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Simultaneous Hydatid Lung Cyst and Aspergillomas: A Rare Case Report

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ABSTRACT

Pulmonary aspergillosis frequently complicates existing in tuberculosis pulmonary cavity, but the coexistence of aspergillosis and echinococcal cyst is really rare. Here in, we report a case of a 37 years old non-diabetic lady presented to internal department that she treated with the diagnosis of Aspergiloma. She was admitted in our department with internal medicine consult complaints of cough with productive sputum, chest pain and dyspnea without fever. Clinical examination revealed fine crackles in upper segment of right lung with opacity in the upper zone of right lung in CXR. She has chest CT scan revealed an inflammative mass clinging to the chest wall with cavity in the anterior segment of the right upper lobe and the mass that it seams way out to bronche. When hydatid cysts show typical appearances like "water-lily" or "crescent sign" the diagnosis is straight forward. However, atypical appearances can pose problems.

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Introduction

Hydatid cyst disease is endemic in many developing countries. Hydatidosis may be asymptomatic for many years. It may also be symptomatic depending on the size, location, and complications of the cyst related to cyst rupture or superinfection (1, 2). Pulmonary aspergilloma existing in tuberculosis cavity. Patients report fever, pleuritic chest pain and sputum production with brown plugs (3, 4). Development and proliferation of the aspergillomas in the laminated ectocyst of hydatid cyst is rare (2, 4). The radiologic appearance can vary based on the clinical stage. In the early stage a normal appearance is common to fleeting pulmonary infiltrates during acute exacerbation in the later stages (5).

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Case Presentation

A female patient, 37 years of age, presented to internal department with cough, chest pain and dyspnea that she was treated with the diagnosis of Aspergiloma for three months. Mucosal thickening and necrosis were seen in bronchoscopic view in right bronch.

BAL cytology was showed acute inflammatory reaction consist of sever neutrophilic infiltrate and degenerated cell and the smear and culture were negative for AFB even after forty days. Due to lack of response to treatment, they applying for surgery consulting. She reported right thoracic pain, dyspnea without episodes of hemoptysis or fever in conservation of the general state. Physical examination revealed fine crackles in upper zone. She has lung CT scan revealed an inflammative mass clinging to the chest wall and the cavity in the anterior segment of the right upper lobe and the mass that it seams way out to bronche (figure 1). After 3 months she repeated CT scan, the mass still existed and fulling the cavity and the patient has not had any clinical improvement (figure 2).

After workup, patient was underwent for surgery. Right posterolateral thoracotomy through the fifth intercostal space was done. A inflammative mass in anterior segment of right upper lobe that expanded to fissure was noted, densely adherent to chest wall.

After pneumolysis, during releasing the inflamative mass, the mass was ruptured and the membrane of hydatid cyst became apparent. So we quickly packed the pleural cavity with mops soaked with hypertonic saline and then cystic membrane was resected.

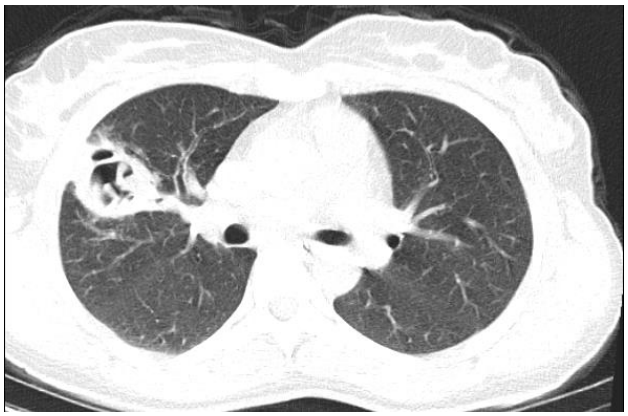

Figure 1. Spiral lung HRCT showing mass with cavity.

