Brainstem PML lesion mimicking MS plaque in a natalizumab-treated MS patient

A 47-year-old woman with relapsing-remitting multiple sclerosis (MS), treated with natalizumab for 14 months, reported dysphagia. Brain MRI demonstrated small fluid-attenuated inversion recovery–hyperintense T1-hypointense unenhancing lesions of the right pons and left medulla initially interpreted as new MS plaques (figure 1), but increased and became confluent over 3 months (figure 2). CSF demonstrated the presence of JC virus (4,015 DNA copies).

Brainstem progressive multifocal leukoencephalopathy (PML) is rare in comparison to brainstem MS\(^1\),\(^2\) and is a diagnostic challenge in patients treated with disease-modifying therapy. Early marked T1 hypointensity, diffusion-weighted imaging hyperintensity, and close MRI follow-up may distinguish new MS activity from PML.

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Axial images show pons and medullary fluid-attenuated inversion recovery–hyperintense lesions (A). The lesions appear markedly hypointense on T1-weighted scans (B).
Axial and sagittal images show enlarged and confluent pons and medullary T2-hyperintense (A) and T1-hypointense lesions (B).


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