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HEADACHE DISORDERS

OUTCOME OF CHRONIC DAILY HEADACHE IN ADOLESCENTS

A community-based sample of 122 adolescents aged 12-14 years with chronic daily headache (CDH) was established in 2000 at University centers in Taiwan by a survey of 7,900 students in 5 selected public middle schools. CDH was defined as >15 headache days/month, average >4 hours/day for >3 months. At short-term 1 and 2-year follow-up, CDH persisted in 40% subjects in 2001 (average monthly headache frequency of 11.0+/-9.7 days), and in 25% subjects in 2002 (7.7+/-6.5 days). At long-term 8-year follow-up, the headache profile for the past year was determined by the Migraine Disability Assessment (MIDAS) questionnaire. Outcome measures were headache frequency, MIDAS score, and presence of CDH in 2008. When re-interviewed by physicians via telephone, of a total of 103 subjects who completed the study, 26 were male and 77 were female, mean age 21.6+/-0.9 years. Moderate or severe headache disability (MIDAS >11) persisted in 28 (27.2%) subjects. Of 12 (12%) who met CDH criteria in 2008, 10 (83%) had chronic migraine, the most common subtype; 2 (2%) overused medication. Migraine diagnosed at baseline predicted poorer outcome after 8 years follow-up. CDH onset <13 years of age, duration >2 years, and medication overuse were predictive of either higher headache frequencies or CDH in 2008. (Wang S-J, Fuh J-L, Lu S-R. Chronic daily headache in adolescents: An 8-year follow-up study. *Neurology* August 11, 2009;73:416-422). (Respond: Dr Shuu-Jiun Wang, The Neurological Institute, Taipei Veterans General Hospital, Taipei, 112, Taiwan. E-mail: sjwang@vghtpe.gov.tw).

COMMENT. Chronic daily headache in adolescents resolves in 75% subjects at 2-year follow-up, but the 25% with persistent CDH still have a headache disability at 8-year follow-up and 12% have CDH, the majority diagnosed with chronic migraine. Factors

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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