

Cognitive effects of interictal epileptiform EEG discharges. Simultaneous video-EEG recordings and cognitive testing in 188 children with epilepsy found that the association between frequent epileptiform activity and cognitive function, although less pronounced, is comparable to impairment of global cognitive function, central processing speed, and memory function that accompanies short nonconvulsive seizures. (Nicolai J et al. *Epilepsia* 2012 June;53(6):1051-1059). Transient cognitive impairment (TCI) is demonstrated in about 50% of patients who show epileptiform activity during testing. Whether TCI influences school performance is unclear and is not generally an indication for AED therapy. The EEG activation or suppression effect of cognitive tasks is a phenomenon to be recognized in the evaluation of TCI effects on learning. (Binnie CD. *Lancet Neurol* 2003;2:725-730).

MOVEMENT DISORDERS

GABA-ERGIC DYSFUNCTION IN TOURETTE SYNDROME

Researchers at the FDA, Silver Spring, MD; Department of Neurology, University of Pittsburgh Medical School, PA; National Institute of Mental Health, NIH, Bethesda, MD; and other centers used a PET study to assess the involvement of the GABA-ergic system in 11 adult Tourette syndrome patients compared to 11 healthy controls. Structural MRI scans provided an anatomical framework for the PET data analysis. Tourette patients had decreased binding of GABA receptors in the ventral striatum, globus pallidus, thalamus, amygdala and right insula. Increased binding of GABA receptors was found in the bilateral substantia nigra, left periaqueductal grey, right posterior cingulate cortex and bilateral cerebellum. These findings are consistent with the hypothesis that basal ganglia and thalamus circuits are disinhibited in Tourette syndrome. (Lerner A, Bagic A, Simmons JM, et al. Widespread abnormality of the gamma-aminobutyric acid-ergic system in Tourette syndrome. *Brain* 2012 June;135(6):1926-1936). (Response: Alicja Lerner, MD, PhD, FDA, 10903 New Hampshire Ave, Silver Spring, MD 20993. E-mail: alicja.lerner@hhs.gov).

COMMENT. The global functional disorganization of cortico-basal ganglia networks found in patients with TS agrees with the hypothesis of a functional immaturity of these circuits, contributing to a clinical heterogeneity of TS, including association with ADHD and OCD. Severity of OCD is correlated with functional abnormalities in associative and limbic networks, orbito-frontal and prefrontal dorsolateral cortices. (Worbe Y et al. Functional immaturity of cortico-basal ganglia networks in Gilles de la Tourette syndrome. *Brain* 2012 June;135(6):1937-1946).

Omega-3 Fatty Acids and TS. A double-blind, placebo-controlled, add-on trial of omega-3 FA in 33 children and adolescents with TS showed no significant reduction in frequency of tics, but significantly more subjects on omega-3 were benefited by a reduction in tic severity and related impairments. The rate of ADHD comorbidity was significantly lower in the omega-3 group than placebo. Mean end dose of omega-3 was 4074 mg/d and much higher than that generally advocated for ADHD patients (600 mg/d). (Gabbay V et al. *Pediatrics* 2012 June;129:e1493-e1500).