A 24-Year-Old Man With Giddiness, Hemoptysis, and Skin Lesions*

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A 24-year-old man presented with a 3-month history of persistent severe giddiness, productive cough, hemoptysis, and ulcer over his sternum. His medical history was notable for a number of infections since childhood, which included inguinal lymphadenopathy, suppurative skin infections, Penicillium osteomyelitis of the scalp, pulmonary tuberculosis, and lupus vulgaris. His family history was noncontributory, and his development milestones were normal. His immunizations as a child were uneventful. His HIV status, which had been checked on multiple occasions, was negative.

Physical Examination

The patient was cachectic, but his vital signs were unremarkable. He had multiple nodular skin lesions on his back and cheeks. There were no palpable lymph nodes. A deep ulcer, 4 × 5 cm in size, with overhanging edges and necrotic tissue in its floor, was present above the sternum, visibly involving the underlying bone. The results of a respiratory system examination were notable for diffuse coarse crackles. The findings of a neurologic examination were notable for an ataxic gait with positive cerebellar signs.

Laboratory and Radiographic Findings

The results of a laboratory evaluation were notable for hypoalbuminemia (serum albumin concentration, 1.8 g/dL), a total leukocyte count of 8,700 cells/μL (72% neutrophils, 16% lymphocytes, 10% monocytes, and 2% eosinophils). The erythrocyte sedimentation rate was 26 mm/h. The patient's CD4+ count was 622/μL, and his CD8+ count was 624/μL. His Ig levels were normal.

A chest radiograph revealed bilateral fibrotic scars, which a thoracic CT scan revealed as bilateral areas of bronchiectasis (Fig 1, *top*, *A*) with sternal osteomyelitis (Fig 1, *bottom*, *B*). MRI of the brain demonstrated ring-enhancing lesions in the cerebellar vermis and left frontal lobe (Fig 2).

The patient underwent a midline suboccipital craniotomy and decompression of the posterior fossa lesion, a culture from a sample of which grew *Aspergillus fumigatus*. He underwent sternal debridement with a pectoralis major flap; a culture of a tissue sample grew Penicillium species. A diagnostic biopsy of a nodule on the patient's back was performed, which revealed suppurative granulomatous dermatitis; after 6 weeks, a culture from the biopsy sample was sterile. A bronchoscopy with BAL was performed; a culture of the BAL fluid sample grew *Mycobacterium chelonei*.

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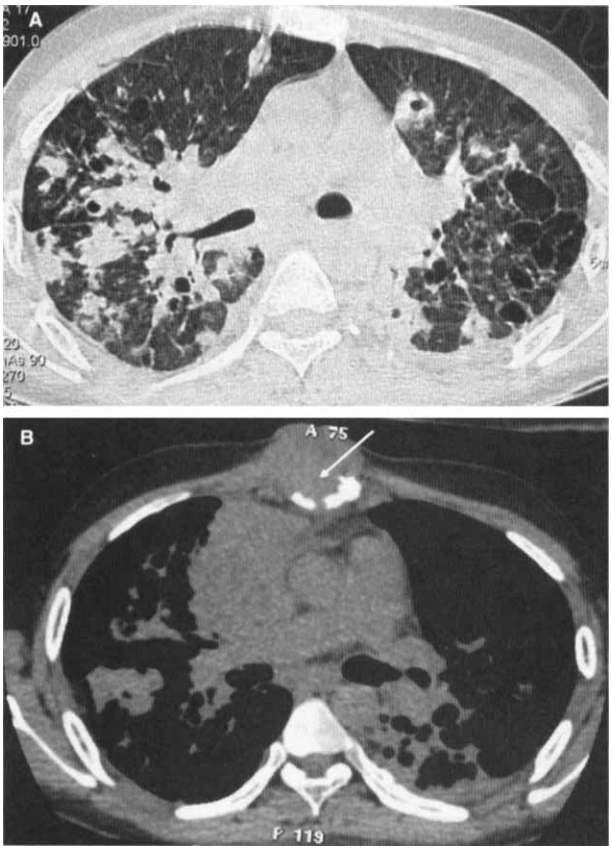

FIGURE 1. *Top*, *A*: CT scan of the chest demonstrating bilateral bronchiectasis. *Bottom*, *B*: CT scan of the chest demonstrating sternal osteomyelitis (arrow).

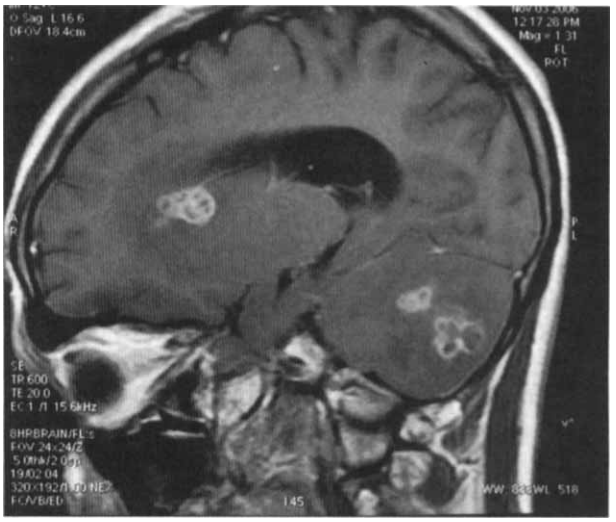

FIGURE 2. MRI of the brain demonstrating ring-enhancing lesions.

What is the unifying diagnosis?