

thiamine transporter-2 deficiency. (Tabarki B, Al-Sheikh F, Al-Shahwan S, Zuccoli G. Bilateral external ophthalmoplegia in biotin-responsive basal ganglia disease. **J Pediatr** 2013 Jun;162(6):1291-2). (Response: Dr Saad Al-Shahwan, Prince Sultan Military Medical City, Riyadh, Saudi Arabia).

COMMENT. The authors propose that biotin-responsive basal ganglia disease be considered in a case of unexplained acute dystonia, external ophthalmoplegia, confusion and encephalopathy.

## **HEADACHE DISORDERS**

### **DIAGNOSTIC CRITERIA FOR VESTIBULAR MIGRAINE**

Investigators at the University of Pittsburgh, PA, review the latest clinical diagnostic criteria, pathophysiology, and treatment of vestibular migraine. Diagnosis requires all four of the following criteria:

- At least 5 episodes with vestibular symptoms lasting between 5min and 72h;
- Migraine with or without aura, present or previous history;
- One or more migraine features with at least 50% vestibular episodes;
- Not explained by another vestibular disorder.

Physical examination is generally normal between episodes. During episodes, nystagmus suggests a central or peripheral vestibular abnormality. Non-paroxysmal positional nystagmus is especially common. Vestibular migraine has a strong female preponderance, up to 5 to 1. Triggers are the same as those for migraine headache, including menstruation, sleep disorder, stress, physical exertion, dehydration, and food and drinks. Related disorders include Meniere's disease, benign paroxysmal positional vertigo, and anxiety. Treatment includes removal of triggers and pharmacotherapy, similar to that employed for migraine headache. The pathophysiology of vestibular migraine is incompletely understood. (Furman JM, Marcus DA, Balaban CD. Vestibular migraine: clinical aspects and pathophysiology. **Lancet Neurol** 2013 Jul;12(7):706-15). (Response: Prof. Joseph M Furman, University of Pittsburgh School of Medicine. E-mail: furmanjm@upmc.edu).

COMMENT. The association of recurrent vertigo with migraine in children was described as benign paroxysmal vertigo in 1964 (Basser L. **Brain** 1964 Mar;87:141-52). In adults, report of this association was delayed until 1984 (Kayvan A, Hood JD. **Brain** 1984 Dec;107 (Pt 4):1123-42). Diagnostic criteria for vestibular migraine were published by the International Headache and Barany Societies in 2012 (Lempert T, Olesen J, Furman J, et al. **J Vestib Res** 2012;22(4):167-72).