Disseminated histoplasmosis in peripheral blood smear

Haeseong Park and Danielle Shafer
A 51-year-old woman presented with 2 months of fever, chills, diarrhea, dry cough, and progressive dyspnea on exertion. She had a cadaveric renal transplant for immunoglobulin M nephropathy 3 years ago requiring chronic immunosuppression with tacrolimus, mycophenolate, and prednisone. On admission, she had new-onset pancytopenia with a white blood cell count of $2.0 \times 10^9/L$ (normal range, $3.9-11.7 \times 10^9/L$), hemoglobin 6.0 g/dL (normal range, 12-15 g/dL), and a platelet count of $33 \times 10^9/L$ (normal range, $172-440 \times 10^9/L$). Initial peripheral blood smear showed left shift with toxic granulation. On hospital day 3, the patient had a cardiac arrest secondary to acute respiratory failure. On the peripheral blood smear from day 3, hematopathology identified intracellular organisms with thick cell walls and surrounding vacuoles in neutrophils. Liposomal amphotericin was empirically started, resulting in clinical improvement. Cytology from bronchoalveolar lavage and urine antigen confirmed the diagnosis of disseminated histoplasmosis.

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