

## MILLIARY TUBERCULOSIS MIMICKING LUNG CANCER WITH BRAIN METHASTASIS

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### **Background:**

When multiple brain lesions are described in a person with lung infiltrate and hilar lymphadenopathy, cancer is a leading contender in the differential diagnosis. However, other diseases, such as tuberculosis (TB), should also be considered. While the predominant form of CNS involvement is tuberculous meningitis, rare occurrences of brain granulomas have been reported.

#### **Conclusion:**

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This case report outlines the complexities of diagnosing and treating a patient with an atypical presentation of a well-known disease. Even though it appeared to be cancer, it was in fact miliary tuberculosis, a disease that, given the patient's history of treatment with biologics, should have been suspected upon the initial cytological workup.

#### Case:

We present the case of a 61-year-old woman with ankylosing spondylitis treated with biologics, now hospitalized for further evaluation of a pneumonic infiltrate unresponsive to standard antibiotics. Thoracic MSCT revealed an expansive lesion in the upper left lung lobe, along with enlarged hilar and mediastinal lymph nodes. Cytological analysis of the material obtained by fiberoptic bronchoscopy did not reveal malignant cells but instead identified granulocytes and degenerated cylindrical cells, indicative of an inflammatory process. PET-CT showed pathological FDG accumulation in multiple nodular lesions in both lungs, mediastinal lymph nodes, and the brain parenchyma bilaterally, raising suspicion of secondary disease spread. A sample of an enlarged lymph node was obtained by endobronchial ultrasoundguided transbronchial needle aspiration, again revealing granulocytes and multinuclear giant cells but no malignant cells. PCR from bronchoalveolar lavage was positive for M. tuberculosis, and cultures from both BAL and sputum confirmed the growth of drug-sensitive M. tuberculosis. Therapy with the standard quadruple first-line therapy with isoniazid, rifampicin, ethambutol, and pyrazinamide was initiated. Two months after starting treatment, the patient's condition worsened, with newly developed spondylodiscitis and an increase in the number of brain lesions. Diagnostics again found no signs of other disease, and we opted for the addition of meropenem (four weeks) and linezolid (eight weeks in total). Finally, after six months of follow-up, significant regression of brain lesions, pulmonary infiltration, and lymphadenopathy was observed, as well as improvement of her spondylodiscitis-related neurological symptoms.

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