Progressive multifocal leukoencephalopathy with selective involvement of the pyramidal tracts

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A 67-year-old man with chronic lymphatic leukemia presented with a 1-month history of subacute right hemiparesis with right central facial palsy and right extensor plantar responses, but without sensory deficits. MRI showed hyperintense lesions along the pyramidal tracts on T2-weighted and FLAIR images (figure). CSF PCR revealed JC virus infection leading to the diagnosis multifocal leukoencephalopathy (PML), which typically occurs in immunocompromised patients, due to reactivation of latent JC virus infection. PML lesions are hyperintense on T2-weighted and FLAIR MRI, non-enhancing, not space occupying, and predominantly subcortically located involving the arcuate (U) fibers. Posterior fossa and basal ganglia lesions are less frequent (15 to 30% of patients) and rarely occur isolated. A faint, peripheral enhancement is seen in up to 10% of patients.1

Thus far, PML with a predominant involvement of the pyramidal tract has been described only in one (HIV-positive) patient.2


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Figure. Coronal FLAIR fast spin echo sequence shows hyperintense lesions along the pyramidal tracts with a predominant involvement of the left side corresponding with the clinical picture.
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