Pleural tuberculosis presented as multiple pleural masses: An atypical presentation

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ABSTRACT

Tuberculous involvement of the pleura usually presents as pleural effusion, empyema or pleural thickening. Pleural tuberculosis presenting with multiple masses without parenchymal involvement or lymphadenopathy has been reported rarely in the English literature. We report a case of a 68-year-old male with unilateral pleural tuberculosis presenting as multiple different sized nodular masses evident on computed tomography (CT) of the chest with a large hemorrhagic pleural effusion, which initially raised a possibility of mesothelioma. Pleuroscopy also revealed multiple pleural masses. Pathological examination of the biopsy specimen showed multiple epitheloid cell granulomas confirming the diagnosis.

KEY WORDS: Atypical, multiple pleural masses, pleuroscopy, tuberculosis

INTRODUCTION

Pulmonary tuberculosis is divided into primary and post-primary types according to pathogenic and radiological features. Pleural involvement is generally seen in the form of a pleural effusion, which can be a component of both primary and post-primary tuberculosis.[1] Empyema, residual pleural thickening and calcification are other forms of pleural tuberculosis involvement and are generally seen in association with parenchymal disease.[1] In approximately two-thirds of cases, there is no associated parenchymal lesion on the chest radiograph; yet tubercle bacilli are frequently found in biopsy specimens of pleural tissue.[2] There are very few reports on the atypical presentation of pleural tuberculosis. We report an unusual form of pleural tuberculosis demonstrated by pleuroscopy and Computed Tomography (CT) presenting with multiple pleural nodules and masses with large hemorrhagic pleural effusion and without any evidence of either parenchymal or lymphatic disease.

CASE REPORT

A 68-year-old male was admitted with complaints of gradually progressive exertional dyspnea and dry cough of three months duration. He had pleuritic chest pain, low grade fever and weight loss for one month. He was a tobacco chewer and had no history of exposure to asbestos. His physical examination was suggestive of right pleural effusion. His routine hemogram, urine examination, renal and liver function tests and coagulation profile were normal except raised erythrocyte sedimentation rate. His human immune deficiency virus and Hepatitis B surface antigen titers were negative. His echocardiogram and ultrasonography of abdomen were unremarkable. Chest X-ray was suggestive of large right-sided pleural effusion.

At thoracentesis, approximately 1.5 L of hemorrhagic fluid was removed. It was a lymphocytic exudate (total Protein – 3.4 g/dl, sugar – 76 mg/dl, cholesterol – 67 mg/dl, lactate dehydrogenase – 253 IU/L, adenosine deaminase – 9 IU/L, total cells – 315/cmm, polymorphs: 5%, lymphocytes: 92%, cytology – negative for malignant cells, gram stain and AFB smear – negative).

Post-aspiration chest X-ray showed multiple irregular pleural masses [Figure 1]. CT of the chest revealed...
A medical pleuroscopy was performed using a flexible bronchoscope placed through the chest tube. Multiple pleural-based (parietal as well as visceral) masses of varying sizes were observed. Histopathological examination of the pleural biopsy from a parietal pleural mass revealed epitheloid cell granulomas indicative of tuberculosis [Figure 3].

DISCUSSION

The major differential diagnostic considerations in a patient with multiple pleural nodules and masses are malignant mesothelioma, pleural lymphoma, hematogenous pleural metastases, malignant thymoma and on rare occasion sarcoidosis.[3-8]

Although pleural TB infection is thought to result from the rupture of a subpleural caseous focus within the lung into the pleural space, it may occasionally be as a result of hematogenous dissemination or contamination from adjacent infected lymph nodes.[2,9]

Pleural infection in tuberculosis is usually characterized by an effusion in early stages, or by diffuse pleural thickening and adhesions often with calcification in long standing cases.[1,2] Pleural thickening may also result from chronic inflammatory conditions, for example, hemothorax, empyema, tubercular effusion, or recurrent pneumothorax, often with calcification.[10]

In our case the provisional diagnosis was a pleural neoplasm (primary or secondary) based on clinical, radiological and pleuroscopic findings. However, there was no history of exposure to asbestos or a primary neoplasm. To our knowledge, pleural tuberculosis presenting with multiple pleural nodules and masses without parenchymal involvement or lymphadenopathy have been reported rarely in the standard English medical literature,[11-13] but pleural tuberculosis presenting as multiple pleural masses with large hemorrhagic pleural effusion has not been reported.

CONCLUSION

Tuberculosis is a very common problem in developing countries and can mimic malignancy. It should be considered in the differential diagnosis of pleural masses without radiographically visible parenchymal lung disease even when there is large hemorrhagic effusion. Confirmation of the diagnosis with sputum smears, culture, or histology is mandatory since treatment is highly successful.

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Figure 1: Post taping chest X-ray shows multiple irregular pleural masses

Figure 2: Computed tomography (CT) chest shows multiple different size masses on parietal pleura as well as on visceral pleura

Figure 3: Histopathology of pleural biopsy was suggestive of tuberculous epitheloid cell granuloma

multiple different size masses involving the parietal as well as visceral pleura [Figure 2]. There were no signs of endobronchial lesions, mediastinal adenopathy or parenchymal infiltrates.
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