Recurrent Pneumonia Infection with *Mycobacterium avium* Complex in a Patient without HIV Infection or Underlying Lung Disease.

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Introduction

MAC organisms are commonly found in soil and water and may colonize the respiratory tract without causing disease. Clinical infection is generally associated with immunocompromised states, such as HIV infection, chronic corticosteroid use, or pre-existing pulmonary conditions like bronchiectasis or COPD. However, MAC disease has occasionally been reported in patients without these risk factors. The link between MAC and malignancies—especially non-pulmonary solid tumors—is poorly defined. This report presents an unusual case of recurrent MAC pneumonia in an immunocompetent host with a remote history of extrapulmonary malignancy.

Case Presentation

A 71-year-old Caucasian woman presented with progressive dyspnea, fatigue, and a 25-pound weight loss over six months. She developed a productive cough with yellow sputum. Her past medical history included bone cancer at age 12 (requiring leg amputation), colon cancer (treated with surgery and chemotherapy), iron deficiency anemia, MAC pneumonia, hypertension, and hyperlipidemia. She denied tobacco use, HIV risk factors, or chronic lung conditions.

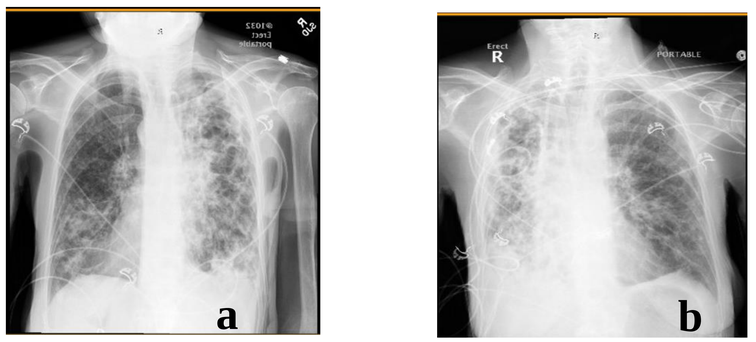
MAC pneumonia had first been diagnosed ten years earlier, shortly after colon cancer treatment. Patient received intermittent therapy, including inhaled amikacin, but discontinued medications due to intolerance and financial barriers.

Clinical Course

On this admission, she was tachycardic, tachypneic, and required oxygen via nasal cannula. Chest x-ray showed bilateral pneumonia, more pronounced on the right. CT imaging revealed extensive bilateral cavitary lesions and nodular infiltrates. Initial treatment included cefepime and vancomycin. Blood work showed leukocytosis. Sputum culture confirmed MAC.

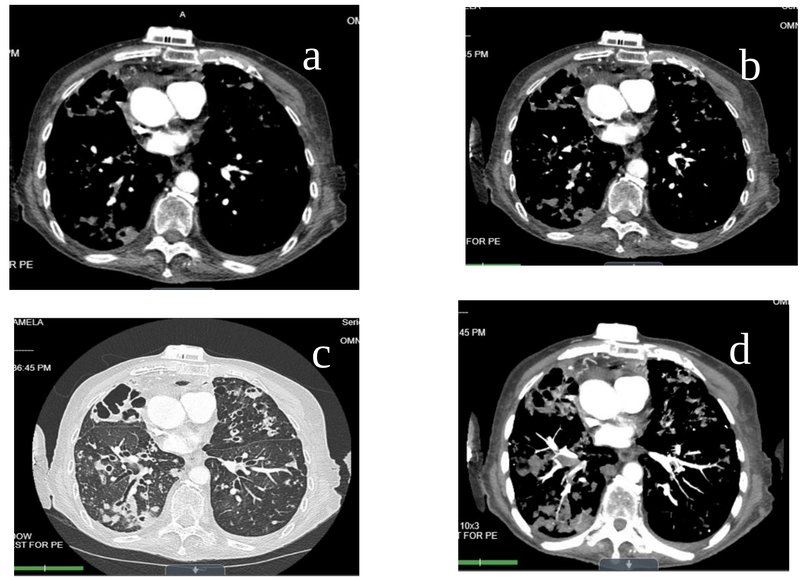
HIV, MRSA, respiratory viruses, *Streptococcus pneumoniae*, and *Legionella* tests were negative. As the clinical picture worsened, treatment was escalated to piperacillin-tazobactam and linezolid. Infectious disease consultation recommended azithromycin, ethambutol, and rifampin for MAC therapy. Despite treatment, the patient developed worsening hypoxia. She was intubated after a sudden neurological decline, and CT imaging was performed. Upon return from CT, she was unresponsive with fixed, dilated pupils. She was subsequently pronounced dead.

Radiology findings



Chest Xray: (a) Initial chest X-ray demonstrating severe bilateral pneumonia, more pronounced in the right lung.
(b) Follow-up chest X-ray obtained one week after admission showing worsening aeration with increasing nodular infiltrates involving the left lingula and left lower lobe.

Radiology findings



Chest CT with contrast at admission: (a)–(d) extensive cavitary pulmonary masses throughout both lungs, predominantly in the right lung. Surrounding ground-glass opacities are present, with numerous bilateral pulmonary nodules and areas of consolidation. Bilateral bronchiectasis is also noted. No evidence of pleural effusion or pneumothorax is seen.

Case discussion

This case illustrates MAC pulmonary disease in a patient without typical risk factors such as HIV, chronic lung disease, or active immunosuppression. Although the patient received chemotherapy for colon cancer a decade earlier, she was considered immunocompetent at the time of presentation.

References

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