Case Report

Unusual Presentation of Hydatid Cyst: Diagnosis with Bronchoscopy

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Abstract
Hydatid disease is one of the major health problems in countries where hydatidosis is endemic. Atypical radiological findings may lead to misdiagnosis or delay in diagnosis in these patients. A 13-year-old boy was presented who admitted to the hospital with a history of cough and hemoptysis for six months. He had a non-resolving pneumonia. Bronchoscopy showed endobronchial lesion and the diagnosis of hydatid disease was confirmed by pathological examination.

Key words: hydatid cyst, hydatid disease, child, echinococcus, endobronchial lesion

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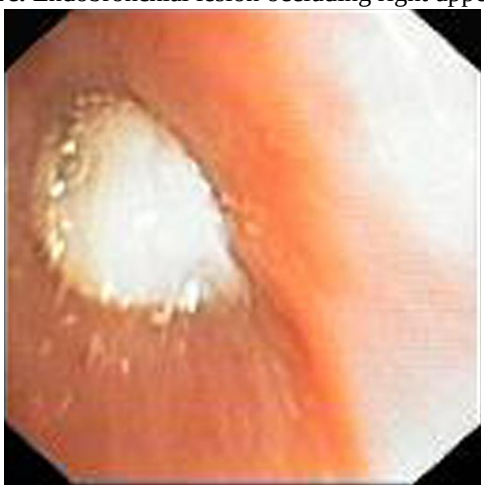
Introduction

Hydatid disease is one of the major health problems in endemic countries including Turkey [1,2]. Lungs are the most frequent location in children for hydatid cysts [1,2]. Uncomplicated cysts are seen as round opaque lesions on chest radiography. Infection and perforation may change the radiographic appearance of hydatid cyst, causing an incorrect diagnosis and delayed treatment [3,4]. Bronchoscopy may be necessary in children with atypical presentation of hydatid disease [5,6]. There is limited information in the literature about diagnosis of hydatid disease by bronchoscopic evaluation in childhood [7,8]. This case report presents a child with pulmonary hydatid disease diagnosed by bronchoscopy.

Case report

A 13-year-old boy was admitted to Sureyyapasa Chest Diseases and Thoracic Surgery Training and Investigation Hospital, Istanbul, with a history of cough and hemoptysis for six months. He had persistent infiltration in the right upper lung resistant to six weeks of a road spectrum of antibiotics therapy. There were no prior respiratory symptoms. The patient's history was unremarkable for tuberculosis in family members, contact with animals, or foreign body aspiration. On physical examination, his respiratory rate was 30 breaths per minute with no fever. Breath sounds were significantly diminished over the upper right lung. Results of laboratory studies showed a leukocyte count of 5900/mm^3, a hemoglobin level of 11.7 g/dL, a platelet count of 515000/mm^3 with erythrocyte sedimentation rate of 5 mm/h. Chest radiography showed a consolidation in the right upper zone and computerized tomography revealed a consolidation in the right upper lobe. Tuberculin skin testing was measured as 6 mm. Flexible bronchoscopy (Olympus®, BF 3C160, 2.8.) was performed for differential diagnosis of nonresolving pneumonia and hemoptysis. Bronchoscopy showed a whitish endobronchial lesion occluding the orifice of the right upper bronchus totally (1). Since it was too hard to remove with flexible bronchoscopy, rigid bronchoscopy (Storz®) was performed. The lesion was extracted and approximately 10 cc of purulent secretion was aspirated. Material was sent for both pathological and microbiological examination. Acid-fast bacilli and culture of other micro-organisms were negative. Pathological examination showed typical three-layered structure of hydatid cyst with an inner germinal layer, a middle acellular layer, and an outer fibrous capsule with eosinophils. Indirect hemagglutination test was positive for *Echinococcus granulosus*. There was no liver involvement with

Figure. Endobronchial lesion occluding right upper lobe



ultrasonographic examination. The patient was treated with albendazole 10 mg/kg/day. The treatment was administered for four weeks with a 14-day interval. Complete clinical and radiological improvement was achieved in two months and the treatment lasted six months.

Discussion

Hydatid disease remains a major problem throughout the world, especially in endemic countries. Cough, hemoptysis and chest pain are not specific findings for hydatid disease [1,2]. Intact pulmonary cysts are frequently detected on chest radiography and typically appear as solitary or multiple well-defined, round, opaque lesions. When a hydatid cyst is infected or ruptured, the radiological appearance may become atypical and it may cause incorrect and delayed diagnosis [3,4]. Complicated pulmonary hydatid cysts imitate several pleural and pulmonary diseases such as nonresolving pneumonia, tuberculosis, abscess and tumour [4,6,7]. The diagnosis of pulmonary hydatid disease is primarily based on clinical and radiological findings. Bronchoscopy is unnecessary in patients with a typical clinical and radiological picture but it can be performed for differential diagnosis in cases of atypical radiological appearance [5,6]. The symptoms of our patient were in accordance with hydatid disease but he did not have a typical radiological picture. The initial diagnosis was non-resolving pneumonia. Bronchoscopy detected a whitish endobronchial lesion imitating endonbronchial tuberculosis with a caseous lesion [9] or delayed foreign body aspiration [10]. The microbiological investigation for *Mycobacterium tuberculosis* was negative. Pathological and microbiological examination of the material showed features of a pulmonary hydatid cyst and the diagnosis was confirmed by serology.

Specific and non-specific bronchoscopic findings for pulmonary hydatid cysts have been described in adults, a whitish-yellow gelatinous membrane being the single specific finding [5,6]; however, there is little information in the literature about the bronchoscopic findings of hydatid disease in childhood [7,8]. This case contributes to the literature in an aspect that hydatid cyst should be kept in mind in differential diagnosis of endobronchial lesion. Medical therapy of hydatid disease is the best therapy except in cases of large pulmonary cysts and when complications occur, such as compression of parenchyma or obstruction of airways [1,2]. Our case was successfully treated with oral albendazole.

This case report presents a pediatric patient with pulmonary hydatid disease diagnosed by bronchoscopy. Bronchoscopy allowed a definitive diagnosis to be made. In conclusion, bronchoscopic examination is valuable in the diagnosis of pulmonary hydatid disease in children without a typical radiological picture.

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