2004;43:191-298). (Respond: Dr Konrad, Department of Child and Adolescent Psychiatry, University Hospital Aachen, Neuenhofer Weg 21, D-52074 Aachen, Germany).

COMMENT. Multiple indices of efficacy should be monitored during treatment of ADHD, and the dosage of MPH selected according to the targeted area, inattention or hyperactivity-impulsivity. The clinical practice of determining response to stimulant therapy from parent or teacher rating may not be sufficient, and measures of several components of attention (sustained, focused, divided, stop-signal paradigm) should be considered when practical and available.

Antihistamine side-effects in children with allergic rhinitis. Antihistamines are frequently taken by children with ADHD and are sometimes considered to aggravate the symptoms. Cetrizine 10 mg, a second-generation antihistamine, increased P300 latency and had a sedative effect without a significant change in subjective somnolence, as measured by a visual analog scale. (Ng KH et al. **Pediatrics** February 2004;113:e116-e121). Repeated dosing may be found to adversely affect attention, and antihistamines should be considered a potential risk factor for impaired learning.

HEADACHE DISORDERS

ADVANCES IN MIGRAINE MECHANISMS AND TREATMENT

Migraine mechanisms are discussed in relation to familial hemiplegic migraine (FHM) genotypes by investigators from the Massachusetts General Hospital, Boston, and Universities in Ankara, Turkey. FHM, a dominantly inherited disease, is characterized by sustained attacks of visual, somatosensory, and aphasic auras followed by motor weakness or paralysis. FHM type 1 mutation exhibits cerebellar signs, but otherwise types 1 and 2 FHM cannot be easily distinguished phenotypically. Cortical spreading depression (CSD) causes migraine aura, and glutamate triggers CSD. FHM mutations render the brain more susceptible to prolonged CSD by excessive synaptic glutamate release (type 1) or decreased removal of glutamate and K from the synaptic cleft (type 2). (Moskowitz MA, Bolay H, Dalkara T. Deciphering migraine mechanisms: Clues from familial hemiplegic migraine phenotypes. **Ann Neurol** February 2004;55:276-280). (Respond: Michael A Moskowitz MD, Neuroscience Center, Department of Radiology and Neurology, Massachusetts General Hospital, Harvard Medical School, 149 13th Street, Room 6403, Charlestown, MA 02129).

COMMENT. Migraine pathogenesis and possible mechanisms of action of preventive therapies are reviewed by Welch KMA. (**Neurology** Oct 2003;61(Suppl 4):S2-S8). A cerebral cortical origin of migraine aura, cortical hyperexcitability and CSD, and the trigeminovascular system and its central projections are involved in the migraine attack. Progressive damage to the periaqueductal gray matter (PAG) by iron deposition may explain change in phenotypic expression and why episodic migraine becomes chronic over time in some patients. Antimigraine mechanisms include Na channel blockade (amitryptyline), intracellular Ca modulation (gabapentin), blockade of NMDA receptors (magnesium), aminergic-mediated modulation (propranolol), GABA inhibition potentiation (topiramate), and GABA-mediated inhibition of cell excitation (valproate).