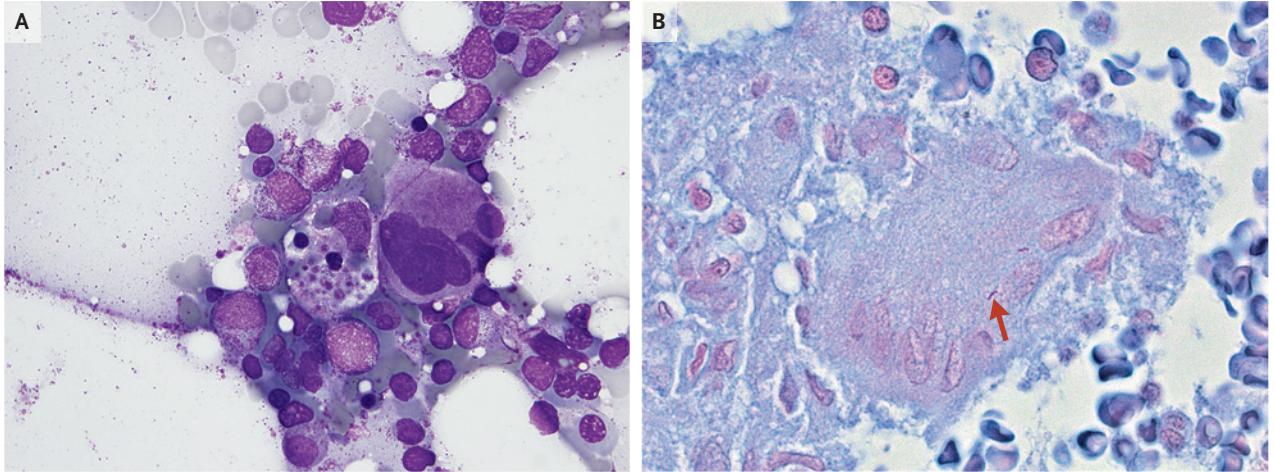


IMAGES IN CLINICAL MEDICINE

Chana A. Sacks, M.D., *Editor*

HLH Associated with Disseminated Tuberculosis



A 63-YEAR-OLD MAN WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) presented to the emergency department with fever, shortness of breath, and confusion. He had a 6-month history of fatigue, anorexia, and weight loss of 6.8 kg and had received treatment for what was thought to be symptoms of a COPD exacerbation and pneumonia. He reported no cough, hemoptysis, or recent travel. The patient's temperature was 39.3°C, the respiratory rate was 32 breaths per minute, and the oxygen saturation was 91% while he was breathing 6 liters of supplemental oxygen. Laboratory studies showed a platelet count of 99,000 per cubic millimeter (reference range, 160,000 to 370,000) and a ferritin level of 17,189 ng per milliliter (reference range, 22 to 275). Computed tomography of the chest revealed pulmonary opacities in both lungs without nodularity or cavitation. Gram's staining of sputum and bacterial cultures of sputum and blood were negative, and an interferon gamma release assay was indeterminate. Given progressive thrombocytopenia, the elevated ferritin level, and refractory sepsis, bone marrow biopsy was performed. The biopsy revealed hemophagocytosis (Panel A; Wright–Giemsa stain) as well as noncaseating granulomas with acid-fast bacilli (Panel B, arrow; Ziehl–Neelsen stain). *Mycobacterium tuberculosis* was identified by DNA probe of both the bone marrow aspirate and sputum, and a diagnosis of hemophagocytic lymphohistiocytosis (HLH) associated with disseminated tuberculosis was made. The patient was placed on airborne precautions in the intensive care unit. Antituberculosis therapy was initiated, but the patient died 55 days after presentation.

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