MRI hydrographic 3D sequences in CADASIL

Figure Subcortical lacunar lesions 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.

Vanessa C. Mendes Coelho, MD, Débora Bertholdo, MD, Sergio Eiji Ono, MD, Arnolfo de Carvalho Neto, MD, PhD

From the Clínica DAPI–Diagnóstico Avançado por Imagem (V.C.M.C., D.B., S.E.O., A.d.C.N.); and UFPR–Universidade Federal do Paraná (A.d.C.N.), Curitiba, PR, Brazil.

Author contributions: Vanessa C. Mendes Coelho: main author and clinical history revision. Débora Bertholdo: contributor and reviewer. Sergio Eiji Ono: contributor and reviewer. Arnolfo de Carvalho Neto: intellectual contribution.

Study funding: No targeted funding reported.

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

Correspondence to Dr. Mendes Coelho: vanessa-med12@hotmail.com

1. van Der Boom R, Lesnik Oberstein SA, van Duinen SG, et al. Subcortical lacunar lesions: an MRI finding in patients with cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy. *Radiology* 2002;224:791–796.

Neurology®

MRI hydrographic 3D sequences in CADASIL

Vanessa C. Mendes Coelho, Débora Bertholdo, Sergio Eiji Ono, et al.

Neurology 2014;82;371

DOI 10.1212/WNL.0000000000000056

This information is current as of January 27, 2014

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/82/4/371.full
References	This article cites 1 articles, 0 of which you can access for free at: http://n.neurology.org/content/82/4/371.full#ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): CADASIL http://n.neurology.org/cgi/collection/cadasil MRI http://n.neurology.org/cgi/collection/mri
Permissions & Licensing	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: http://www.neurology.org/about/about_the_journal#permissions
Reprints	Information about ordering reprints can be found online: http://n.neurology.org/subscribers/advertise

Neurology® is the official journal of the American Academy of Neurology. Published continuously since 1951, it is now a weekly with 48 issues per year. Copyright © 2014 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.