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Case Report

An Unusual Infective Cause of Pulmonary Nodules

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Abstract

We report the case of a 62-year-old woman with COPD, who was found to have a left upper mass highly suspicious of lung malignancy. Interestingly CT core biopsy and Bronchoalveolar lavage came back positive for Mycobacterium intracellulare.

Keywords: *Pulmonary Nodules; Mycobacterium intracellulare*

Introduction

There are many non-malignant causes of pulmonary nodules. The following illustrates such a case.

Case Report

A 62-year-old woman, current smoker with a 20 pack year history, presented to her general practitioner with a 6 month history of chronic productive cough, fatigue, exertional dyspnea and weight loss.

She has a background history of COPD and is on seretide and spiriva inhaler. She has no known drug allergy and no significant family history. She is a retired cleaner and lives with her son. On examination, her vitals and exams were normal. CXR done (Figure 1) showed a 1.5 cm ovoid lesion in the left upper zone.

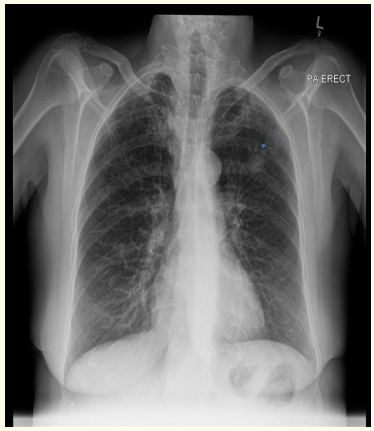

Figure 1: *Arrow showing the left upper lobe lesion.*

She was then referred to the rapid access lung clinic as lung cancer was the main differential diagnosis. Her CT thorax showed a 1.7 x 1.5 x 1.6 cm heterogenous partially calcified soft tissue mass (Figure 2) within the left upper lobe together with bilateral smaller pulmonary nodules. There was no mediastinal or hilar lymphadenopathy.

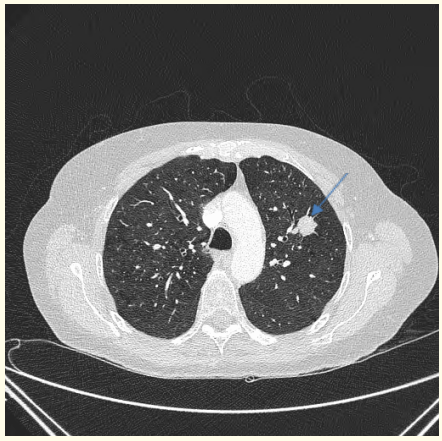

Figure 2: *Arrow showing the lung lesion.*

PET scan done showed a mild uptake of the lesion with a SUV max of 2. Following a discussion at the lung multidisciplinary meeting, a bronchoscopy and a CT core biopsy were ordered. Bronchoscopy showed mild bronchitis changes and interestingly BAL taken from the left upper lobe showed the presence of mycobacterium intracellulare. CT core biopsy of the lesion showed a necrotising granuloma with positive acid-fast bacilli.

Discussion

The symptoms and signs of Mycobacterium Avium Complex (MAC) lung disease are variable, not specific, and are influenced by whether the patient has pre-existing symptomatic lung disease. They include cough (productive or dry), fatigue, malaise, weakness, dyspnea, chest discomfort, and occasionally hemoptysis. Fever and weight loss occur less frequently than in patients with typical tuberculosis. Examination of the lungs is often normal but, since these infections frequently coexist with underlying lung disease such as chronic obstructive pulmonary disease (COPD) or bronchiectasis, physical findings of the latter diseases may predominate.

Disease in those with known underlying lung disease, primarily white, middle-aged, or elderly men, often alcoholics and/or smokers with underlying chronic obstructive pulmonary disease. The disease resembles typical tuberculosis clinically and radiographically, with cough, weight loss, upper lobe infiltrates, and cavities. Symptoms are generally less severe than those associated with tuberculosis. Additionally, due to the relatively indolent nature of MAC lung disease, lung destruction may be quite extensive at the time of diagnosis with very large cavities on chest radiograph. Another presentation is seen in patients in whom MAC develops in areas of prior bronchiectasis, such as patients with prior tuberculosis. Older adults are also affected, but there is no association with male sex or smoking-related pulmonary disease. Most commonly, patients with prior treated tuberculosis develop symptoms, such as cough, sputum production, fatigue and weight loss, and a new infiltrate in the previously affected lung zone suggesting a relapse of tuberculosis. This pattern is also seen with other types of bronchiectasis including cystic fibrosis.

Disease in those without known underlying lung disease predominantly in non-smoking women over age 50 who have interstitial patterns on chest radiography. For many clinicians, this is the form of MAC lung disease that is most commonly encountered. The typical presenting symptoms were persistent cough and purulent sputum, usually without fever or weight loss; the mean duration of cough was 25 weeks before the diagnosis was made. Previously thought to represent airway colonization, the serious nature of this disease has become increasingly evident. One report, for example, noted a 19 percent mortality rate from respiratory failure during longitudinal follow-up in 21 such patients. A syndrome of right middle lobe or lingular infiltrates, sometimes called the Lady Windermere syndrome, has been noted in elderly women without predisposing lung disease, volume loss, adenopathy, or cavitation [1-5].

One report noted an unexpectedly high frequency (78 of 244 patients) of MAC pulmonary infections presenting as solitary pulmonary nodules, which resembled lung cancer. Solitary pulmonary nodules caused by MAC were observed in 11 patients in South Korea in a retrospective study [6].

Conclusion

To conclude, this case reflects the fact that a solitary pulmonary nodule which look like a lung cancer may turn out to be a fully treatable disease.

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