Epilepsia partialis continua induces transient brain edema

Epilepsia parcial contínua induz edema cerebral transitório

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A 52-year-old woman with a past history of a tumefactive demyelinating lesion five years ago with left hemiparesis presented with a 30-day history of uninterrupted clonic movements involving her left face and upper limb, compatible with epilepsia partialis continua. An MRI showed right hemispheric cortical swelling (Figure 1). She received phenytoin, valproate and phenobarbital with control of the epilepsia partialis continua and resolution of the MRI abnormalities (Figure 2).

The reason for cerebral edema in status epilepticus is unknown¹, but restricted cortical diffusion is consistent with cytotoxic edema by cellular energy failure²,³. It can be triggered by an imbalance between the energy supply and demand in neurons and it remains unclear why only certain patients have these abnormalities¹,³,⁴.

Figure 1. Brain MRI during epilepsia partialis continua. FLAIR (A) image: right hemispheric increased signal intensity and swelling at the cortical gray matter and subcortical white matter and mild midline shift. DWI (B) and ADC map (C): cortical hyperintensity and restricted diffusion. DWI: Diffusion weighted imaging; ADC: Apparent diffusion coefficient

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Figure 2. Brain MRI two weeks after resolution of the epilepsia partialis continua with antiepileptic drugs. FLAIR (A) image: previous residual aspect of tumefactive demyelinating lesion with hyperintensities in periventricular and subcortical white matter. DWI (B) and ADC map (C) without restricted diffusion. DWI: Diffusion weighted imaging; ADC: Apparent diffusion coefficient.

References