in adults is most often caused by tuberculosis, bronchitis, bronchiectasis, Aspergilloma and trauma or bronchogenic carcinoma [7]. Coughing, chest pain and breathlessness are the common presenting symptoms for pulmonary hydatid cyst. The mechanism of haemoptysis may be due to pressure erosion of a bronchus or an obstructive effect with bronchial infection. There may be occasional rupture of cysts into the bronchus, resulting in massive haemoptysis. But the clinical and radiological picture is so unique that it can be easily identified despite its rarity.[8] Serological sensitivity is 80-100% and specificity is 88-96% for liver cyst infection but lower for lungs (50-56%) or other organ involvement. Albendazole in comparison to Mebendazole is better absorbed and used in daily dose of 10-15mg/kg. Cyclic treatment in form of 3month course with interval of 14 days has been widely used. Recent data shows that uninterrupted drug therapy for 3-6 months has better efficacy with no increase in adverse effects.

Our patient had unusual presenting complaint of haemoptysis and negative serological tests but classical radiological picture, clear fluid appearance saved the time and need for further investigations and also good response to the medical therapy made the diagnosis of pulmonary hydatid cyst which presented as haemoptysis.

Conflict of interest: None declared

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