An AIDS Patient with Fever and Rash

(See pages 75–6 for Photo Quiz)

Figure 1. A tender, erythematous nodule on the patient’s middle finger

Diagnosis: Disseminated histoplasmosis.

Although disseminated histoplasmosis occurs episodically in the United States, it is possible that the patient we describe may have acquired the infection during his residence in Panama, which is an area of high endemicity. In 1905, Samuel Darling, a University of Maryland graduate who was stationed in Panama as a US Army pathologist, was the first investigator to report the discovery of the organism in bone marrow and visceral samples obtained from a patient who was thought to have miliary tuberculosis [1]. Initially, Darling thought he was describing a protozoan similar to *Leishmania* species [1]. Because the organism appeared to lack a kinetoplast and appeared to be encapsulated, he named it *Histoplasma capsulatum* [1].

The patient we describe had developed a tender erythematous nodule on his middle finger (figure 1) and multiple monomorphic, dome-shaped papules and nodules localized to his head and neck (figure 2) before admission to the hospital. Biopsy, in this case, showed large numbers of characteristic spherical intracellular yeast forms measuring 2–4 μm in diameter that were basophilic on periodic acid-Schiff staining, surrounded by a rim of clearing (figure 3). The clearing, or “halo,” is caused by the thick capsule or cell wall, which does not take up silver or periodic acid-Schiff stains but appears as a red rim with the mucicarmine stain. The histologic differential diagnosis includes *Cryptococcus neoformans* and *Leishmania* species. The latter organisms have kinetoplasts and lack a thick cell wall. Both *Blastomyces dermatitidis* infection and disseminated candidiasis may have a similar clinical presentation but differ in terms of histologic properties. *B. dermatitidis* is a considerably larger organism, measuring 7–15 μm in diameter, and may demonstrate broad-based buds, as opposed to the narrow buds of *Histoplasma* species. *Candida* species usually occur in the hyphal form in tissue. The preferred treatment in an HIV-infected patient consists of an initial induction phase with amphotericin B, followed
Figure 2. Multiple monomorphic, dome-shaped papules and nodules that appeared on the head and neck by a maintenance phase with itraconazole [2]. Higher-dose fluconazole can be used during the maintenance phase in patients who cannot tolerate itraconazole, but this treatment is associated with higher relapse rates [2]. Although lifelong suppressive therapy is recommended and supported by several clinical trials [2], it may be safe to discontinue maintenance therapy in patients who have been treated with antifungals for at least 1 year and who have also received 6 months of HAART, during which time their CD4 cell counts were >150 cells/mm³ and their Histoplasma antigen levels were <4.1 units [3].

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Emil Lesho, Sean Gunning, and Glenn Wortmann
Walter Reed Army Medical Center, Washington, D.C.

References

1. Darling ST. A protozoal general infection producing pseudotubercules in the lungs and focal necrosis in the liver, spleen, and lymph nodes. JAMA 1906; 46:1283–5.

Figure 3. Biopsy specimen from a facial lesion showing characteristic 2–4-μm spherical intracellular yeast forms (which were basophilic on periodic acid-Schiff staining) surrounded by a rim of clearing (Gomori methenamine silver stain; original magnification, ×600).