

## CAVITARY LESION IN AN IMMUNOCOMPROMISED ADULT

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**Background:** The pulmonary cryptococcosis prevalence has increased in the last twenty years. This increase is primarily due to the human immunodeficiency (HIV). However, other associations are increasingly recognized, such as organ transplant recipients, and patients on chronic immunomodulatory agents or glucocorticoids.

**Case Report:** A 57-year-old man, with rheumatoid arthritis (RA), presented with dyspnea on exertion, night sweats, unintentional weight loss, and cough which had been progressing over the last four weeks. Symptoms had been well controlled with methotrexate, prednisone, and leflunomide. Recent travel history to El Paso, Texas and St. Louis, Missouri. On physical exam, patient had normal vital signs. Decreased breath sounds in right lower lung fields. Nuchal rigidity and skin lesions were absent. Laboratory studies were notable for a WBC count of  $7.4 \times 10^3/\mu\text{L}$  with normal differential and an elevated ESR at 72 mm/hr. Chest radiography (CXR) and subsequent computed tomography (CT) of the chest revealed a right upper lobe cavitation and right lower lobe consolidation. Serum cryptococcal antigen was negative. Fungal culture from the broncho-alveolar lavage (BAL) grew *Cryptococcus neoformans*. Head CT and lumbar puncture (LP) revealed no evidence of CNS infection. Testing for HIV was negative. Therapy with fluconazole 400 mg daily was initiated with significant improvement in functional status. Immunosuppressive therapy was stopped with the exception of low dose prednisone. Given the long half-life of leflunomide (15 days), cholestyramine washout was performed. Antifungal therapy recommended for six to twelve months.

**Discussion:** *Cryptococcus*, an opportunistic fungal infection, presents most commonly as meningitis, but may affect any organ system. Isolated pulmonary involvement is the second most common presentation, with symptoms ranging from asymptomatic colonization to severe pneumonia with respiratory failure. The severity of disease is based on degree of immunosuppression in the affected host. The most common radiographic finding in non-HIV patients is solitary or multiple pulmonary nodules, followed by multifocal airspace consolidation. Lobar infiltrates and cavitary lesions occur more commonly in immunosuppressed host. Diagnosis can be made from culture following sputum sampling, bronchoscopy with BAL, or open lung biopsy. Serum cryptococcal antigen detection is highly specific when found in titers greater than 1:4, though isolated pulmonary involvement of the non-HIV patient, only 25-56% of patients have positive titers. Treatment largely depends on the patient's immune status and extent of disease. Immunocompromised patients with mild to moderate disease may be treated with fluconazole 400mg daily for 6-12 months. Severe lung disease or disseminated disease should be treated with induction therapy with an amphotericin preparation for 2-4 weeks followed by fluconazole therapy until immune reconstitution is achieved. Cryptococcal pneumonia has been reported with methotrexate concurrent with steroid or leflunomide therapy.