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MIGRAINE HEADACHES

MIGRAINE PREVALENCE AND USE OF PREVENTIVE THERAPY

The epidemiology of migraine in the United States, and the patterns of migraine treatment in the population were assessed and contrasted with current treatment recommendations in a study at Albert Einstein College of Medicine and Montefiore Headache Center, Bronx, NY; The New England Center for Headache, Stamford, CT; Diamond Headache Center, Chicago, IL; Vedanta Research, Chapel Hill, NC; and Geisinger Clinic, Danville, PA. Responses to a headache questionnaire were obtained in 162,576 household members aged 12 years or older with a history of severe headache. Response rates were 65% for the total screened population; 62% in men, and 64% among women. Response rates were higher in white than in black individuals and in those older than 50 years. ICHD-2 criteria for migraine were met by 18,968 individuals; the adjusted 1-year period prevalence estimate was 11.7% (5.6% in men and 17.1% in women). Prevalence peaked in middle life and was lower in adolescents and those older than age 60 years. In adolescents aged 12-17 years, prevalence rates were 4.9% in males and 7.3% in females. The majority of migraineurs (62.7%) had 1 to 4 headache days per month, and 25.3% had missed at least 1 day of school/work in a 3-month period, due to headache. Most (63.7%) were classified as MIDAS (migraine disability assessment) grade 1 (no or little migraine-related disability); 22% had moderate or severe disability levels (MIDAS grades 3 or 4). Based on a headache panel of expert recommendations and degree of impairment, 25.7% migraineurs should have been offered preventive treatment, and in 13.1%, treatment should have been considered. In this survey, only 12.4% reported current use of daily preventive medication. Of 43.3% who had never used preventive treatment, one third (32.4%) met expert guidelines for offering it (19.3%) or considering it (13.1%). The epidemiologic profile of migraine in the past 15 years has not changed. One in 4 migraineurs should be treated but many do not receive it. (Lipton

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RB, Bigal ME, Diamond M et al; on behalf of the AMPP Advisory Group. Migraine prevalence, disease burden, and the need for preventive therapy. **Neurology** Jan 30, 2007;68:343-349). (Reprints: Dr Richard B Lipton, The Albert Einstein College of Medicine, 1300 Morris Park Ave, Bronx, NY, 10461).

COMMENT. Criteria for preventive treatment recommended as a benchmark by an expert panel are based on the headache frequency and degree of impairment. If headaches occur more than 2 days per month and result in severe impairment, or more than 3 days with some impairment, treatment should be offered. The authors stress, however, that in practice, the decision to treat is dependent on several factors. The study shows that migraine preventive therapy is underutilized. Whereas 39% of patients meet criteria for offering or considering preventive medication, only 12% of those responding to this survey currently receive it.

Lack of proven efficacy reported by a panel of experts is one plausible reason for the under use of preventive medications in migraine. Of 12 agents reviewed by Committees of the Child Neurology Society and AAN, only one, the calcium channel blocker, flunarizine, which is unavailable in the US, has shown significant benefit in double-blind, placebo-controlled, crossover trial. Trials of antiepileptic medications, antidepressants, antihistamines, and antihypertensive agents have provided insufficient data, conflicting results, or have failed to demonstrate any effect (Lewis D et al. **Neurology** 2004;63:2215-2224). Perhaps the criteria employed by this panel of neurologists were too stringent. A more promising assessment of the effectiveness of propranolol, amitriptyline, and antiepileptic medications is provided by some reviewers (Modi S, Lowder DM. **Am Fam Physician** 2006;73:72-78).

Genetic spectrum of familial hemiplegic migraine in a Danish population (Thomsen LL et al. **Brain** February 2007;130:346-356). A total of 147 FHM patients from 44 different families were identified. Linkage analysis of 43 families shows clear linkage to the FHM locus (FHM1) on chromosome 19, supportive linkage to the FHM2 locus, and no linkage to the FHM3 locus. Only 6 (14%) of 42 FHM families have FHM mutations in the CACNA1A or ATP1A2 gene. None has mutation in the SCN1A gene. FHM is generally caused by mutations in genes other than the CACNA1A, ATP1A2 and SCN1A genes. In most large families, FHM has an autosomal dominant inheritance with perhaps more locus heterogeneity than described previously.

COENZYME Q10 DEFICIENCY AND MIGRAINE RESPONSE TO SUPPLEMENTATION

The prevalence of coenzyme Q10 (CoQ10) deficiency and effectiveness of CoQ10 supplements in treatment of migraine were assessed in a study at the Cincinnati Children's Hospital, OH. Total CoQ10 serum levels measured in 1550 migraine patients, age 13.3 +/- 3.5 years (range 3-22 years), was 0.60 +/- 0.20 mcg/mL (range 0.21-1.77 mcg/mL; 33% were below the reference range of 0.5-1.5 mcg/mL. Patients with low CoQ10 levels (below 0.7 mcg/mL) received supplements of 1 to 3 mg/kg per day of CoQ10 in liquid gel capsule form. In 250 patients seen at follow-up (mean, 97 days), CoQ10 levels had increased to 1.20 +/- 0.59 mcg/mL ($P < 0.0001$), and headache frequency improved from 19.2 +/- 9.8 days per