MRI Findings of Occipital Seizures in Non-Ketotic Hyperglycemia

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Picture 1.

Picture 2.

A 56-year-old man was admitted to our hospital with episodic visual hallucinations in the left visual field. On neurological examination, left hemianopia was found. Blood glu-

cose was 677 mg/dL, serum osmolality was 310.6 mOsmol/L, and urine ketone was negative. FLAIR and T2-weighted brain MRI demonstrated hyperintense lesions in the cortical

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gray matter of the right temporo-occipital lobes (Picture 1, arrows). Hypointense lesions in the subcortical white matter of the same regions were also shown on FLAIR, T2- and T2*-weighted images (Picture 1, arrowheads). Interictal electroencephalography (EEG) recorded spikes in the right temporo-occipital regions. He was diagnosed with occipital seizures associated with non-ketotic hyperglycemia. Intensive insulin therapy improved his clinical features, and the abnormal intense lesions on MRI disappeared (Picture 2). The EEGs findings also improved. Cortical hyperintense lesions on MRI can reveal vasogenic edema (1), and the subcortical hypointense lesions can be caused by transient free radical accumulation due to excitotoxic axonal damage dur-

ing seizures (2).

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