Woman with Multiple Brain Abscesses

(See pages 1397–9 for the Answer to the Photo Quiz)

A 47-year-old woman with a history of autoimmune disorder of unknown etiology, corticosteroid therapy, and diabetes mellitus developed aphasia and right facial droop while receiving treatment for a febrile illness at an outside hospital. She was intubated for airway protection and was then transferred to our medical center for further treatment.

On physical examination, she was intubated but could follow 1-step commands; physical examination findings included right lower facial weakness, pathologically brisk deep tendon reflexes, and bilateral Babinski sign. MRI of the brain (figure 1) revealed multiple ring-enhancing lesions. Lumbar puncture was performed, and laboratory testing of the patient's CSF revealed a
WBC count of 89 cells/mL with 50% neutrophils, a protein level of 87 mg/dL, and a glucose level of 59 mg/dL. The patient was treated empirically with vancomycin, aztreonam (because of allergies to penicillin and sulfa), and acyclovir. Clindamycin, pyrimethamine, and folinic acid were added to the treatment regimen for possible toxoplasmosis, and treatment with high-dose fluconazole (800 mg/day) was added to provide antifungal coverage. Blood cultures showed no growth, and a transesophageal echocardiogram had no abnormal findings. Despite the receipt of multiple antimicrobial drugs, the patient’s neurological examination findings worsened, and a stereotactic brain biopsy was performed. A hematoxylin and eosin stain of the brain biopsy specimen is shown in figure 2, and microscopic images of the tissue culture are shown in figure 3.

What is your diagnosis?