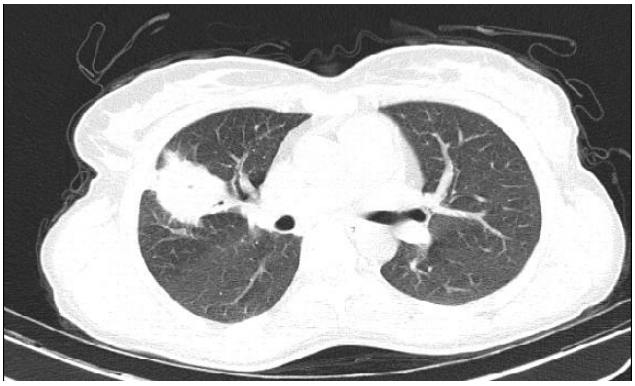

Figure 2. Spiral lung HRCT after 3 months medical treatment.

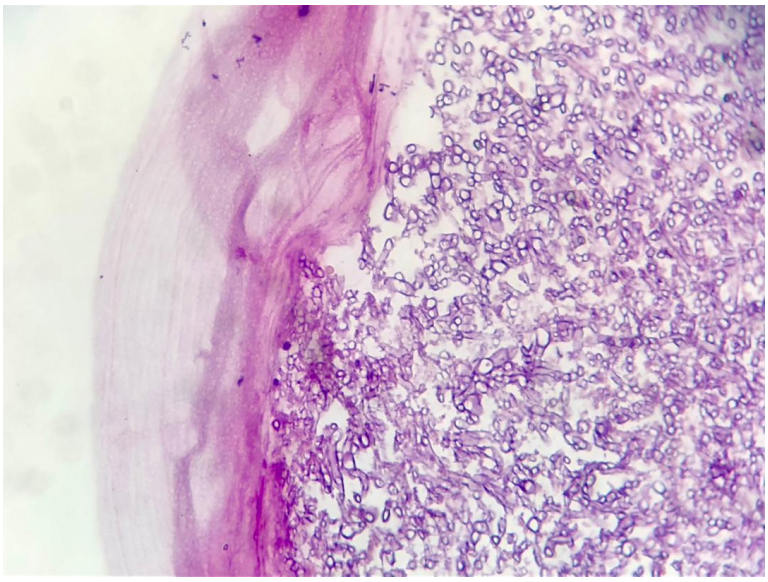

Figure 3. Lamellar membrane of hydatid cyst and adjacent fungal hyphae aggregation, morphologically consistent with aspergillosis, H&E, 400X.

The ectoocyst was found adhered to the thickened pleura overlying the right upper lobe and was removed. A bronchopleural orifice was seen at the floor of cavity which was ligated. Pleural cavity washed with hypertonic saline serum. After cystectomy capitonnage was done and finally chest tube is inserted. Examination of the specimen in Ghaem hospital pathology laboratory that revealed a surprisingly whitish opened cystic lesion with many branching hyphae with septation. Lung tissue showed liquefactive necrosis that suggested hydatid cyst wall with aspergilloma (figure3).

On follow-up, the patient was treated with Albendazol and fluconazole according to consulting with infectious disease specialist.

Discussion

Hydatidosis is a health problem in developing countries. Solitary cysts in the lungs are mostly unilateral and usually placed in lower lobe of the lungs (1).

Aspergilloma consist hyphae with mucus and fibrin also tissue debris can colonized in tuberculosis or sarcoidosis lung cavities (2-4).

Chest X-ray is the initial imaging for pulmonary hydatid cyst. The radiological features of a pulmonary hydatid cysts are round opacity with different size. The crescent or the meniscus sign are presented in CXR. If hydatid cyst is ruptured, whirl sign, double-arch or cumbo sign also sign of the rising sun are revealed. Water lily sign is created when the parasitic membranes float on the fluid surface (5).

During surgery we usually saw hyaline acellular ectocyst of hydatid cyst and septate hyphae of Aspergillus (4, 5).

Conclusion

Coexistence of hydatid and aspergillomas may be life threatening and its important to adequate workup before surgery and the best management during the operation.

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