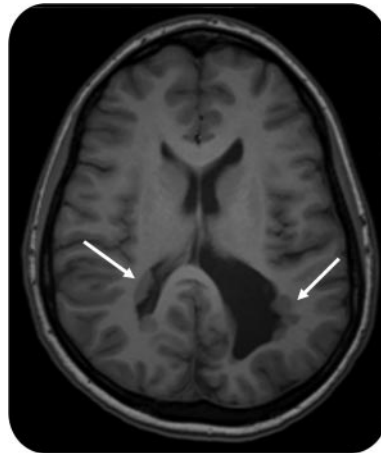


Peri-ictal restricted diffusion in heterotopic gray matter assessed by MRI

Figure 1 Subependymal heterotopia



T1-weighted imaging shows bilateral periventricular nodules, isointense to gray matter (arrows), and a dilated left occipital horn.

A 26-year-old woman with a history of epilepsy presented with an acute onset of aphasia and vertigo followed by headache and right periumbilical paresthesia. MRI was performed to rule out stroke and revealed subependymal heterotopia¹ (figure 1), which is associated with epilepsy. In addition, diffusion-weighted imaging (DWI) showed restricted diffusion in the left occipital cortex and the heterotopic nodules (figure 2). DWI changes completely resolved in 48-hour follow-up imaging.

Whereas the transient cortical and subcortical diffusion restriction is a known signal change in epilepsy,² this case presents novel peri-ictal restricted diffusion in heterotopic gray matter.

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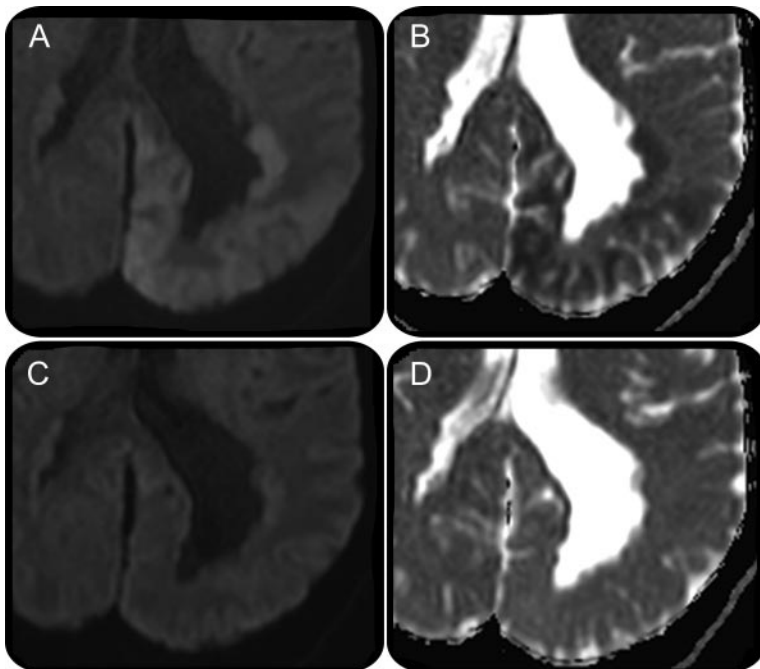
Author contributions: Study concept and design: U. Yilmaz, P. Papanagiotou. Analysis and interpretation of data: U. Yilmaz, P. Papanagiotou, C. Roth, J. Spiegel, S. Kalampokini, W. Reith. Drafting of the manuscript: U. Yilmaz, P. Papanagiotou. Critical revision of the manuscript for important intellectual content: C. Roth, J. Spiegel, S. Kalampokini, W. Reith. Acquisition of data: U. Yilmaz, J. Spiegel, S. Kalampokini. Study supervision: P. Papanagiotou, W. Reith.

The authors report no disclosures relevant to the manuscript. **Go to Neurology.org for full disclosures.**

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Figure 2 Peri-ictal diffusion restriction



Peri-ictal diffusion-weighted imaging (A) shows hyperintensity of the left heterotopic gray matter and the occipital cortex with corresponding decrease in apparent diffusion coefficient map (B). Resolution of signal changes in 48-hour follow-up imaging (C, D).

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Neurology 2012;79;1300

DOI 10.1212/WNL.0b013e31826aad0b

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