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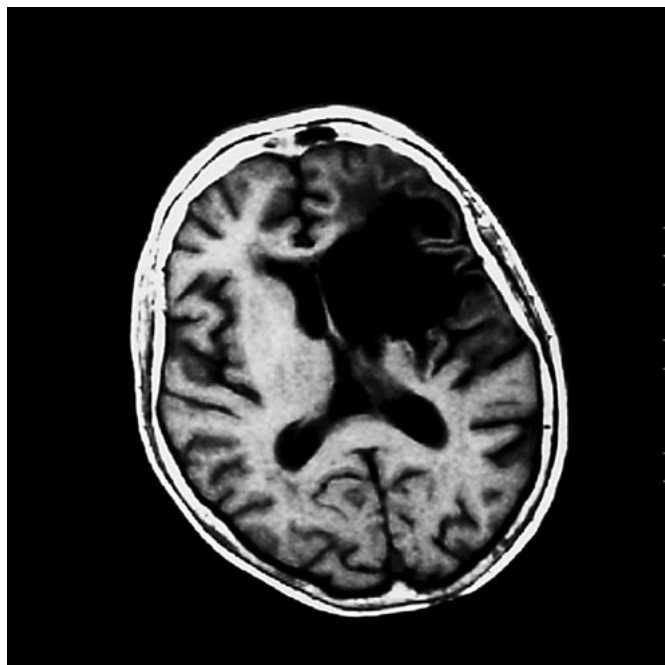
The Preserved Cortical Island Sign Is Highly Predictive of Postischemic Seizures

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Underlying cerebrovascular lesions are the most common reason for late-onset seizures in the elderly, accounting for up to 25% of these cases [1]. Todd's paresis following postischemic seizures (PS) may worsen preexisting neurological deficits and lead to the misdiagnosis of recurrent stroke. Identification of these patients is important for counseling and treatment issues.

We report the case of a 68-year-old woman with a history of left-hemispheric ischemic stroke 6 years earlier, who presented with an acute aggravation of her right-side hemiparesis and aphasia that resolved in the first days after admission. In the second and third year after her stroke, the patient had already suffered two definite epileptic seizures. Magnetic resonance imaging (MRI; fig. 1) including diffusion-weighted sequences revealed preserved cortical islands (PCI) within an extended subcortical-cortical area of infarction, without any signs of a new ischemic event. These results – along with the clinical course and the electroencephalographic evidence of a rhythmic theta-delta focus in the left temporoparietal region – led us to the diagnosis of postictal Todd's paresis; a treatment with antiepileptic agents was initiated.

From our experience, patients with extended combined cortical and subcortical lesions leading to a critical interaction of these structures are at risk for PS. This relationship was confirmed by a prospective, electroencephalography- and MRI-based study in acute stroke patients [2]; furthermore, the pattern of PCI was frequently observed in an analysis of postischemic 'first-seizure' patients [3]. As illustrated by our case, patients in this special subgroup with PCI that we refer to as the PCI sign seem to be at a particularly high risk for developing PS, emphasizing that a critical mass of intact neurons within the infarcted area is necessary to generate an epileptogenic lesion.

*References*

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- 2 Pohlmann-Eden B, Mager RD, Hoch DB, Cochius JI: The significance of subclinical epileptiform activity after stroke; in Stalberg E, Deweerdt AW, Zidor J (eds): *Neurophysiology*. Bologna, Monduzzi, 1998, pp 523–532.
- 3 Pohlmann-Eden B, Schreiner A, Hornung T: Predictive value and morphological pattern of cerebrovascular lesions in patients presenting with a first 'unprovoked' seizure. *Ann Neurol* 1998;44:468.