**SEIZURE DISORDERS**

**Stereo-EEG in Tuberous Sclerosis Complex**

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A collaborative research team lead by an investigator from the Lyon Neuroscience Research Center and Lyon University Hospital and Lyon 1 University studied epileptogenicity of tuber and its surrounding cortex using stereoelectroencephalography (SEEG) in patients diagnosed with tuberous sclerosis complex (TSC) (genetic or clinical). A study cohort of eighteen patients (11 children) who underwent presurgical SEEG evaluation between 2004 and 2018 was identified from four French tertiary epilepsy centers. The electrodes were implanted bilaterally in 14 patients, and the total number of electrodes ranged from 8 to 16 per patient. The total number of tubers in each patient ranged from 3 to 30 [1].

Epileptogenicity Index (EI) [2] was used to analyze seizures after defining five anatomical regions of interest (ROI): dominant tuber (tuber with highest median EI), perituber cortex, secondary tuber (tuber with second highest median EI), nearby cortex (normal-appearing cortex in the same lobe as the dominant tuber), and distant cortex (normal appearing cortex in other lobes). The value of EI ranged from 0 to 1 (peak epileptogenicity). The epileptogenic zone (EZ) organization was categorized as either focal tuber (EZ limited to dominant tuber with median EI>0.3) or complex (all other patients).

The dominant tuber was the most epileptogenic (P < .001) of the five ROI. Seven patients with a focal tuber EZ organization had 80% Engel IA postsurgical outcome and the following 4 tuber characteristics: continuous interictal discharges (100%), fluid-attenuated inversion recovery (FLAIR) hypointense center, and stimulation-induced seizures, and center-to-rim EI gradient. A combination of the first three characteristics showed a 98% specificity for a focal tuber EZ organization. Six patients with a complex EZ organization showed 40% Engel IA outcome with nearby cortex (4 patients) and distant cortex (1) as the most epileptogenic region. The authors concluded that tubers with focal EZ organization are much like type II focal cortical dysplasia, and that identification of these tubers relate to EZ hypothesis generation and invasive EEG/resection strategies.

**Disclosures**
The authors have declared that no competing interests exist.

**References**

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