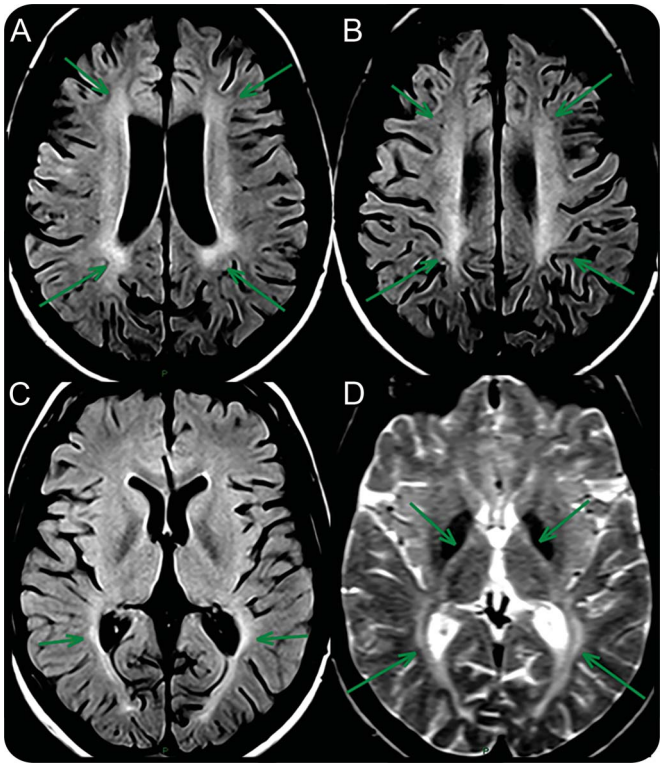
Fatty acid 2-hydroxylase deficiency

Clinical features and brain iron accumulation

Figure Brain MRI discloses white matter changes and iron accumulation



Axial fluid-attenuated inversion recovery (FLAIR)–weighted brain MRI shows confluent periventricular hyperintense signal and deep white matter changes (A, B) (arrows); axial FLAIR and T2 spin-echo images disclose symmetric hyperintense signal in the posterior internal capsules and optic radiations and hypointense globus pallidi consistent with iron accumulation (C, D) (arrows).

A 21-year-old woman presented with progressive spastic paraplegia, dysarthria, and strabismus since 7 years of age (video on the *Neurology*® Web site at Neurology.org). Brain MRI disclosed white matter changes and iron accumulation (figure). Whole exome sequencing detected in fatty acid 2-hydroxylase (*FA2H*) gene 2 variants never reported: c.169_170insGCGGGCCAGG (p.Asp57Glyfs*66), leading, if translated, to a truncated protein, and c.117C>A (p.Phe39Leu), predicted by computational algorithms to be deleterious.

FA2H deficiency is responsible for SPG35, a rare autosomal recessive complicated hereditary spastic paraplegia.[1,2] Strabismus, dysarthria, and spastic paraplegia with brain MRI showing iron accumulation and white matter changes are common in SPG35 and may suggest the diagnosis.[1,2] Molecular analysis is necessary to confirm this unusual condition.

Supplemental data at Neurology.org

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Author contributions: J.L. Pedroso: case report conception, organization, and execution, manuscript review and critique. B.W. Handfas: case report organization and execution, manuscript review and critique. A. Abrahão: case report organization and execution, manuscript review and critique. F. Kok: genetic evaluation, manuscript review and critique. O.G. Barsottini: case report conception, organization,

and execution, writing of the first draft, manuscript review and critique. A.S.B. Oliveira: case report conception, organization, and execution, manuscript review and critique.

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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2. Dick KJ, Eckhardt M, Paisán-Ruiz C, et al. Mutation of *FA2H* underlies a complicated form of hereditary spastic paraplegia (SPG35). Hum Mutat 2010;31:E1251–E1260.

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Neurology 2015;84;960-961
DOI 10.1212/WNL.0000000000001316