

CONCURRENT TUBERCULOSIS AND HYDATID CYST IN THE LEFT UPPER LOBE OF THE LUNG

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ABSTRACT

An 8-year-old girl was admitted with hemoptysis. A left upper lobe lesion has been found. She was diagnosed as tuberculosis and received treatment. The cultures became negative, however the cavity in the left upper lobe persisted. She was readmitted with hemoptysis and subsequently was operated on. A left upper lobectomy was performed and the cavity was identified to contain the germinative membrane of a hydatid cyst. Her recovery was uneventful. This is a very rare occasion where tuberculosis and hydatid cyst exist in the same lobe of the lung.

Key Words: Tuberculosis, Hydatid Cyst, Same pulmonary lobe, Concurrent

INTRODUCTION

Tuberculosis and hydatid cyst of the lung are both endemic in Turkey and in most Mediterranean countries. The incidence of hydatid cyst in Turkey is 14 in 100000 (1).

Various clinical presentations are encountered, therefore some cases represent a diagnostic

challenge. Simultaneous presence of tuberculosis and hydatid cyst in the same lobe of the lung has been reported twice previously, one in the non-English medical literature (2,3).

We present a case who was diagnosed as pulmonary tuberculosis with microbiologic confirmation and surgically found to have a hydatid cyst in the same lobe.

CASE REPORT

An 8 year-old-girl was admitted to the hospital with cough, failure to thrive and hemoptysis. Chest X-ray showed a round, left upper lobe lesion with an air-fluid level (Fig. 1). Casoni skin test was negative and echinococcus antibody titers were low. Two separate sputum cultures showed growth of mycobacterium tuberculosis. Therefore, she was given a full course anti-tuberculosis treatment (9 month - isoniazide [200 mg], rifampicin [200 mg], pyrazinamide [750 mg] and streptomycin [500 mg] for 2 months, followed by isoniazide [200 mg] and rifampicin [200 mg] for 7 months). The tuberculosis cultures became negative following 2 months of treatment, however the clinical picture did not improve. The therapy was completed as planned. Chest CT

scan one year later showed a left upper lobe cavity with an air fluid level (Fig. 2). An Aspergillus superinfection was suspected with negative sputum cultures in six separate samples.

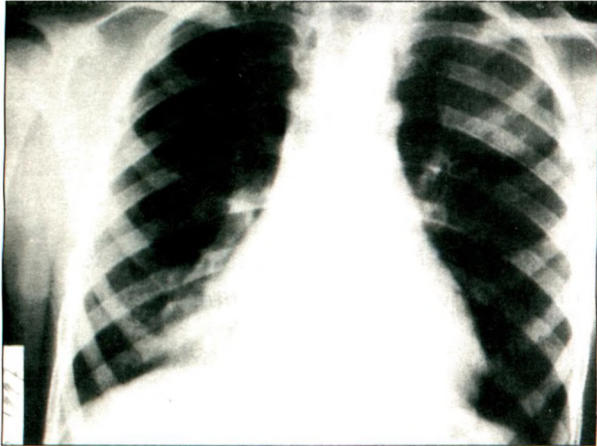


Fig. 1: Chest X-ray shows a left upper lobe opacity with ill defined borders.

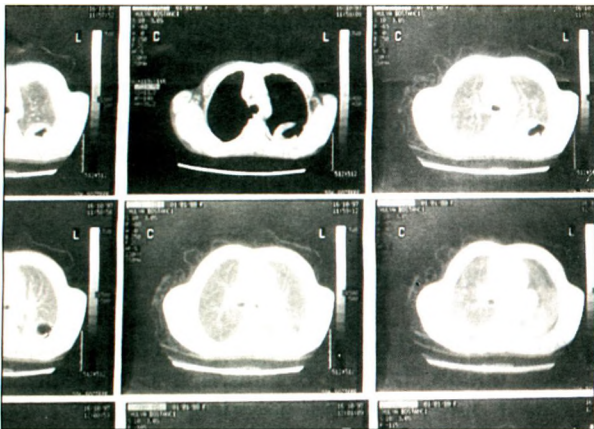


Fig. 2: Chest CT scan showing a left upper lobe cavity

The patient did not receive any further treatment for a presumed Aspergilloma for the next two years. The follow-up CT scan and chest X-ray showed a progressive left upper lobe consolidation which now involved the left upper lobe with signs of extension through the fissure. Eventually, the patient was readmitted with hemoptysis. Sputum cultures, antibody titers and skin test did not support an Aspergillus infection.

A decision for surgery was given based on the findings of a persistent tuberculosis cavity and destroyed upper lobe. The patient was operated on through a left posterolateral thoracotomy. The

upper lobe was atelectatic and destructed. A left upper lobectomy was performed. The cavity in the left upper lobe was opened on the side table and germinative membrane of a hydatid cyst was seen.

Post-operative period was uneventful and the patient was discharged on day 7. The pathological analysis of the upper lobe specimen showed interstitial pneumonia and bronchiectasis at the periphery of the cyst. There was no histologic evidence for tuberculosis. She is currently asymptomatic after 2 years follow-up.

DISCUSSION

Tuberculosis and hydatid cyst are both infectious diseases of the lung. Tuberculosis seldom requires surgical intervention, mostly due to complications such as abundant hemoptysis, bronchopleural fistula or a persistent cavity, all of which are consequences of a long-lasting disease (4). However, the treatment of hydatid cyst of the lung is surgical (5).

The patient in this case report was diagnosed as tuberculosis and microbiologic confirmation was obtained. There was no sign of hydatid cyst prior to surgical intervention. The decision for surgery was made relying on the findings of destroyed lobe, a persistent left upper lobe cavity and subsequent hemoptysis. Abundant hemoptysis is described as expectoration of 400 ml or more of blood in the sputum within 24 hours. It is generally an indication for surgical intervention, unless hemoptysis is the result of a systemic disease. In the pediatric age group inflammatory diseases, such as tuberculosis, bronchiectasis, cystic fibrosis and necrotizing pneumonitis are common causes. In this particular patient, the presence of a cavity and tuberculosis in the left upper lobe of the lung obviates the cause of hemoptysis, however the discovery of a hydatid cyst was unexpected.

The microbiologic confirmation of tuberculosis did not reflect on pathologic findings of the lung. Typical tuberculosis histology may have been obscured by massive destruction of the left upper lobe and preceding full course anti-tuberculosis treatment.

Several authors have suggested a predilection of lower lobes for hydatid cysts (6,7). Tuberculosis almost always involves upper lobes (4). In this particular patient, location of the lesion also supported tuberculosis.

It can be argued that earlier surgical intervention could have been done, because the cavity persisted following anti-tuberculosis treatment. The main reason for avoidance of the surgery was the age of the patient. The surgery was reserved as the final salvage method for a 10-year old girl with an asymptomatic upper lobe cavity.

This condition, concurrent presence of tuberculosis and hydatid cyst in the same lobe of the lung is highly incidental. However, in areas where both diseases are endemic, such a condition should be included in the differential diagnosis list.

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