

misdiagnosed as nightmares, and generally treated as a complex partial seizure of frontal lobe origin. (see *Progress in Pediatric Neurology* II, PNB Publ, 1994, pp 193-4). Attacks of PDC, unlike PKC, were not benefited by anticonvulsants. PKC is sometimes referred to as PKD, and is often associated with infantile convulsions and epilepsy.

PAROXYSMAL KINESIGENIC DYSKINESIA AND EPILEPSY

Clinical and linkage data in 11 families with paroxysmal kinesigenic dyskinesia (PKD), with or without infantile convulsions (IC), were studied at the University of Utah, Salt Lake City, and multiple international centers. These families of diverse ethnic background had 95 affected individuals, the majority having chromosome 16 as the major locus, with heterogeneity. Kinesigenic dyskinesia (PKD) occurred in 42, infantile convulsions (IC) in 37, and a combined phenotype in 16. Infantile convulsions were usually afebrile and developed between 3 and 18 months; they remitted by age 3 years without treatment. Episodes of PKD began at 6 to 23 years (average 11 years), and were triggered by sudden movement, stress, and anxiety; they were controlled by anticonvulsant drugs, and were less frequent after age 25 years. EEGs were generally normal. The PKD/IC syndrome spans the phenotypic spectrum between epilepsy and movement disorder. (Swoboda KJ, Soong B W, McKenna C et al. Paroxysmal kinesigenic dyskinesia and infantile convulsions. Clinical and linkage studies. *Neurology* July (2 of 2) 2000;55:224-230). (Reprints: Dr Kathryn J Swoboda, University of Utah School of Medicine, Department of Neurology, Room 3R210, 50 North Medical Drive, Salt Lake City, UT 84132).

COMMENT. In an editorial, Berkovic SF classifies the Paroxysmal kinesigenic dyskinesia with infantile convulsions as a "channelopathy." (Paroxysmal movement disorders and epilepsy. Links across the channel. *Neurology* July 2000;55:169-170). Other paroxysmal disorders implicating channelopathies and manifested by seizures and dyskinesias include febrile seizures (sodium channel mutations), benign familial neonatal convulsions (potassium channel mutations), and episodic ataxia type 2 (calcium channel mutations). Different mutations are responsible for the diverse phenotypes. With PKD/IC syndrome, a single mutation may cause age-dependent symptoms: convulsions in infancy and dyskinesia in adolescence.

Risperidone and withdrawal dyskinesia is reported in a 13-year-old boy with ADHD, conduct disorder, and psychotic features, treated with lithium, valproic acid, and risperidone. (Lore C. *J Am Acad Child Adolesc Psychiatry* August 2000;39:941). Two weeks after the risperidone was discontinued, a withdrawal dyskinesia manifested with mouth movements, neck twisting, and intermittent upward gaze. Although withdrawal dyskinesia may resolve within 6 weeks, the author raises concerns about the use of risperidone in ADHD children with ODD and CD, but without psychosis.

INTERNATIONAL PERSPECTIVE OF TOURETTE SYNDROME

The findings from a multisite, international database of 3500 individuals with Tourette syndrome (TS) from 22 countries are reported from the British Columbia Children's Hospital, Vancouver, Canada. Males outnumbered female patients, the average male:female ratio being 4.3:1. Mean age at onset of tics is 6.4 years, and mean age at diagnosis is 13 years. Comorbidities are reported in 88%, and the most common is ADHD with TS (60%). Other comorbid symptoms include OCD (27%), CD/ODD (15%), mood disorder (20%), LD (23%), and stuttering (8%).

Behavior problems, including anger control (37%), sleep difficulties (25%), self-injurious behavior (14%), and coprolalia (14%), are strongly correlated with comorbidity. (Freeman RD, Fast DK, Burd L, Kerbeshian J, Robertson MM, Sandor P. An international perspective on Tourette syndrome: selected findings from 3500 individuals in 22 countries. Dev Med Child Neurol July 2000;42:436-447). Respond: Roger D Freeman MD, Neuropsychiatry Clinic (C-4), British Columbia's Children's Hospital, Vancouver, BC, V6H 3V4, Canada).

COMMENT. A delay in diagnosis of tics and TS for 6 years was the rule in all sites sampled. The presence of comorbid symptoms such as ADHD should alert the clinician to the likelihood of associated behavior problems, especially anger control and sleep difficulties. Medication for tics had been prescribed in 60% of patients, but counseling and other therapeutic interventions could be indicated in those with associated behavior disorders.

SEIZURE DISORDERS

RISK OF MULTIPLE SEIZURE RECURRENCE

The risk of multiple recurrences after an initial seizure recurrence was assessed in a prospective study of 407 children, followed for a mean of 9.6 years at Montefiore Medical Center, The Albert Einstein College of Medicine, NY, and in private practices. Of the 407 with a first unprovoked seizure, 45% experienced a recurrence. At 1, 2, 5, and 10 years, the cumulative risk of a second seizure was 29%, 37%, 43%, and 46%, respectively. After 2 seizures, the risk of recurrence is 70% or higher, and after 3 seizures, the risk of further recurrence is 69%, 72%, and 81% at 1, 2, and 5 years, respectively. Children having a second seizure within 6 months of the first, and those with seizures of remote symptomatic etiology have an increased risk of additional recurrences, and are more likely to have 10 or more recurrences. An abnormal EEG and a seizure occurring during sleep were risk factors for the first seizure recurrence but not for further recurrences. Status epilepticus or multiple seizures at the first episode were not indicative of an increased risk of subsequent recurrences. Treatment after the second seizure is associated with a greater than 50% reduction in the risk of subsequent seizures, but only for the first 3 months. (Shinnar S, Berg AT, O'Dell C, Newstein D, Moshe SL, Hauser WA. Predictors of multiple seizures in a cohort of children prospectively followed from the time of their first unprovoked seizure. Ann Neurol August 2000;48:140-147). (Respond: Dr Shlomo Shinnar, Epilepsy Management Center, Montefiore Medical Center, 111 East 210th Street, Bronx, NY 10467).

COMMENT. The findings confirm our present understanding that a second seizure, or *one seizure recurrence*, is sufficient for a diagnosis of epilepsy, and the need to consider counseling and therapy. In this long-term follow-up study, 45% of children with a single unprovoked seizure experienced a recurrence. Factors associated with multiple recurrent seizures include a second seizure within 6 months of the first, and a remote symptomatic etiology. As emphasized by Duchowny M, in an editorial, the etiology supercedes most risk factors when considering seizure prognosis, therapy, and long-term outcome. (Seizure recurrence in childhood epilepsy: "The future ain't what it used to be." Ann Neurol Aug 2000;48:137-138). In a child with a single new-onset seizure of remote symptomatic etiology, or cryptogenic/idiopathic etiology and an epileptiform EEG, the risk of recurrence may be comparable to that after a second seizure. In these circumstances, therapy may be appropriate after a first seizure.