Fever and Pancytopenia in a Patient with AIDS

(See page 1320 for the Photo Quiz)

Figure 1. Numerous negatively stained curvilinear inclusions are seen in the cytoplasm of the histiocytes on the bone marrow smear (arrow) (original magnification, ×100).

Diagnosis: disseminated infection due to Mycobacterium avium complex (MAC).

Cultures of both peripheral blood samples and bone marrow aspirates demonstrated the presence of MAC (figures 1 and 2). MAC comprises 2 species, M. avium and Mycobacterium intracellulare. They are environmental saprophones that are found ubiquitously in soil, water, and food, and exposure is, therefore, inevitable. The incidence of MAC infection increases when the CD4⁺ cell count has decreased to <50 cells/μL. Disseminated infection due to MAC is one of the leading causes of pyrexia of unknown origin among HIV-positive patients and is defined as isolation of MAC bacteria by culture from sites other than sputum, stool, or skin samples and the presence of a concurrent illness consistent with the diagnosis [1]. Biopsy of bone marrow for culture and morphological examination has a high diagnostic yield in this setting. The high mycolic content of the cell wall of Mycobacterium species is responsible for the poor absorption and penetration by aqueous-based staining solution and, thus, their appearance as negatively stained curvilinear structures in the histiocytes. Recognition of the negatively stained inclusions in the histiocytes is important, because well-formed granuloma may not be present in patients with AIDS who have disseminated mycobacterial infection [2].

With the advent of HAART and chemoprophylaxis, the incidence of disseminated MAC infection has decreased substantially [3]. Unfortunately, our patient, who was a resident of mainland China, has been staying in Hong Kong for several months and was not receiving regular medication. The patient’s infection was treated with a combination of azithromycin, rifabutin and ethambutol but was complicated by deranged liver function and a deterioration in the patient’s general condition, and he died.

Acknowledgments


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**Figure 2.** Ziehl-Nielsen stain demonstrating numerous acid fast bacilli in the cytoplasm of the histiocytes (original magnification, ×100).

**References**


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