predicting persistence of CDH into young adulthood include a history of migraine, early onset, longer duration than 2 years, and medication overuse. Of interest, only 5 (5%) subjects in this study used preventive agents, and neurology consultation was obtained by only 4%. Only 30% subjects used painkillers, the majority over-the-counter medications.

In an Editorial (**Neurology** 2009;73:412-413), Mack KJ and Hershey AD at the Mayo Clinic emphasize the variability of symptoms of CDH between patients and in an individual. CDH presents as severe intermittent migraine attacks, intermittent low severity headaches, continuous headache, or as a combination of these headache types. CDH affects 1 – 2% of middle-school children. A family history of migraine is common. Most patients are headache-free within 1 to 2 years. A small proportion has a continuing problem, usually an episodic migraine.

TOPIRAMATE IN PEDIATRIC MIGRAINE

Efficacy and tolerability of topiramate in the treatment of pediatric migraine is studied by retrospective analysis of records of 37 children treated at St Christopher's Hospital for Children, Philadelphia, PA. The mean age was 14 years; the range, 7.3-20.5 years. The majority (30 [81%]) had migraine without aura, 4 (11%) had migraine with aura, and the remaining 3 had abdominal, ophthalmoplegic, and catamenial migraine in one each. Mean follow-up was 12 +/- 5 months. The mean dose of topiramate was 1.7 +/- 1 mg/kg/day (range, 0.5-5.5 mg/kg/day), or 50-200 mg/day. Headache frequency per month was 15 +/- 7 before treatment and 3 +/- 3.4 after treatment. Response was excellent or good, with >50% migraine reduction, in 28 (76%) patients. Adverse effects occurred in 10 (27%) patients; 5 had cognitive deficits, 3 drowsiness, 1 paresthesias, and 1 anhidrosis. No patient had significant weight loss. Side effects were directly related to dosage, and occurred especially in patients taking doses >2 mg/kg/day (mean toxic dose 2.8 +/- 1.5 mg/kg/day). The mean dose not associated with adverse events was 1.27 +/- 0.7 mg/kg/day. Seven (19%) patients discontinued treatment because of side effects, 5 (14%) with cognitive issues. The authors conclude that topiramate is an effective, safe prophylactic therapy for pediatric migraine. The acceptable risk/benefit maintenance dose is <2 mg/kg/day. (Cruz MJ, Valencia I, Legido A, et al. Efficacy and tolerability of topiramate in pediatric migraine. **Pediatr Neurol** Sept 2009;41:167-170). (Respond: Dr Harold G Marks, Section of Neurology, St Christopher's Hospital for Children, Erie Avenue at Front Street, Philadelphia, PA 19134. E-mail: Harold.marks@drexelmed.edu).

COMMENT. In this retrospective, uncontrolled study, topiramate at one-year follow-up appeared to be an effective prophylactic therapy for pediatric migraine. Cognitive deficit was a significant adverse event, however, leading to withdrawal of therapy in 14% patients. Since headache disorders in children and adolescents tend to resolve spontaneously in a large proportion of patients, as shown in the previous study (Wang S-J et al, 2009), double-blind, placebo-controlled studies of migraine prophylaxis are essential.

Other anticonvulsants, including phenytoin and valproate, are effective in the prophylaxis of migraine, but the side-effects tend to outweigh the benefits. In an early study of the EEG and response to phenytoin in 30 children with migraine, 77% had headaches controlled (Millichap JG. **Child's Brain** 1978;4:95-104). Response to phenytoin was not

correlated with an abnormal EEG. In 13 patients with abnormal and 17 with normal EEGs, the beneficial response rates were 61% and 88%, respectively. Epileptiform EEGs were found in 18% of a total 100 consecutive children with recurrent headache, and with the same frequency in those with migraine. Kramer U, Harel S and associates found an 11% incidence of epileptiform EEGs in children with migraine or tension headaches; the incidence was 26% and significantly higher in children with chronic "very brief" headaches (**Brain Dev** 1994;16:304-308).

SEIZURE DISORDERS

TOPIRAMATE MONOTHERAPY IN EPILEPSY

The dosing, effectiveness, patient characteristics predictive of effectiveness, and safety of topiramate monotherapy in treatment of epilepsy were evaluated in a 6-month, multicenter, open-label study at UCLA School of Medicine, Mattel Children's Hospital, Los Angeles; and University of Miami School of Medicine, FL. Of 244 patients meeting requirements for evaluation (>12 weeks of treatment and stabilized topiramate dose during final 28 days), 213 were taking topiramate monotherapy at end of trial. The mean stabilized daily dose of topiramate over the last 28 days of treatment (primary endpoint) was 191 mg in patients with 1-3 seizures (low seizure frequency, n=147) and 239 mg in those with >3 seizures (high seizure frequency, n=66) ($P<0.003$). Patients with low seizure frequency reached a stable topiramate dose after a median of 36 days, compared with 53 days for patients in the high-seizure-frequency group. Baseline seizure frequency and lifetime seizure count were significant ($P<0.05$) predictors of the required stabilized dosage. Treatment-emergent adverse events (TEAEs) that occurred with cumulative incidence rates >10% in either seizure frequency group included paresthesia, fatigue, anorexia, dizziness, somnolence, headache, and hypoesthesia. Most adverse events were considered mild to moderate, 5.1% were serious, and 18.2% of patients discontinued therapy because of a TEAE (16.6% of the low-seizure-frequency, lower dose group compared with 21.4% in the high-seizure-frequency higher dose group). (Sankar R, Ramsay E, McKay A, Hulihan J, Wiegand, CAPSS-311 study group. **Epilepsy Behav** Aug 2009;15:506-512). (Respond: Dr Raman Sankar, David Geffen School of Medicine at UCLA, Mattel Children's Hospital, PO Box 951752, Los Angeles, CA 90095. E-mail: RSankar@ucla.edu).

COMMENT. Lower topiramate monotherapy doses (200 mg/kg day in 2 divided doses, am and pm) are adequate for patients with low baseline seizure frequency, and seizure control is associated with a lower incidence of adverse effects.

VALPROIC ACID AND SLEEP DURATION IN CHILDREN WITH EPILEPSY

Sleep duration and behavior were assessed in 46 children (age range 1.7-17.4 years) before and after tapering valproic acid (VPA) administered for more than 6 months for epilepsy, in a study at University Children's Hospital, Zurich, Switzerland. Actigraphy data obtained for 7 consecutive days and nights showed that after termination of VPA 33 children