Serial arterial spin labeling MRI in autonomic status epilepticus due to anti-LGI1 encephalitis

Figure 1 Neuroimaging before treatment of autonomic status epilepticus due to anti-LGI1 encephalitis

At the acute stage of the disease, coronal fluid-attenuated inversion recovery sequence (A) shows hyperintensity of the right hippocampus and amygdala (arrows), while arterial spin labeling (B) and ^{18}F -FDG-PET (C) depict marked hyperperfusion/hypermetabolism circumscribed only to these 2 structures (arrows), being caused by highly repetitive seizures.

A 56-year-old man presented with a 1-month history of daily autonomic seizures (tachycardia, diaphoresis, and nausea). Diagnosis of limbic encephalitis was confirmed based on brain MRI findings and anti-LGI1 antibodies found in CSF. Autonomic status epilepticus was diagnosed on a video-EEG study, while arterial spin labeling (ASL) sequences and ^{18}F -FDG-PET (figure 1) showed hyperperfusion/hypermetabolism over the hippocampus and amygdala. Follow-up neuroimaging (figure 2) proved improvement of the findings as the patient responded to treatment. ASL is an imaging technique highly sensitive to changes in regional cerebral blood flow that can help in the evaluation and follow-up of patients with epilepsy.^{1,2}

Figure 2 Neuroimaging after treatment of autonomic status epilepticus due to anti-LGI1 encephalitis

Epilepsy was controlled on immunomodulatory therapy. One year after treatment, follow-up coronal fluid-attenuated inversion recovery sequence (A) shows complete resolution of the inflammation involving the temporal medial region (arrows), whereas ASL (B) and ^{18}F -FDG-PET (C) show slightly decreased blood perfusion and metabolism of the hippocampus and amygdala (arrows).

Camilo Espinosa-Jovel, MD, Rafael Toledano, MD, Irene García-Morales, Juan Álvarez-Linera, MD, Antonio Gil-Nagel, MD

From the Hospital Occidente de Kennedy (C.E.-J.), Bogotá, Colombia; Hospital Ruber International (R.T., I.G.-M., J.Á.-L., A.G.-N.); Hospital Ramón y Cajal (R.T.); and Hospital Clínico San Carlos (I.G.-M.), Madrid, Spain.

Author contributions: Dr. Espinosa-Jovel and Dr. Toledano: study concept and design, acquisition of data, analysis and interpretation of data, critical revision of manuscript for intellectual content. Dr. García-Morales: critical revision of manuscript for intellectual content. Dr. Álvarez-Linera: interpretation of data and critical revision of manuscript for intellectual content. Dr. Gil-Nagel: study supervision and critical revision of manuscript for intellectual content.

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. Espinosa-Jovel: camilo_jovel@hotmail.com

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Neurology 2016;87;443-444

DOI 10.1212/WNL.0000000000002903

This information is current as of July 25, 2016

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