53rd ANNUAL DIAGNOSTIC SLIDE SESSION 2012

CASE 2012-9

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CLINICAL HISTORY:

The patient was a 67-year-old woman with a history of chronic lymphocytic leukemia (CLL) diagnosed one year prior to admission. For her CLL, she was treated with bendamustine three months prior to admission and later with cyclophosphamide, vincristine, and prednisone several weeks prior to admission. Several days prior to admission, she presented to the emergency room with chest pain and was found to have sinus tachycardia. She was treated with digoxin and discharged. Over the next 24-48 hr, she developed dizziness and generalized weakness. She was unable to walk without assistance and complained of bilateral lower extremity sensory loss that was worse on the right. She returned to the emergency room and was admitted to the stroke service. Her neurological status rapidly declined. Radiological and laboratory studies are outlined below. She was transferred to the neurological intensive care unit with bilateral lower extremity flaccid paraplegia four days following admission and became comatose within days thereafter. A brain biopsy of the right frontal cortex was performed. Despite aggressive treatment including steroids, attempted plasma exchange, and IVIg, she died eight days following admission.

Selected Laboratory Studies:
Peripheral WBC count: 25.5 x 109/L
CSF: 4 WBCs
CSF cytology: negative
CSF flow: Hemo-contaminated. Monotypic B-cell population consistent with known CLL.

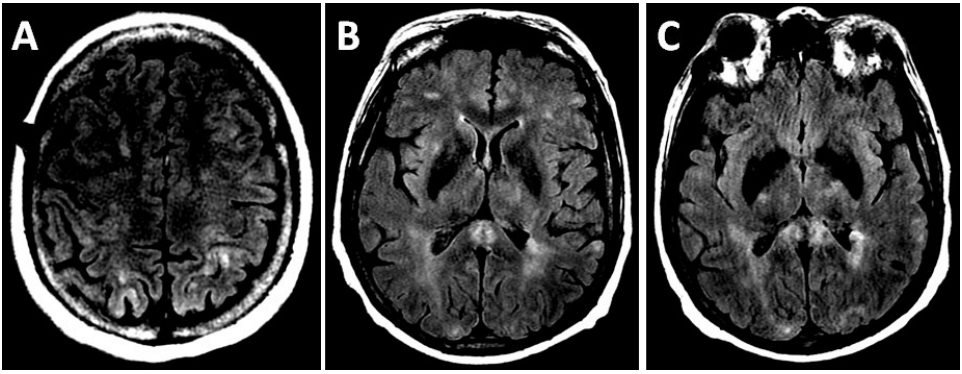

Figure 1. T2-fluid attenuated inversion recovery (FLAIR) magnetic resonance imaging (MRI). Hyperintensities originated in the cerebral cortex (A) that progressed to the subcortical white matter and corpus callosum (B, C). Punctate signal on diffusion-weighted imaging (DWI) progressed to diffuse DWI signal throughout the white matter; no contrast enhancement was seen at any point (not shown).

Materials submitted:
1. MRI studies shown above
2. Virtual slide of an H&E stained section from the right frontal lobe biopsy

Points for discussion:
1. Diagnosis & differential diagnosis
2. Pathogenesis