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Case Report:

A Case of Nontuberculous Mycobacterial Pulmonary Disease in a Patient with Previous Pulmonary Tuberculosis

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ABSTRACT:
A young woman with previously treated pulmonary tuberculosis two years ago presented with dry cough, low-grade fever and weakness for last one year. She had a history of massive haemoptysis and had previously undergone right upper lobe apical segment resection for a suspected aspergilloma inside a post TB cavity. On examination, she was malnourished and had pallor and chest crepitations. Chest radiography showed bilateral infiltrates with fibrosis and bronchiectasis, while high-resolution computed tomography demonstrated nodules, patchy consolidation and fibrotic changes. Sputum examination for acid-fast bacilli was negative. However, bronchoalveolar lavage fluid grew nontuberculous mycobacteria on BACTEC culture after four weeks. Nontuberculous mycobacterial pulmonary disease was diagnosed and treatment with rifampicin, ethambutol and azithromycin was initiated. The case highlights the importance of considering nontuberculous mycobacterial disease in patients with structural lung disease and previous tuberculosis.

Keyword: Nontuberculous mycobacteria, Pulmonary tuberculosis, Bronchiectasis, Post-tuberculous lung disease, Pulmonary aspergilloma.

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INTRODUCTION:

Nontuberculous mycobacteria are environmental organisms increasingly recognised as causes of chronic pulmonary disease, particularly in patients with underlying structural lung abnormalities. [1,2] In tuberculosis-endemic settings, nontuberculous mycobacterial pulmonary disease may be mistaken for recurrent or drug-resistant tuberculosis because of overlapping clinical and radiological manifestations, including chronic cough, fever, cavitary disease and bronchiectasis. [1,3] Microbiological confirmation is important because clinical and radiological findings are nonspecific and routine sputum examination may be negative. [1,2] Culture and molecular diagnostic techniques have improved recognition of nontuberculous mycobacterial disease. [1,2] Early diagnosis is important because its treatment differs substantially from conventional antitubercular therapy. [2]

CASE REPORT:

20 years old female patients with previously treated pulmonary tuberculosis presented with cough, fever and generalised weakness for one year.

She also had an episode of massive haemoptysis, following which she underwent resection of the apical segment of the right upper lobe for a suspected aspergilloma inside post TB cavity. On examination, she appeared malnourished and had pallor. Her vital signs were stable. Chest examination revealed bilateral crepitations. Family history, smoking history, occupational exposure was not significant. High-resolution computed tomography of the thorax demonstrated pulmonary nodules, areas of patchy consolidation and fibrotic changes.

Sputum examination for acid-fast bacilli was negative in CB-NAAT. Because of persistent symptoms and abnormal thoracic imaging despite negative sputum examination, fibreoptic bronchoscopy was performed and bronchoalveolar lavage was taken . The bronchoalveolar lavage fluid subsequently grew nontuberculous mycobacteria on BACTEC culture

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after four weeks. Based on the clinical, radiological and microbiological findings, nontuberculous mycobacterial pulmonary disease was diagnosed.

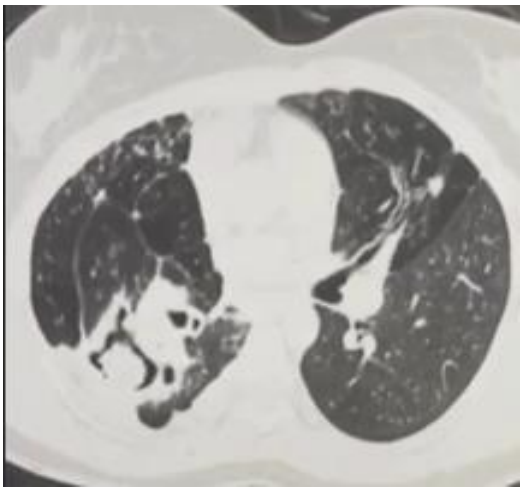


Fig.1



Fig.2

Figures 1: Demonstrate the right upper lobe fibro cavitary lung diseases with a fungal ball.
Figure 2: Showing current chest X-ray with bilateral infiltrates, fibrosis and hyperinflation.

DISCUSSION:

Nontuberculous mycobacteria are increasingly recognised as causes of chronic pulmonary disease. Their clinical and radiological manifestations may overlap considerably with tuberculosis and chronic fungal pulmonary disease. This diagnostic overlap is particularly important in tuberculosis-endemic regions, where persistent symptoms and abnormal imaging in a patient with previous tuberculosis may initially be attributed to recurrent tuberculosis. [1,2,3,7]

In this patient, previous pulmonary tuberculosis was associated with significant structural lung abnormalities, including fibrosis and bronchiectasis. [2,5,6] The history of massive haemoptysis and previous surgical treatment for suspected aspergilloma further complicated the clinical picture. Persistent respiratory symptoms despite negative sputum examination for acid-fast bacilli prompted further evaluation. [1,2]

The case demonstrates the importance of obtaining appropriate respiratory samples for mycobacterial culture when nontuberculous mycobacterial disease is suspected. [1,2] In this patient, sputum examination was negative, whereas bronchoalveolar lavage fluid subsequently grew nontuberculous mycobacteria on BACTEC culture after four weeks.

The principal diagnostic challenge was distinguishing nontuberculous mycobacterial disease from recurrent tuberculosis and chronic fungal disease. The original case discussion emphasises that previous tuberculosis and cavitary or structurally abnormal lung tissue may predispose patients to nontuberculous mycobacterial infection and that clinical suspicion, radiological correlation and microbiological confirmation are essential. [1,2,6]

This case emphasises that, Nontuberculous mycobacterial pulmonary disease should be considered in patients with persistent respiratory symptoms and structural lung disease after tuberculosis. [1,2,5,6] Negative sputum examination for acid-fast bacilli does not exclude nontuberculous mycobacterial pulmonary disease. [1,2] Clinical and radiological findings may mimic recurrent tuberculosis or chronic fungal disease. [1,2,3,7] Microbiological confirmation is essential for establishing the diagnosis and guiding appropriate treatment. [1,2] Early recognition is important because treatment differs from conventional antitubercular therapy.[2]

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