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

Figure 1 Baseline MRI scans

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

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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Author contributions: C. Tortorella, V. Direnzo, and M. D'Onghia reviewed the clinical case and interpreted the data. C. Tortorella interpreted the data and wrote the manuscript. M. Trojano commented on and approved the final version of the manuscript.

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Figure 2 Follow-up MRI scans

Axial and sagittal images show enlarged and confluent pons and medullary T2-hyperintense (A) and T1-hypointense lesions (B).

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