

54th ANNUAL DIAGNOSTIC SLIDE SESSION 2013
CASE 2013-4

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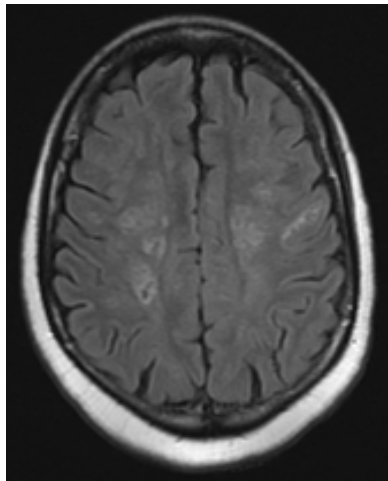
Clinical History

The patient is a 68-year-old woman who is a missionary with recent travel to Africa. She presented with neutropenia, odynophagia, and fever. Her mental status subsequently declined and progressed to a comatose state. Head imaging studies revealed multiple small white matter lesions with signal properties suggesting petechial hemorrhages, prompting radiological differential diagnoses of acute hemorrhagic leukoencephalopathy and vasculitis. She also carried a diagnosis of toxoplasmosis that was being treated with Bactrim. Neutropenia during her hospital stay led to a bone marrow biopsy which showed infarcts. Further testing revealed that she had sickle cell trait.

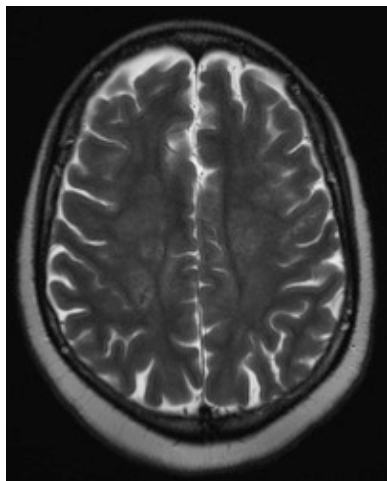
Material submitted: MRI images at the time of biopsy and an H&E section (virtual slide) of left frontal lobe biopsy.

Radiologic findings:

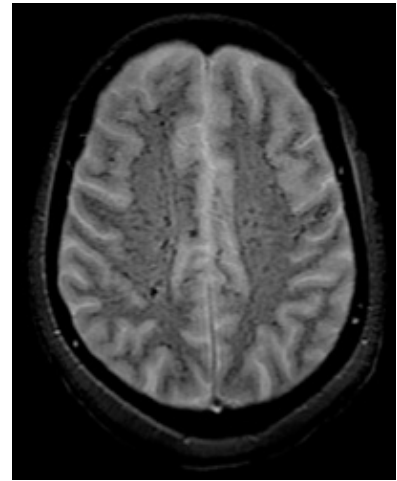
Axial-T2-FLAIR



Axial-T2 FRFSE



Axial-T2 Gre



Points for discussion

1. What is the differential diagnosis?
2. What special studies would you perform?
3. What is the pathogenesis?