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CASE 2019-11

Submitted by:
Dale Davis, M.A. [1], Todd Williams, M.D. [1], Roosecelis B. Martines, M.D., Ph.D. [2], Peter Stenzel, M.D., Ph.D. [1], Matthew Wood, M.D., Ph.D. [1]
[1]Department of Pathology, Oregon Health & Science University
[2]Infectious Disease Pathology Branch, Centers for Disease Control and Prevention

Clinical History:
The patient is a 66-year-old male with a history of T-cell prolymphocytic leukemia and type 2 diabetes mellitus who was found collapsed and was admitted for presumed bacterial meningitis. His medical history was complicated by frequent loss to follow-up, varied adherence to medications, and *Nocardia* pneumonia and cavitary lung nodules in mid-2017. During admission, the patient remained intubated with a Glasgow Coma Scale ranging from 2 to 6. A bronchoalveolar lavage culture was positive for *Aspergillus fumigatus*. Cerebrospinal fluid analysis showed 2384 nucleated cells, 488 RBCs, 5% lymphocytes, 86% neutrophils, glucose 69, and total protein 687. CSF cultures and PCR-based studies for viral, fungal, bacterial, and mycobacterial organisms were negative. There was no clinical improvement on treatment with antibiotics and steroids; he was transitioned to comfort care and died 10 days after admission. The patient immigrated from Mexico approximately 25 years ago, and worked in restaurants and as a landscaper. He traveled to California and western Oregon, but had no known recent international travel.

Autopsy findings:
The brain showed effaced gyri, narrowed sulci, an absence of leptomeningeal exudates, softening of the periventricular white matter in both hemispheres, and bilateral cerebellar hemispheric hemorrhagic lesions (fixed brain weight, 1533 g). The body examination revealed purulent material in the bronchioles of the lower lung lobes, distal bronchiectasis, and multiple subcentimeter lung nodules, positive on microscopy for hyphal forms.
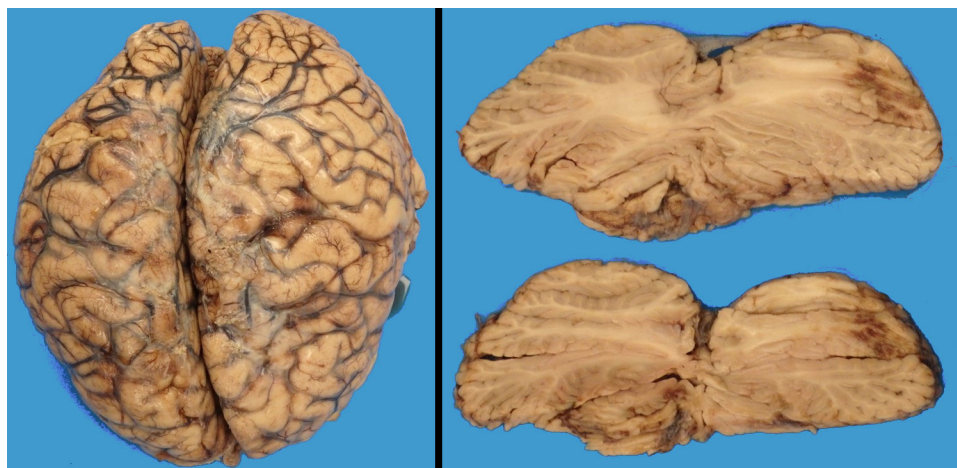
Material submitted:
H&E stained slide of a representative cerebellar lesion, and gross images of brain autopsy findings.

Points for discussion:
1. Determine differential diagnosis
2. Analyze results of ancillary diagnostic studies
3. Final diagnosis