

probably effective for acute treatment of migraine in children. Sumatriptan nasal spray was effective and was recommended for use in adolescents. Except for the calcium channel blocker, flunarizine, which is unavailable in the United States, trials of medications in the prophylactic management of migraine in children are inconclusive. These include anticonvulsants, antidepressants, antihistamines, and antihypertensive agents.

**Medication-overuse headache.** The overuse of analgesic medications is stressed as a factor in the development of rebound and chronic daily headaches (CDH), and the withdrawal of all headache medications is recommended in their management (Wiendels NJ et al. *Headache* 2005;45:678-683; *Ped Neur Briefs* July 2005;19:56). Used in moderation, non-steroidal anti-inflammatory analgesics are relatively safe and effective; when taken 15 days or more per month for 3 months or longer, they are likely to induce “medication overuse headache (MOH)” (Limmroth V, Katsarava Z. *Curr Opin Neurol* 2004;17:301-306). In Norway, the prevalence of CDH in the general population is 2 – 4%, and MOH accounts for one third of these cases; and 10% of the population is reported to take analgesics on a daily basis (Zwart JA et al. *Neurology* 2003;61:160-164). MOH is not only a problem of adults; it also occurs in children, even as young as 6 years (Hering-Hanit R et al. *J Child Neurol* 2001;16:448-449). MOH can result from overuse of any of the anti-migraine medications, including analgesics, triptans, ergots and medications containing barbiturates, tranquilizers, codeine and caffeine. A more general understanding of the risks of analgesic overuse should lead to a greater reliance on the recognition and avoidance of migraine triggers (Millichap JG, Yee MM. *Pediatr Neurol* 2003;28:9-15), and the support of controlled studies of prophylactic medications in childhood migraineurs.

A comparative multicenter study in adults treated at the onset of acute migraine found that a combination of acetaminophen, aspirin, and caffeine was significantly more effective than oral sumatriptan (Goldstein J et al. *Headache* Sept 2005;45:973-982). A further multicenter prospective study in adults found that a combination of naproxen sodium and sumatriptan in treatment of acute migraine was superior to therapy with either agent alone (Smith TR et al. *Headache* Sept 2005;45:983-991).

## SEIZURE DISORDERS

### **SERUM PROLACTIN IN DIAGNOSIS OF EPILEPTIC SEIZURES**

The results of studies in databases and references concerning serum prolactin levels (PRL) in patients with suspected seizures were rated for quality and analyzed by members of the Therapeutics Subcommittee of the American Academy of Neurology. Eight prospective, controlled studies showed that an elevated PRL, measured at 10 to 20 minutes after a suspected event, was highly predictive of generalized tonic-clonic (GTCS) or complex partial seizures (CPS), and differentiated these epileptic from psychogenic nonepileptic seizures in adults and older children. Most studies used a PRL of at least twice baseline as abnormal (upper limits of normal in most laboratories was 18 to 23 ng/mL). Sensitivity was 60% for GTCS, and 46% for CPS, while specificity was 96% for both seizure types. Two studies showed elevated PRL levels after tilt-test-induced syncope, and PRL did not distinguish epileptic seizures from syncope. PRL data obtained after simple partial seizures, status epilepticus, repetitive seizures, and neonatal seizures were inconclusive. (Chen DK, So YT, Fisher RS. Use of serum prolactin in diagnosing epileptic seizures. Report of the

Therapeutics and Technology Assessment Subcommittee of the American Academy of Neurology. **Neurology** September (1 of 2) 2005;65:668-675). (Reprints: American Academy of Neurology, 1080 Montreal Ave, St Paul, MN 55116).

**COMMENT.** An elevated serum PRL is specific for GTCS and CPS, and may be used to differentiate these epileptic from psychogenic nonepileptic seizures. A positive test may be useful as a substitute for video-EEG monitoring when this is unavailable. The test has a low sensitivity, and a negative result cannot be considered diagnostic of a psychogenic seizure. In addition to epileptic seizures, other events, including syncope, pregnancy, hypothyroidism, and various drugs may be associated with elevated PRL. PRL sampling should be obtained within 10 and 20 minutes after a suspected seizure, and a return to a baseline level is reached after an interval of 6 hours. Further studies will be necessary to establish the value of the test in young children and in neonates.

## **NOVEL GENETIC LOCUS FOR GENERALIZED TONIC CLONIC EPILEPSY WITHIN THE JUVENILE MYOCLONIC EPILEPSY SYNDROME**

A genome-wide scan of a large family with juvenile myoclonic epilepsy (JME), seen at the All India Institute of Medical Sciences, New Delhi, was conducted to test an hypothesis that 2 loci, one predisposing to generalized tonic clonic seizures (GTCS) and a second to myoclonic seizures (MS), would be present within the JME syndrome. A new locus for GTCS was identified at 10q25-q26, and analyses of this locus performed in 10 additional JME families showed evidence for linkage in 4. The findings show that this novel locus confers susceptibility to GTCS within the syndrome of JME. (Puranam RS, Jain S, Kleindienst AM et al. A locus for generalized tonic-clonic seizure susceptibility maps to chromosome 10q25-q26. **Ann Neurol** September 2005;58:449-458). (Respond: Dr James O McNamara, Department of Neurobiology, 401 Bryan Research Building, Research Drive, Box 3676, Duke University Medical Center, Durham, NC 27710).

**COMMENT.** These findings show that a locus on chromosome 10q25-q26 confers susceptibility to GTCS within the genetic syndrome of juvenile myoclonic epilepsy. In support of the theory of two loci, one for GTCS and another for MS, within the JME syndrome is the clinical pattern of different ages of onset for these seizures. The syndrome commonly presents with absence seizures between 5 and 16 years, myoclonic jerks follow about 4 years later, usually around age 15 years, and GTCS are the last to appear, and mainly on awakening (Grunewald RA et al. **Arch Neurol** 1993;50:594-598; **Ped Neur Briefs** June 1993).

## **EXPERT CONSENSUS ON PHOTOSENSITIVE EPILEPSIES**

The literature and data on photic- and pattern-induced seizures were reviewed and a consensus was developed of risk factors for visually evoked seizures, at a workshop of the Epilepsy Foundation of America, in Alexandria, VA, August 2004. Photosensitive individuals are at risk of seizures from flickering or intermittent images and certain patterns