Parkinsonism associated with striatal perivascular space dilation

A 75-year-old man with diabetes, hyperlipidemia, hypertension, and prior right occipital infarct had progressive imbalance, falls, and leg “weakness” for 4 years. Neurologic examination showed rigidity, bradykinesia, and mild resting tremor. Brain MRI revealed dilation of the perivascular or Virchow-Robin spaces (VRS) throughout the striatum as well as mild periventricular leukoaraiosis (figure). Skin biopsy excluded cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy, a secondary cause of VRS dilation. Levodopa titrated to maximum tolerability (450 mg/day) only reduced his tremor. Parkinsonism with enlarged striatal VRS has been reported in the pre–fluid-attenuated inversion recovery (FLAIR) era. Its pathophysiology remains unclear but normal FLAIR signal supports the recent finding that VRS enlargement is not associated with ischemia or reduced flow.

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Disclosure: The authors report no conflicts of interest.

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Neurology 2007;68;1540
DOI 10.1212/01.wnl.0000261483.49248.b8

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