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SEIZURE DISORDERS

PATTERN-SENSITIVE EPILEPSY

The clinical and electroencephalographic (EEG) findings of 73 (43 female and 30 male) patients diagnosed with pattern-sensitive epilepsy between 1950 and 1999 were evaluated at the Mayo Clinic, Rochester, MN. The latest seizure and quality-of-life outcomes were determined by contacting patients and relatives by letter or telephone. Seizures, generally absence, myoclonic, or generalized tonic-tonic, began at a mean age of 12.8 years (range, 0.6-32.9 years). Paroxysmal epileptiform discharges in the EEG elicited by patterns were generalized in two-thirds of patients and restricted to posterior head regions in one-third. Patterns that elicited seizures included television in 30 (41%) patients), and environmental objects (eg. window screens, garments, tablecloths, and ceiling tiles) in 29 (40%). An associated photosensitivity was absent in 8 (11%) patients. Complete seizure remission occurred in 25 (45%) of 55 patients followed for >5 years, with a median age at remission of 24 years. Of 58 patients who responded to quality-of-life-related questions, more than two-thirds were not disabled by seizures, and educational achievement, occupational status and family life were unaffected. Pattern-sensitive epilepsy is a recognized subtype of the visually provoked reflex epilepsies. (Radhakrishnan K, St Louis EK, Johnson JA et al. Patt6ern-sensitive epilepsy: electroclinical characteristics, natural history, and delineation of the epileptic syndrome. **Epilepsia** January 2005;46:48-58). (Reprints: Dr DW Klass, Section of Electroencephalography, Mayo Clinic, 200 First Street SW, Rochester, MN 55905).

COMMENT. It is fitting that this comprehensive study of pattern-sensitive epilepsy is reported from the Mayo Clinic. The late Dr Reginald Bickford, who founded the electroencephalography laboratory at the Mayo Clinic, was the first to report visual pattern sensitivity in a child with seizures (Bickford RG et al. **Am J Dis Child** 1953;86:170-183).

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The patient, a 6-year-old boy, had absence attacks precipitated by gazing at window screens or patterns of vertical, but not horizontal, parallel black and white lines. He also was sensitive to intermittent photic stimulation. While photosensitive and pattern-sensitive epilepsy share common characteristics, subtle differences are noted. Pattern-sensitive patients without photosensitivity have a higher incidence of focal symptomatic epilepsies, neurologic abnormalities, and focal EEGs (Brinciotti M et al. **Epilepsia** 1994;35:842-849; **Ped Neur Briefs** Nov 1994). The EEG in pattern-sensitive children shows focal epileptiform discharges in occipital regions, whereas photosensitive patients have generalized polyspike-wave and spike-wave complexes. The Mayo Clinic authors also consider pattern-sensitive epilepsy to represent a distinct subtype of visually-induced reflex epilepsy, warranting routine testing in EEG recordings, and especially in patients with absence, myoclonic, or generalized tonic-clonic seizures. Whereas almost 50% of the patients with pattern-sensitive epilepsy in the Mayo Clinic study achieve complete seizure remission, a group of patients with typical absence seizures triggered by photosensitivity fail to remit, in a recent report from Istanbul, Turkey (Baykan B et al. **Epilepsia** Jan 2005;46:159-163).

CHROMOSOMAL ABNORMALTIES WITH EPILEPSY

The correlation between specific chromosome abnormalties and various epilepsies was investigated by a study of 76 patients' records obtained by questionnaires distributed to members of Kyoto Multi-institutional Study Group of Pediatric Neurology. Chromosome abnormalities included the following: Down syndrome in 19 patients, Angelman syndrome (8), Prader-Willi syndrome (4), 4p-syndrome (3), and 35 other chromosome syndromes with 1-2 patients each. The severity of mental retardation correlated with the severity of epilepsy. With the exception of Angelman syndrome which showed a relatively good epilepsy prognosis, patients with severe mental retardation had a poor seizure prognosis ($P<0.005$). The type of seizure disorder showed some correlation with the developmental syndrome: febrile seizures were more frequent in patients with Angelman and Prader-Willi syndromes than with other syndromes ($P<0.005$), and were often seen with 4p-syndrome (2/3); status epilepticus was also characteristic of 4p-syndrome; West syndrome and focal epilepsy were common in Down syndrome; and partial seizures and a good prognosis of epilepsy were present in Klinefelter syndrome ($n=2$). The EEG paroxysmal abnormalities in occipital regions and diffuse high voltage slow waves found in Angelman syndrome were characteristic and helpful in diagnosis. (Kumada T, Ito M, Miyajima T et al. Multi-institutional study on the correlation between chromosomal abnormalities and epilepsy. **Brain Dev** March 2005;27:127-134). (Respond: Dr Tomohiro Kumada, Department of Pediatrics, Kyoto University, 54 Shogoinkawaracho, Sakyoku kyoto, Kyoto 606-8507, Japan).

COMMENT. Febrile seizures are a common feature of chromosome syndromes. In this study, the incidence of febrile seizures was higher in Angelman syndrome (75%, 6/8) and Prader-Willi syndrome (100%, 4/4) than with other chromosome abnormalties (28%, 18/64) or in the general population (3-4%). The authors propose that the deleted region of chromosome 15q11-13 that is present in both Angelman and Prader-Willi syndromes may be a new locus for febrile seizures and epileptogenesis. The above article is one of a series on chromosomal aberrations and childhood epilepsies published in the same journal and