

Pulmonary MAC in the Immunocompetent Elderly: A Case Report

Shifa Farooq Siddiqui and Ranjana Ganesh Khade

Department of Microbiology

Seva Sadan's R. K. Talreja College, Ulhasnagar, Maharashtra, India

Abstract: *Mycobacterium avium-intracellulare complex (MAC) is the most common cause of nontuberculous mycobacterial pulmonary disease (MAC-PD), particularly in elderly, immunocompetent individuals with underlying lung conditions such as bronchiectasis. Diagnosing MAC-PD is often challenging due to its clinical and radiological similarity to tuberculosis, especially in high TB-burden settings. We report a case of a 76-year-old woman with a history of bronchiectasis who presented with chronic dry cough, fatigue, weight loss and low-grade fever over six months. HIV testing was negative and sputum smears and GeneXpert were non-reactive for Mycobacterium tuberculosis. High-resolution CT of the chest revealed cylindrical bronchiectasis, centrilobular nodules and a characteristic tree-in-bud pattern. Bronchoscopy with bronchoalveolar lavage (BAL) was performed, which showed acid-fast bacilli and subsequent culture confirmed MAC. The patient was started on a standard macrolide-based triple-drug regimen comprising azithromycin, rifampin and ethambutol. At six months, sputum cultures were negative and radiological imaging showed significant resolution. This case underscores the need for heightened clinical suspicion and early diagnostic evaluation for MAC-PD in elderly patients with chronic lung disease. Timely initiation of appropriate therapy is essential for favorable outcomes and further research is warranted for refractory and resistant cases.*

Keywords: Immunocompetent; Nontuberculous mycobacteria; *Mycobacterium avium-intracellulare* complex; pulmonary disease

