



Pathology Page

Nocardiosis of the lung

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A 43-year-old man with acute myelogenous leukemia (M4) received peripheral blood stem cell transplantation in April 2010. He had fever and chills for one week. Posteroanterior radiography of the chest showed a 2.0 cm patch nodule in the

right upper lobe. A computed tomography-guided biopsy was performed. Histopathology showed numerous neutrophils admixed with necrotic debris in the alveolar spaces (Fig. 1A). A Gomori methenamine silver stain demonstrated numerous blackish

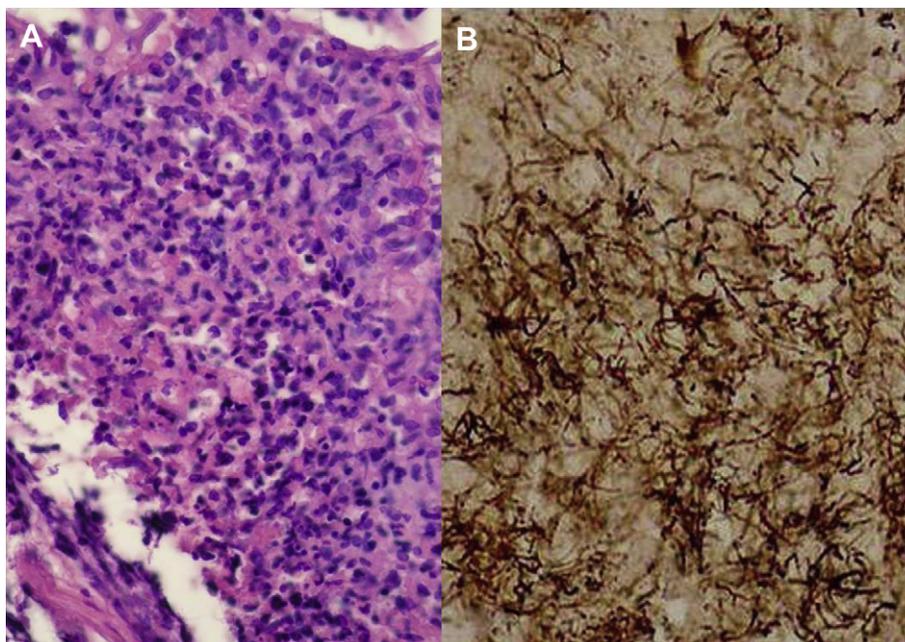


Fig. 1. (A) Histopathology shows pneumonia with numerous neutrophils admixed with necrotic debris in the alveolar spaces (hematoxylin and eosin 400 \times) and (B) Gomori methenamine silver stain demonstrates numerous blackish filamentous bacteria.

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filamentous bacteria diagnostic of nocardiosis (Fig. 1B). The nocardia belong to aerobic actinomyces, and contain 9 species. In humans, nocardia asteroides accounts for 86% of infections caused by this organism. They are important parts of normal soil microflora worldwide and cause a variety of diseases in both healthy and immunocompromised humans. Inhalation of airborne fragments or spores is the usual route of lung infection. Nocardiosis is both a primary and an opportunistic infection process with compromised hosts, and there is extensive organ involvement, including the lungs, skin, central nervous system, kidneys, liver, and heart. The mortality is high (overall 50%, brain abscess 78%, lung <10%)

and the causes of death include sepsis, brain abscess, and overwhelming pneumonia.

Further reading

- [1] Liu WL, Lai CC, Ko WC, Chen YH, Tang HJ, Huang YL, et al. Clinical and microbiological characteristics of infections caused by various Nocardia species in Taiwan: a multicenter study from 1998 to 2010. *Eur J Clin Microbiol Infect Dis*; 2011 Apr 3 [Epub ahead of print].
- [2] Lebeaux D, Lanternier F, Degand N, Catherinot E, Podglajen I, Rubio MT, et al. Nocardia pseudobrasiliensis as an emerging cause of opportunistic infection after allogeneic hematopoietic stem cell transplantation. *J Clin Microbiol* 2010; 48:656–9.