MRI hydrographic 3D sequences in CADASIL

Brain MRI of patients with cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL) shows hyperintense lesions on fluid-attenuated inversion recovery (C) associated with numerous subcortical lacunar lesions in the temporal lobes, best characterized by a 3D SPACE sequence (A, B).

Two patients with cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL) (figure), evolving with cognitive deterioration, had MRI. Hydrographic 3D high-resolution turbo spin-echo (TSE) with variable flip angle sequence (SPACE) was performed to demonstrate the subcortical lacunar lesions (SLLs) (figure, A and B) considered specific in CADASIL.1

SPACE is a 3D TSE sequence similar to other hydrographic sequences, in which the water and fat have high signal, giving excellent contrast between CSF and other structures; SLLs appear as linearly arranged groups of rounded, circumscribed lesions at the junction of gray and white matter with signal intensity similar to CSF,1 located mainly in the anterior temporal lobes.

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Study funding: No targeted funding reported.

Disclosure: The authors report no disclosures relevant to the manuscript. Go to Neurology.org for full disclosures.

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Neurology 2014;82;371
DOI 10.1212/WNL.0000000000000056

This information is current as of January 27, 2014

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