

# The Reperfusion of Ischemic Vasculitis in a Patient with Neuropsychiatric Lupus: A Serial Single-Photon Emission Computed Tomography Study

## Abstract

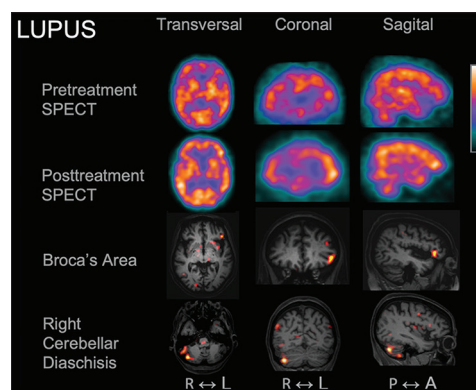
We report a 44-year-old female patient diagnosed with neuropsychiatric systemic lupus erythematosus and probable ischemia secondary to vasculitis in the speech motor region (Broca's area). After corticosteroid treatment, the patient recovered the speech, presented clinical improvement, and SISCOM showed reperfusion of the ischemic area (luxury perfusion).

**Keywords:** Aphasia, brain single-photon emission computed tomography, neuropsychiatric systemic lupus erythematosus

We report a female patient diagnosed with systemic lupus erythematosus (SLE). It should be presented with renal impairment, weight loss, and persistent proteinuria. After 2 years of the initial treatment, it should be patient had disease reactivation with neuropsychiatric involvement (neuropsychiatric systemic lupus erythematosus (NPSLE)), presenting hemiparesis on the right, acute confusional state, aphasia, and pancytopenia. Magnetic resonance imaging showed findings of cerebral infarctions in multiple territories but suggesting vasculitis in the left frontal inferior gyrus, Broca's area, responsible for the motor control of speech.<sup>[1-3]</sup> 99mTc-ethyl cysteinate dimer Single Photon Emission Computed Tomography (SPECT) showed marked perfusion deficit in the Broca's area during the acute phase. After treatment with corticosteroids, the patient recovered the speech, with clinical improvement, and the SPECT showed increased perfusion increase on Broca's area (luxury perfusion), associated to the right cerebellar diaschisis, which was evidence by SISCOM. NPSLE occurs as an autoimmune inflammatory alteration in the central and peripheral nervous system, with some impacts to the patient, mainly psychoses and cognitive dysfunction.<sup>[2,3]</sup> In the present patient, there was a probable

ischemia secondary to vasculitis<sup>[4]</sup> in the speech motor area resulting in aphasia, and that was reversible after reperfusion of the ischemic cerebral parenchyma [Figure 1].

The patient's brain MRI showing multiple inflammatory lesions: (a, b and d) T1-weighted images with gadolinium showing a breakdown of blood-brain barrier and (c) T2-Fluid-attenuated inversion recovery sequence showing



**Figure 1:** A 44-year-old patient diagnosed with systemic lupus erythematosus. It should be presenting with renal impairment, weight loss and persistent proteinuria. After 2 years of the treatment, the patient had disease reactivation with neuropsychiatric involvement, presenting acute confusional state and aphasia. Magnetic resonance imaging findings cerebral infarctions in multiple territories and vasculitis in the left frontal inferior gyrus. Single photon emission computed tomography showed marked perfusion deficit in the Broca's area. After treatment with corticosteroids, she recovered the speech and increased perfusion on Broca's area evidence by SISCOM

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Ana Carolina Trevisan<sup>1</sup>, Paulo Louzada Jr.<sup>2</sup>, Felipe Arriva Pitella<sup>1</sup>, Mery Kato<sup>1</sup>, Antonio Carlos Santos<sup>3</sup>, Lauro Wichert-Ana<sup>1,4</sup>

<sup>1</sup>Section of Nuclear Medicine, Internal Medicine Department and Post-graduation Program, Ribeirão Preto Medical School, University of São Paulo, <sup>2</sup>Section of Magnetic Resonance Imaging, Internal Medicine Department and Post-graduation Program, Ribeirão Preto Medical School, University of São Paulo, <sup>3</sup>Division of Rheumatology, Internal Medicine Department and Post-graduation Program, Ribeirão Preto Medical School, University of São Paulo, <sup>4</sup>Medical Clinic Department, Bioengineering Interunits Post-graduation Program, São Carlos School of Engineering (EESC), University of São Paulo, São Carlos, Brazil

## Address for correspondence:

Dr. Ana Carolina Trevisan, Nuclear Medicine Section of Medical School of Ribeirão Preto, University of São Paulo, Ribeirão Preto, SP, Brazil. E-mail: acstrevisan@yahoo.com.br

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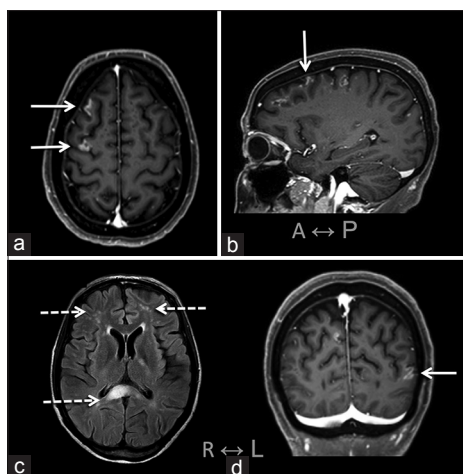
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## Quick Response Code:



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**Figure 2:** The patient's brain magnetic resonance imaging showing multiple inflammatory lesions: (a, b and d) T1-weighted images with gadolinium showing breakdown of blood–brain barrier and (c) T2-Fluid-attenuated inversion recovery sequence showing increased signal in both anterior frontal lobes and splenium of corpus callosum

increased signal in both anterior frontal lobes and splenium of corpus callosum [Figure 2].

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## Conflicts of interest

There are no conflicts of interest.

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