

## MOVEMENT DISORDERS

### **TOURETTE SYNDROME, MOTOR CORTEX EXCITABILITY AND COMORBIDITY**

Motor cortex excitability in 29 untreated adult Gilles de la Tourette syndrome (TS) patients was measured using transcranial magnetic stimulation in a study at the Institute of Neurology, London, UK, and University of Ulm, Germany. A group of comorbid TS and ADHD patients showed abnormalities of measures of motor cortex excitability, patients with uncomplicated TS had abnormal results in all measures except intracortical facilitation, and patients with comorbid TS and OCD had abnormal short-interval intracortical inhibition and thresholds but normal levels of intracortical facilitation and short latency afferent inhibition. TS with ADHD comorbidity is associated with more extensive changes in the excitability of motor cortex circuits than uncomplicated TS or TS+OCD. The phenotype of TS may be related to the extent of involvement of different neuronal circuits. (Orth M, Rothwell JC. Motor cortex excitability and comorbidity in Gilles de la Tourette syndrome. **J Neurol Neurosurg Psychiatry** Jan 2009;80:29-34). (Respond: Dr M Orth, Department of Neurology, University of Ulm, Germany. E-mail: [michael.orth@uni-ulm.de](mailto:michael.orth@uni-ulm.de)).

COMMENT. Transcranial magnetic stimulation (TMS) is a non-invasive method of measurement of motor cortex excitability while awake. TMS studies have demonstrated alterations of motor cortex excitability in patients with TS, uncomplicated and in those with ADHD or OCD comorbidity. Involvement of different neuronal circuits may be correlated with various subtypes of TS, alone or comorbid with ADHD or OCD.

### **BEHAVIORAL DISORDERS IN CHILDREN WITH TOURETTE SYNDROME**

The prevalence of comorbid neurobehavioral problems in 35 children and adolescents (31 [88%] boys; mean age 11.8 years) with Tourette syndrome (TS) was determined at a psychiatric clinic at Shiraz University of Medical Sciences, Hafez Hospital, Iran. Motor tics were blinking (54%), mouth (31%) and shoulder (31%) movements. Vocal tics were throat clearing and grunting. Coprolalia occurred in 9%. Comorbid disruptive behavior disorders were ADHD in 24 (68%); ODD (28%); and CD in 5.7%. TS+disruptive behaviors occurred in 71%, TS+anxiety disorders in 43% (OCD 26%), TS+mood disorders in 14%. TS patients without comorbidity were uncommon (2.9%), and less than previously reported. (Ghanizadeh A, Mosallaei S. Psychiatric disorders and behavioral problems in children and adolescents with Tourette syndrome. **Brain Dev** Jan 2009;31:15-19), (Respond: Dr Ahmad Ghanizadeh, Department of Psychiatry, Research Center for Psychiatry and Behavioral Sciences, Hafez Hospital, Shiraz, Iran. E-mail: [ghanizadeha@hotmail.com](mailto:ghanizadeha@hotmail.com)).

COMMENT. Almost all patients with TS have some behavioral comorbid disorder. ADHD is the most common comorbid disorder, followed by ODD and OCD. Mood disorders are uncommon.