

Septic Pulmonary Emboli Caused by *Nocardia* in an Immunocompetent Patient

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2. Key words

Nocardiosis; Septic pulmonary emboli

1. Clinical Image

A 70-year-old male had cough for one month, followed by acute respiratory failure. He is a non-smoker, previously healthy, has no history associated with immunodeficiencies. Two months ago, his right ankle was wounded when he worked on the farm with bare feet. His lower calf became swelled, painful, and erythematous. Treatment with 2-weeks of cephadrine did not work. One month ago, he felt the leg swelling ameliorated spontaneously, followed by a migrating pain from the right leg to the thigh, and the pain subsided within hours. However, cough and pleurisy developed on the same day and aggravated in the following weeks.

On examination, there was mild hyper pigmentation over the right foot and ankle, but no signs of cellulitis. Blood tests showed leukocytosis, C-reactive protein of 30.2 mg/dL, and procalcitonin of 1.9 ng/mL. Biochemical tests and cardiac sonography disclosed no abnormal finding. Chest images revealed bilateral mass-like opacities, with irregular cavitation (Figure 1A, Figure 1B). The smear of endotracheal aspirate disclosed filamentous, branching gram-positive rods (Figure 2), which was confirmed to be *Nocardia pseudobrasiliensis* by MALDI-TOF mass spectrometry. After treatment with imipenem-cilastatin and trimethoprim-sulfamethoxazole (TMP-SMX), he recovered well. Now he receives oral TMP-SMX through the clinic.

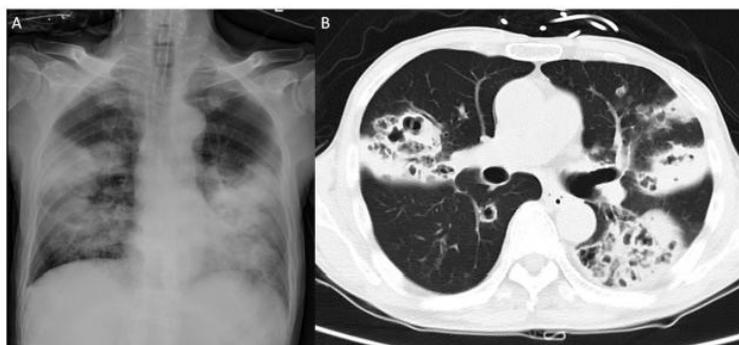


Figure 1A: Chest radiograph showed ill-defined mass-like lesions in bilateral middle and lower lung fields. (B) CT scan showed multifocal nodules and masses with irregular cavitation.

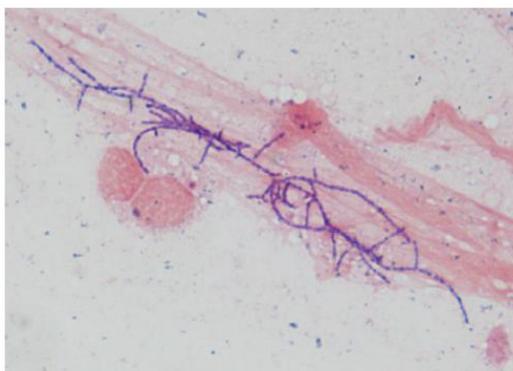


Figure 2: Filamentous, branching gram-positive rods in the smear of endotracheal aspirate (magnification, ×1000).

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Nocardiosis occurs mostly in the lungs because inhalation is usually the primary route of infection [1]. Primary soft tissue nocardiosis can result from traumatic injury to the skin that involves contamination with soil and usually develops in immune competent hosts [2]. Rarely, *Nocardia* can be inoculated accidentally into a vein, producing local septic thrombophlebitis [2]. In this immunocompetent patient, the pulmonary masses originated from the *Nocardia-septic* thrombophlebitis of his leg. When pulmonary nocardiosis manifests as bilateral, multifocal lung lesions, hematogenous spreading of septic emboli should be considered.

References

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