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Figure. Diffusion weighted imaging (echoplanar, repetition time = 5100 milliseconds, echo time = 137 milliseconds, b = 1000 T) showing a rim of high signal surrounding a lesion that does not demonstrate signal change or mass effect.

Progressive multifocal leukoencephalopathy

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A 58-year-old woman admitted to the hospital had a 3-month history of progressive neurologic deterioration

characterized by severe global aphasia and bilateral limb weakness, greater on the right. The patient had a 10-year history of systemic lupus erythematosus (SLE). Polyarthritides had been present for 6 weeks before the onset of neurologic symptoms; she was treated with prednisone and methotrexate. A diagnosis of progressive multifocal leukoencephalopathy (PML) was established by a positive PCR for JC virus from CSF. The patient deteriorated and further active care was withdrawn.

Serial MRI showed an enlarging area of hypointensity on T1 and hyperintensity on T2-weighted images in the left parietal lobe. The lesion involved predominantly white matter and was without mass effect. A rim of high signal was present at the margins of the left parietal lesion on the diffusion-weighted image (figure) with a reduced apparent diffusion coefficient (ADC) on the ADC map. There was no enhancement after administration of IV gadolinium.

PML in SLE treated with immunosuppression is uncommon.¹ The MRI findings in PML often include circumscribed lesions predominantly in white matter without mass effect or contrast enhancement.^{1,2} The MR sequences indicate a progressing area of cytotoxic edema surrounding prior areas of white matter damage.²

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