

MIGRAINE PROPHYLAXIS WITH DIVALPROEX

The effectiveness and safety of divalproex sodium administered daily in migraine prophylaxis were evaluated in 23 children, ages 7 to 17 years (mean, 12.4 yrs), at Ohio State University College of Medicine, Children's Hospital, Columbus, OH. Dosage ranged from 250-1125 mg/day (3.1 to 32.9 mg/kg/day). Valproate serum levels varied from 18 to 82.3 mcg/ml. Comorbid psychiatric disorders occurred in 7 patients (2 with bipolar disorder, 1 with depression, 2 with ADHD, 1 with ADD, and 1 with ODD). Six patients had epilepsy, and seizures were well controlled by divalproex. A greater than 50% reduction in migraine attacks was obtained in 15 (65%) patients, and 6 of these were headache free. A significant response occurred in patients with migraine alone or comorbid epilepsy. In those with comorbid psychiatric and behavior disorders headaches were not improved. Patients with comorbid epilepsy tended to require higher doses of divalproex (13 mg/kg/day) than those with psychiatric disorders (11 mg/kg/day) or those with migraine alone (8.5 mg/kg/day). The average daily dose for children who responded (11.6 mg/kg/day) was not significantly different from that taken by nonresponders (11.9 mg/kg/day). Side effects requiring withdrawal of divalproex occurred in 4 patients and included weight gain, lethargy, anorexia, and alopecia. None had significant hematological or hepatic dysfunction requiring drug termination. (Pakalnis A, Greenberg G, Drake ME Jr, Paolicchi J. Pediatric migraine prophylaxis with divalproex. J Child Neurol Oct 2001;16:731-734). (Respond: Dr Ann Pakalnis, Section of Neurology, Children's Hospital, 700 Children's Drive, Columbus, OH 43205).

COMMENT. Divalproex is effective in migraine prophylaxis in children with headache alone or with comorbid epilepsy. Migraine in children with comorbid behavioral disorders does not respond to divalproex. Previous double-blind, placebo-controlled studies have confirmed the efficacy of divalproex sodium in treatment of migraine, as reviewed by Siberstein SD (Headache 1996;36:547-555), but valproate is generally not recommended for migraine prevention in children under 10 years of age (see Progress in Pediatric Neurology III, PNB Publ, 1997;pp190-191).

SEIZURE DISORDERS

VALPROATE/LAMOTRIGINE AND GROWTH RETARDATION

Growth and bone metabolism were evaluated in 27 boys and 26 girls, aged 3 to 17 years (mean 9.2 yrs), with epilepsy treated with valproate (VPA) and/or lamotrigine (LTG) for >2 years, in a study at McMaster University and Children's Hospital, Hamilton, Ontario, Canada. Height was below the 10th percentile in 23 (43.4%) of the patients, and bone mineral density (BMD) was reduced in 24%. When patients were divided according to daily activity, the inactive group had significantly lower scores for height percentile, BMD, and biochemical indices for bone metabolism, when compared with the active group. The score for total body BMD was correlated with the daily activity score. Height percentiles were significantly lower in children treated with VPA/LTG combination therapy compared to VPA-alone or LTG-alone. (Guo C-Y, Ronen GM, Atkinson SA. Long-term valproate and lamotrigine treatment may be a marker for reduced growth and bone mass in children with epilepsy. Epilepsia Sept 2001;42:141-1147). (Reprints: Dr Stephanie Atkinson, Department of Pediatrics, McMaster University Medical Center HSC-3V42, 1200 Main Street West, Hamilton, Ontario, L8N 3Z5, Canada).