CASE REPORT / OLGU SUNUMU

Differential diagnosis of a cavitary lung lesion in 45-year old man

Kırkbeş yaşında erkekte kaviter akciğer lezyonu ayırıcı tanısı

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Geliş Tarihi / Received: 29.09.2010, Kabul Tarihi / Accepted: 30.12.2010

ABSTRACT

Pulmonary cavity has infectious and non-infectious aetiologies. A 41-year old man was hospitalized with a 1-week history of productive cough, and pleuritic chest pain. A chest CT scan showed a cavitary lesion in left upper lobe. An open lung biopsy revealed the presence of connective tissue within alveolar ducts and bronchioles. In conclusion, cryptogenic organising pneumonia which is a rare cause of pulmonary cavitary lesion was diagnosed. The case was presented in order to emphasize such rare causes of cavitary lung lesions in the differential diagnosis of tuberculosis.

Key words: Bronchiolitis obliterans organizing pneumonia, differential diagnosis, pulmonary nodule

ÖZET

Akciğer kaviteleri enfeksiyöz ve non-enfeksiyöz nedenlerle gelişebilir. Kırk-bir yaşında erkek, bir hafta süren prudüktif öksürük ve göğüste pleural ağrı ile başvurdu ve hastaneye yatırıldı. Göğüs bilgisayarlı tomografisi sol üst lobda kaviter bir lezyonu gösterdi. Açık lob biyopsisi alveoller ve bronşiyoller içinde bağ dokusu varlığını gösterdi. Sonuç olarak hastaya nadir bir akciğer kavite yapıcı lezyon nedeni olana kriptojenik organizan pnömoni tanısı kondu. Olgu kaviter lezyonlarda tüberkülozla birlikte bu tür nadir nedenlerin de ayırıcı tanıda düşünülmesi gerektiğini vurgulamak için sunuldu.

Anahtar kelimeler: Bronşiyolitis obliterans, organizan pnömoni, ayırıcı tanı, akciğer nodülü

INTRODUCTION

The drainage of necrotic material through the bronchial tree produces a pulmonary cavity. Cavitary pulmonary nodules can be seen during pyogenic abscess, tuberculosis, sarcoidosis, malignancies, lymphoma, collagen vascular diseases, Wegener granulomatosis, pulmonary infarct, infected bulla, fungal infections, and parasitic infections of the lungs such as hydatid disease.[1-2]

CASE

A 41-year old male was admitted to our hospital because of pleuritic chest pain, cough, and purulent sputum of one-week duration. He had 30 pack-years of smoking history. Physical examination including pulmonary auscultation was normal. Erythrocyte sedimentation rate was 62 mm/h, white blood cell count 13.400/μL, platelet count 512.000/μL, and C-reactive protein (CRP) 93 mg/L (normal levels: 0-5 mg/L). Other biochemical tests, ECG, pulmonary function tests were normal. In arterial blood gas analysis, pH was 7.38, PO_2 70 mmHg, PCO_2 41 mmHg, HCO_3 24.4 mmol/L, saturation 94 per cent. Chest radiography showed a left-sided hilar tumour (Fig.1). The tumour demonstrated cavitations in chest CT (Fig.2). There were not acid-fast bacilli in the sputum. After one week of treatments consisting of amoxicillin/clavulonic acid, the symptoms were regressed, white blood cell count decreased to 10.000/μL, CRP to 42 mg/L. However, erythrocyte sedimentation rate was still 62 mm/h, and the radiological findings were persisted. The tumour was resected by explorative thoracotomy. Histopathologic examination revealed the presence of granulation tissue in the alveolar ducts and alveoli leading to plugging of the bronchiolar and alveolar lumen (Fig.3).

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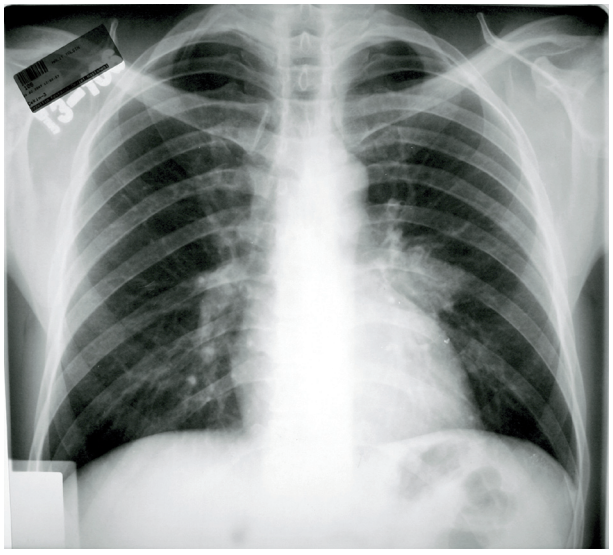

Figure 1. Chest x-ray on admission showing a mass shadow superposing on the left hilar region.

