Benign epilepsy with centro-temporal spikes is typically not treated by antiepileptic drugs, but it leads to cognitive disfunctions. In this issue, Klinzing et al. demonstrate that closed-loop auditory stimulation delivered after paroxysmal spikes reduces the total number of paroxysmal spikes.
fast spindles are fully congruent with known thalamic mechanisms, several properties of slow spindles can be easily explained by intracortical processes. The fact that spindles in patients with BECTS are slower than in control subjects does not mean that spindles in these patients originate in the neocortex, but it means stronger neocortical control of spindles. Klinzing et al. suggest that the thalamocortical system is likely involved in the generation of paroxysmal spikes. Available data from different studies confirm such a likelihood, but possibly the accents should be different, and a better term would be that the cortico-thalamo-cortical network mediates paroxysmal spikes in BECTS patients. A clear generator of this pathological activity can be identified with intracranial recordings for which development of animal models could help.

There are at least three important developments that could span from the study by Klinzing et al. (1) As the authors acknowledged, a very small number of patients were tested; thus, a larger cohort of patients is needed to confirm that closed-loop auditory stimulation can reduce the number of paroxysmal spikes. (2) Is it only auditory stimulation that can efficiently reduce paroxysmal spikes? The postcentral gyrus is a part of cortex involved in BECTS generation and it is also the home of the primary somatosensory cortex. It might be possible that closed-loop somatosensory stimulation could produce the same effects on paroxysmal spike reduction. (3) It would be important to evaluate whether paroxysmal spike reduction achieved via closed-loop stimulation actually reduces cognitive deficits observed in BECTS patients.

In conclusion, the study by Klinzing et al. provides a new, non-pharmacological, and easily accessible approach to treat BECTS patients, a condition which is typically not treated.

DECLARATION OF INTERESTS

The author declares no competing interests.

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