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Mediastinal Teratoma with Spontaneous Rupture into the Lung

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ABSTRACT

We report a 37-year-old woman presenting with recurrent respiratory infections since childhood. She was admitted due to persistent cough. The patient was evaluated by chest radiography and computed tomography scan which revealed multiple cystic cavities in the right upper lobe associated with a mass with air-fluid level. Complicated pulmonary bronchogenic cyst was suspected. After thoracic surgery, pathologic diagnosis was reported as mediastinal mature cystic teratoma with rupture into the lung. ***(Tanaffos 2007; 6(3): 71-73)***

Key words: *Computed tomography, Thoracic surgery, Mediastinal tumor, Teratoma*

INTRODUCTION

Mature teratoma is a rare mediastinal tumor, which is commonly asymptomatic in adults. In few cases it has an unusual presentation, particularly when complicated with rupture into the adjacent organs.

CASE REPORT

A 37 year-old woman, with a past medical history of severe pneumonia in childhood referred for recurrent bronchitis. She presented to an out-patient clinic in January 2005 because of coughs and purulent expectorant. The chest radiograph showed alveolar opacity in the upper right lobe with a cavity measuring 4 cm in diameter. After two weeks of antibiotic therapy, the patient presented clinical improvement, but the roentgenogram revealed the same signs. Laboratory investigations showed moderate leukocytosis (11,000 cells/mm^3) and sputum stains were negative for bacteria.

The bronchoscopy showed an inflammatory process in the right bronchial system. CT scan showed multiple cystic cavities in the right upper lobe associated with a mass with air-fluid level (Figures 1 and 2). These findings suggested the diagnosis of either a complicated pulmonary bronchogenic cyst or infectious bronchiectasis.

The patient was scheduled for thoracic surgery and underwent thoracotomy which revealed

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bronchiectasis of the upper and middle right lobes associated with an anterior mediastinal tumor which was totally adherent to adjacent structures.

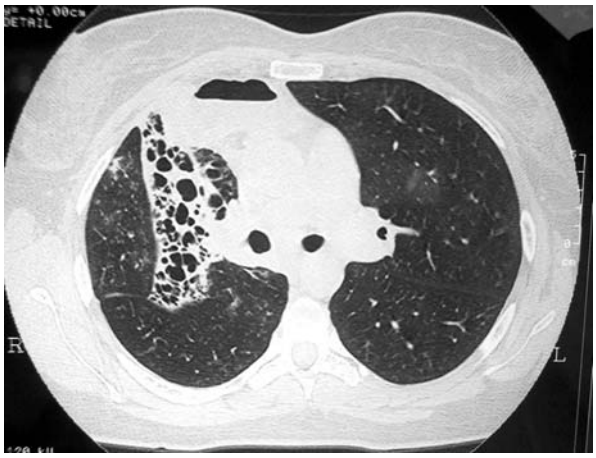

Figure 1. CT-scan of the chest showing bronchiectasis of the upper right lobe, associated with a mass with air-fluid level.

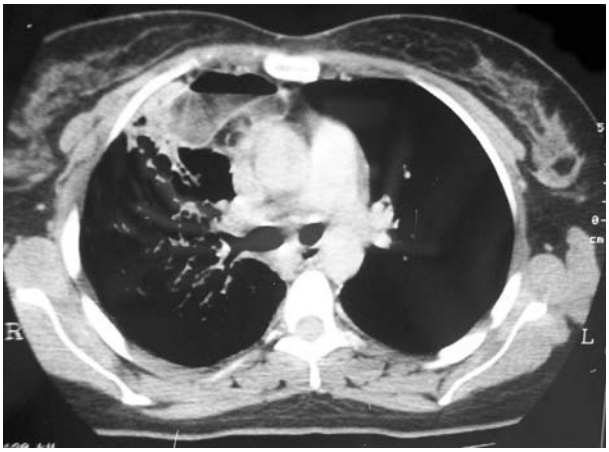

Figure 2. CT-scan of the chest showing a mass with air-fluid level in the upper right lobe.

Total resection of the tumor and the two right lobes (upper and middle) was performed. Histopathological examination identified the tumor as a mature cystic teratoma of the anterior mediastinum with rupture into the lung. This teratoma included skin, bronchus and pancreatic tissues. Two years after surgery, the patient was asymptomatic, serum alpha-fetoprotein and beta-human chorionic gonadotrophin levels were normal.

DISCUSSION

Mediastinal tumors are a heterogeneous group and teratomas comprise 8 % of them. They are usually located in the anterior mediastinum. Although, they may be life-threatening in children, in adults benign teratomas are commonly asymptomatic (1).

Clinical signs of mediastinal mature teratoma depend on the size, location of the tumor and the presence or absence of complications. It may rupture into the adjacent organs, especially the lungs and tracheobronchial tree (2). Few cases of perforation into the pleural cavity and the pericardium causing tamponade have been reported (3). In our patient, rupture was asymptomatic, leading to bronchiectasis of two lobes and recurrent respiratory infections.

CT-scan is the imaging technique of choice for the evaluation of mature mediastinal teratoma. It typically appears as a heterogeneous mass, containing different components, such as soft tissue, fat, fluid and calcium (4). Peripheral curvilinear ossifications are seen in almost 25 % of cases and they are suggestive of diagnosis (1).

Bronchiectasis associated with teratoma has been reported, especially in pulmonary forms of teratoma. These forms are more frequently complicated with perforation into the bronchi (5).

Diagnosis of mediastinal mature teratoma complicated with rupture into other organs may be difficult. Actually, in these cases radiological signs are not typical and sometimes deceitful as in our patient, for whom we suggested the diagnosis of complicated pulmonary bronchogenic cyst or infectious bronchiectasis of the upper right lobe. The mechanism of such rupture is still unknown. High level of digestive enzymes in the tumor is one of the hypotheses (6).

Since there is a risk of spontaneous rupture and malignant transformation, surgical resection of mature teratoma is necessary. This surgery may be difficult in case of adherence between the tumor and

adjacent organs. Pathological examination allows definitive diagnosis; presence of an immature component is associated with poor prognosis.

CONCLUSION

Although rare, this particular case demonstrates that mature mediastinal teratoma might have atypical presentation if it ruptures into the adjacent structures.

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