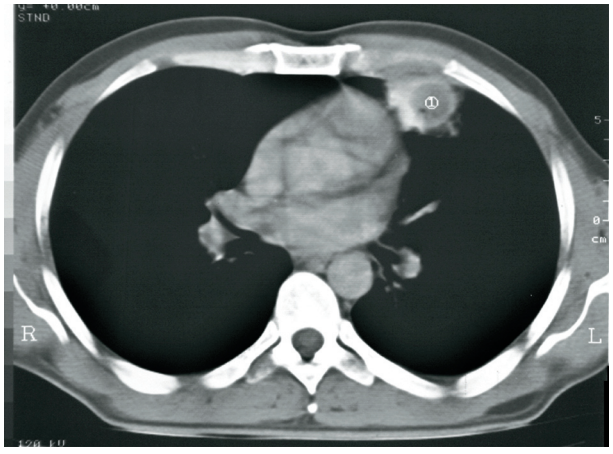

Figure 2. Computed tomographic scan of the thorax showing a cavitating lung mass.

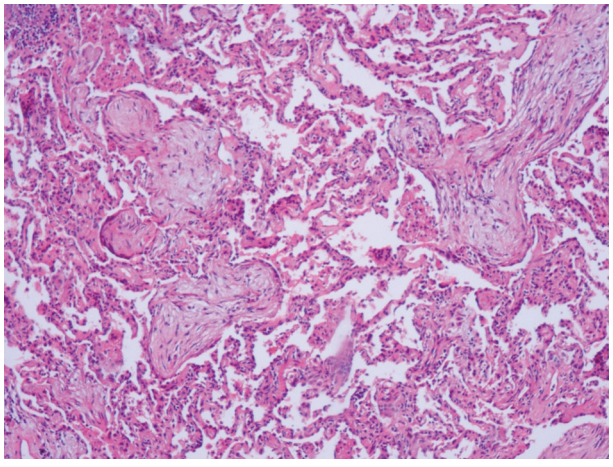

Figure 3. The presence of granulation tissue within the lumen of distal airspaces.

DISCUSSION

Bronchiolitis obliterans organizing pneumonia (BOOP) is a type of inflammatory response to a generally mild alveolar and bronchiolar damage. Although the typical pattern is multiple alveolar patchy opacities, which are generally peripheral and often migratory[2-3], BOOP may present with a variety of radiologic patterns, including diffuse interstitial infiltrates, solitary or multiple opacities.[1] Cavitary form of the disease is exceptionally rare. There were only 4 cases published to date.[1,3-4] Two of the 42 cases of idiopathic BOOP (cryptogenic organizing pneumonia) in the series published by Epler et al.[4] in 1985 appear to represent the earliest mention of a cavitary radiologic pattern in this disorder.

Although clinical findings of the disease are nonspecific, pleuritic pain occurs in one of four patients with cryptogenic organising pneumonia. An erythrocyte sedimentation rates more than 60 mm/h is seen in 40% of the patients, and leukocytosis in seen in 50% of the patients at presentation. Thrombocytosis, which we observed in our patient, has been described in 20% of cases.[1] Such inflammatory markers in a patient with a pulmonary cavity strongly suggest an infectious disease such as lung abscess or tuberculosis. The decrease of some inflammatory parameters after antibiotic therapy in our patient may indicate a nonspecific lung infection but radiological findings were persisted after two weeks of therapy. Cavities due to tuberculosis can present with a thin- or thick wall, and a regular or irregular shape. On the other hand, cavitations in tuberculosis localize preferentially apical or posterior, but not anterior, segments of the upper lobes. In our patient, the site of the cavity was anterior region of the left upper lobe.

The absence of mediastinal lymph nodes, a history for a rheumatoid arthritis or altered renal functions exclude a possible diagnosis of rheumatoid lung disease, Wegener granulomatosis, and sarcoidosis.[5] Before exploratory thoracotomy, the most probable diagnosis was pulmonary neoplastic disease. In conclusions, cryptogenic organizing pneumonia should be included in the differential diagnosis of pulmonary cavitary lesions, especially in atypical localizations.

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