A 67-year-old woman with atrial fibrillation and multiple vascular risk factors presented to the emergency room after sudden onset of global aphasia, right hemiparesis, and hemianopia concerning for an acute stroke. However, CT, CT angiogram, and CT perfusion revealed left-hemispheric hyperperfusion (figure). Shortly following imaging she developed right face and limb twitching with right gaze deviation that resolved with antiepileptic therapy. Subsequent EEG confirmed left-sided epileptiform discharges. Neuronal activity during a seizure is associated with increased metabolism and adaptive augmentation of regional cerebral blood flow, which can be seen with SPECT, perfusion MRI, and perfusion CT.

REFERENCES
Teaching NeuroImages: Ictal hyperperfusion
Nils Henninger, Diogo C. Haussen and Sandeep Kumar

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