Consistency of epileptogenic foci in patients with tuberous sclerosis

Jansen FE, Bourez-Swart M*, Van Huffelen AC*, Van Nieuwenhuizen O
Departments of Child Neurology and *Clinical Neurophysiology, University Medical Centre, Utrecht

Purpose. Tuberous sclerosis complex (TSC) is associated with epilepsy in 90% of the patients. In 50% of the patients seizures are medically intractable. One may be reluctant to perform surgery fearing the shifting of epileptogenic foci from one tuber to another during the course of the disease. In this study we address the consistency of focal interictal epileptiform EEG activity on the basis of retrospective patient data.
Methods. Twenty-one TSC patients with interictal epileptiform activity on more than three EEG recordings, during a minimum of three years and a ten years history of epilepsy were included. 109 EEGs were revised. In the EEGs the regions of interictal epileptiform activity were localized. We assessed each patient's clinical course by analysing the medical records.
Results. In eight patients one or two consistent regions of epileptiform activity was recorded during the period of retrospective analysis. In thirteen patients three or more independent regions of epileptiform activity were recorded. In the first group age at debute and FSIQ were significantly higher. Furthermore, seizure type at onset and during follow up was significantly more often complex partial. The consistent epileptiform activity was localised in the frontotemporal regions.
Conclusions. Among patients with TSC it is possible to select a group with one or two consistent regions of interictal epileptiform EEG activity. The detected region of interictal epileptiform activity is often accessible to surgery. Clinically, epilepsy surgery candidates can be recognised, on the basis of onset of epilepsy beyond the first year and mild or absent mental deficit.

F.E. Jansen, Dept of Child Neurology, UMC Utrecht, PO Box 85500, 3508 GA Utrecht,
e-mail f.e.jansen@neuro.azu.nl

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