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Disseminated Cryptococcosis Mimicking Miliary Tuberculosis

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A 65-year-old woman presented to the emergency department with a 3-week history of fever, anorexia, and headache. She was consuming abatacept (125 mg/week), tacrolimus (3 mg/day), and prednisolone (2 mg/day) for rheumatoid arthritis. Upon initial presentation, no impaired consciousness was observed. Her body temperature was 38.6 °C, respiratory rate was 16 breaths per minute, and oxygen saturation was 95% while breathing ambient air. Furthermore, no nuchal rigidity was observed on physical examination. Laboratory tests revealed a normal leukocyte count and elevated C-reactive protein level of 2.78 mg/dl (reference range = < 0.14). Although brain computed tomography (CT) indicated no abnormalities, contrast magnetic resonance imaging revealed leptomeningeal enhancement. Furthermore, the lumbar puncture opening pressure was elevated to 31 cm H_2O (reference range =7-18). Her cerebrospinal fluid (CSF) analysis revealed glucose level of 15 mg/dl (reference range =50-80), protein level of 135 mg/dl (reference range =15-45), and cell count of 189 cells/µl (0-5), with 73 mononuclear cells and 116 polynuclear cells. Thoracic CT revealed a bilateral miliary pattern of pulmonary infiltration, indicating disseminated tuberculosis (Figure 1). However, smear microscopy, bacterial culture, and polymerase chain reaction analyses of her sputum and CSF were negative for *Mycobacterium tuberculosis*; tuberculosis interferon-gamma release assay was also negative. Encapsulated, round yeasts cells similar to *Cryptococcus* species were found in blood culture and CSF upon gram staining and India ink preparation (Figure 2). Furthermore, using matrix-assisted laser desorption/ionization time-of-flight mass spectrometry, with and a score of 2.14, the organism was identified as *Cryptococcus deneoformans*. Thus, she was diagnosed with cryptococcosis. Human immunodeficiency virus testing was negative. Treatment with liposomal amphotericin B (3 mg/kg per day) and flucytosine (85 mg/kg per day, split into four doses), was initiated. The patient died on the 56th day after admission due to the progression of the disease.

Cryptococcosis is becoming more common in immunocompromised patients.[1] A common radiological finding in pulmonary cryptococcosis includes well-defined pleural-based nodules.[1] However, cryptococcal fungemia in immunocompromised patients may appear as a diffuse miliary pulmonary pattern.[2] Notably, the clinical symptoms and disease histories of disseminated

FIG.1. Pulmonary infiltration with bilateral miliary pattern observed on chest computed tomography.

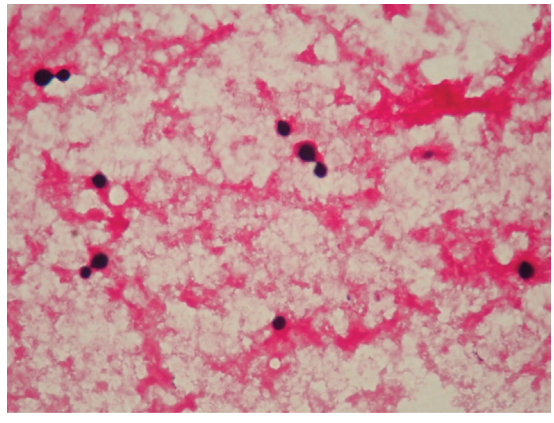

FIG. 2. Gram staining of blood culture revealed encapsulated, round yeasts cells (x1000).

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cryptococcosis and miliary tuberculosis are similar but their treatment approaches and infection control measures differ substantially. Disseminated cryptococcosis should be examined when a miliary pulmonary pattern is found because it significantly impacts treatment prognosis.

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