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Unusual Presentation of Pulmonary Tuberculosis Mimicking Lung Carcinoma: A Case Report

Sofia Almeida*

Department of Dermatology, University of Lisbon, Lisbon 1649-004, Portugal

***Corresponding author:** Sofia Almeida, Department of Dermatology, University of Lisbon, Lisbon 1649-004, Portugal; E-mail: almeidasofia01@ulisboa.pt

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Introduction

Pulmonary Tuberculosis (TB) remains a major global health problem, particularly in regions with high prevalence rates. Although the disease typically presents with chronic cough, fever, weight loss, and night sweats, its clinical manifestations can vary widely. In some cases, TB may mimic malignancies, especially lung carcinoma, due to overlapping radiological and clinical features. Both conditions can present with mass-like opacities, cavitary lesions, or lymphadenopathy on imaging, leading to diagnostic uncertainty. The coexistence of risk factors such as smoking, advanced age, and chronic respiratory illness further complicates differentiation. Misdiagnosis can result in delays in initiating appropriate treatment and unnecessary interventions. This case report describes an uncommon presentation of pulmonary tuberculosis that closely resembled lung carcinoma, highlighting the importance of accurate diagnosis through histopathological and microbiological confirmation [1].

Description

A 55-year-old male presented to the chest clinic with complaints of persistent cough, right-sided chest pain, and gradual weight loss for nearly two months. He also reported mild fever and fatigue but denied hemoptysis. The patient was a long-term smoker, which heightened clinical suspicion for malignancy. A chest X-ray revealed a solitary opacity in the right upper lobe, and contrast-enhanced Computed Tomography (CT) of the chest showed a well-defined, irregular mass with associated mediastinal lymphadenopathy. These radiological features were highly suggestive of bronchogenic carcinoma [2].

Routine hematological tests were normal except for a raised Erythrocyte Sedimentation Rate (ESR). Initial sputum tests for Acid-Fast Bacilli (AFB) and cytology for malignant cells were negative. Given the persistent symptoms and inconclusive initial investigations, further diagnostic evaluation was warranted to determine the underlying cause. A high-resolution CT scan of the chest was performed, revealing patchy parenchymal infiltrates and mediastinal lymphadenopathy. Given the strong suspicion of cancer, a bronchoscopy-guided biopsy was performed to confirm the diagnosis. Histopathological analysis revealed granulomatous inflammation with central caseous necrosis, consistent with tuberculosis. Ziehl-Neelsen staining demonstrated acid-fast bacilli within the lesion, confirming pulmonary TB. The patient was started on a standard six-month anti-tubercular therapy regimen consisting of isoniazid, rifampicin, pyrazinamide, and ethambutol [3].

The patient showed gradual clinical improvement following the initiation of therapy, with reduction in cough, fever, and night sweats over the ensuing weeks. Follow-up imaging demonstrated partial resolution of the pulmonary lesions, further supporting the diagnosis of tuberculosis rather than malignancy. Sputum cultures later converted to negative, indicating an adequate therapeutic response.

After four weeks of therapy, the patient showed remarkable clinical improvement, with reduction in cough and weight gain. A follow-up CT scan at three months revealed significant regression of the lung mass and resolution of lymphadenopathy, supporting the diagnosis of tuberculosis rather than carcinoma [4,5].

Conclusion

This case highlights how pulmonary tuberculosis can mimic lung carcinoma in both clinical and radiological presentations. In areas where TB remains prevalent, it is essential for clinicians to consider tuberculosis in the differential diagnosis of lung masses, even in patients with high cancer risk factors. Early histopathological evaluation helps prevent misdiagnosis, avoids unnecessary invasive procedures, and ensures prompt initiation of appropriate therapy.

Acknowledgement

None

Conflicts of Interest

None

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