DEVELOPMENTAL DISORDERS

NEURAL TUBE DEFECTS AND CHROMOSOME DELETIONS

Patients with neural tube defects (NTDs) complicated by congenital heart defects, facial anomalies, thymic hypoplasia, cleft lip or palate, or hypocalcemia and a family history of NTDs and other anomalies were tested for 22q11 deletions at the Departments of Pediatrics and Molecular Genetics, Oregon Health Sciences University, Eugene, Oregon. Of 295 patients identified with NTDs, 22 had at least one more clinical anomaly and/or a positive family history. Fetal alcohol and valproate syndromes were excluded. Cytogenetic analysis and molecular testing on 16 revealed 22q11 deletions in 3 and normal results in 13. Deletion of 22q11 was an infrequent cause of NTDs. (Nickel RE, Magenis RE. Neural tube defects and deletions of 22q11. Am J Med Genet Dec 1996;66:25-27). (Reprints: Dr Robert E Nickel, 901 East 18th Avenue, Eugene, OR 97403).

COMMENT. Cytogenetic testing for the 22q11 deletion is recommended in infants with neural tube defects complicated by congenital heart defects, particularly conotruncal defect, and in those with a family history of the heart defect, velo-cardio-facial syndrome, or DiGeorge sequence.

PRESYMPTOMATIC DIAGNOSIS OF NEUROFIBROMATOSIS 2

The clinical spectrum of neurofibromatosis 2 (NF2) at the time of presymptomatic DNA diagnosis in at-risk first-degree relatives in five families were studied at the Cedars-Sinai Medical Center, UCLA School of Medicine, Los Angeles, and the Neurofibromatosis Institute, La Crescenta, CA. With molecular genetic analysis, 11 first-degree relatives were predicted to be at high risk, and 20 at low risk of carrying an NF2 mutation. Five mutation carriers, including a 31-year-old, had no clinical manifestations, while 4, including a 7-year-old, had vestibular schwannomas (VS), early-onset cataracts, or both. The identification of presymptomatic NF2 mutation carriers by DNA diagnosis permits improved genetic counselling and clinical management in at-risk subjects. The early detection of VS by gadolinium-enhanced MRI can improve surgical outcome. (Baser ME, Mautner VF, Ragge NK et al. Presymptomatic diagnosis of neurofibromatosis 2 using linked genetic markers, neuroimaging, and ocular examinations. Neurology Nov 1996;47:1269-1277). (Reprints: Dr Michael E Blaser, 11746 Bellagio Rd, #308, Los Angeles, CA 90049 or Dr Stefan-M Pulst, Division of Neurology, Rm 8920 South Tower, Cedars-Sinai Medical Center, 8700 Beverly Blvd, Los Angeles, CA 90048).

COMMENT. In NF2 mutation carriers, DNA testing may lead to early diagnosis, and optimal treatment and counselling. However, ethical factors must be considered in testing children because of health insurance and other discriminating issues.

HEADACHE DISORDERS

JUVENILE IDIOPATHIC STABBING HEADACHE

A series of 83 juvenile patients with idiopathic stabbing headache, 3.3% of all juvenile patients referred because of recurrent headache, is reported from the Paediatric Neurology Services of the University of Ferrara and the University of Padua, Italy. Mean age at onset was 7 +/-3 years, and sexes were equally affected. The pain lasted a fraction of a second to a few minutes. The

frequency was more than once a week in 52%, once a week in 21%, and once a month in 27%. Intensity was severe in 30%, and mild in 40%. Localization was frontal in 69% and occipital in 23%; bilateral in 48% and alternating in 22%. Headache associated symptoms in 47% included photophobia (15%), nausea (7%), and vertigo (8%). A psychogenic precipitant was recognized in 22%. A history of periodic syndrome, mainly cyclic vomiting and recurrent abdominal pain, preceded the onset of headache illness in 47%. Family history of migraine was present in 58%. Only 14% of patients had other types of headache in addition; 10% had migraine and 4% tension headache. Neurologic exam, imaging in 32 patients, and EEG in 67 were normal. At 1 to 5 year follow-up, 70% were free of symptoms. (Soriani S, Battistella PA, Arnaldi C et al. Juvenile idiopathic stabbing headache. Headache Oct 1996;36:565-567). (Respond: Dr S Soriani, Paediatric Institute, Ferrara Univ, via Savonarola 9, 44100 Ferrara, Italy).

COMMENT. A small group of juvenile headache patients with characteristically very brief attacks of stabbing pain, with onset around 7 years, and spontaneous remission usually within 1 to 5 years, may deserve greater recognition as a childhood headache syndrome with a relatively favorable prognosis. A previous report cited by the authors found a 25% incidence of EEG abnormalities among patients with this syndrome. (Kramer JW et al. The value of the EEG in children with chronic headache. Brain Dev 1994;16:304-308). Others have shown a high incidence of EEG abnormalities in migraine patients and a beneficial response to the anticonvulsant, phenytoin. (Millichap JG. Child's Brain 1978;4:95-105). The use of valproate in headache patients is reviewed in the following article.

DIVALPROEX SODIUM IN HEADACHE

An approach to treating migraine with the anticonvulsant, divalproex sodium, is reviewed from the Comprehensive Headache Center, Germantown Hospital, Philadelphia, PA. Four double-blind, placebo-controlled studies have confirmed the efficacy of valproate in treatment of migraine. The frequency of attacks as well as the duration and intensity were reduced. The most frequent adverse effects included nausea, asthenia, dyspepsia, dizziness, somnolence, and diarrhea. The use of valproate for headache prevention in children under 10 years should be avoided, except in exceptional cases. (Silberstein SD. Divalproex sodium in headache: literature review and clinical guidelines. Headache Oct 1996;36:547-555). (Respond: Dr Stephen D Silberstein, Germantown Hospital, One Penn Boulevard, Philadelphia, PA 19144).

COMMENT. The occurrence of liver toxicity in children treated with valproate, between 1:500 to 1:9000, prompts caution since the reaction may be fatal. Attention to possible dietary factors in the cause of migraine, and the initiation of less toxic medications or alternative treatments should be investigated thoroughly before resorting to valproate therapy.

The acute treatment of migraine with Rizatriptan vs Sumatriptan has been studied in 10 US and 4 Dutch investigator centers, involving 449 patients, and is reported from the Department of Neurology, Leiden University Hospital, the Netherlands. (Visser WH, Ferrari MD et al. Arch Neurol Nov 1996;53:1132-1137). The antimigraine effect of 10 and 20 mg rizatriptan was superior to placebo, and equal to 100 mg sumatriptan succinate; 40 mg rizatriptan was superior to 100 mg sumatriptan succinate in efficacy but caused frequent side effects.