

correlate moderately with increased disease duration. Head size of pediatric MS patients is lower than controls. (Kerbrat A, Aubert-Broche B, Fonov V, et al. Reduced head and brain size for age and disproportionately smaller thalami in child-onset MS. *Neurology* January 17, 2012;78(3):194-201). (Response and Reprints: Dr Collins, E-mail: louis.collins@mcgill.ca).

COMMENT. Onset of MS during childhood is associated with smaller head size, brain volume, and even smaller thalamic volume. Cognitive impairment is a notable feature of pediatric MS. (Amato M et al. *Neurology* 2007;70:1891-1897), and thalamic volume correlates with cognitive performance of children with MS. (Till C et al. *Neuropsychology* 2011;25:319-332).

## **HEADACHE DISORDERS**

### **SHARED GENETIC ETIOLOGY FOR MIGRAINE AND EPILEPSY**

Shared loci for migraine and epilepsy were found on chromosomes 14q12-q23 and 12q24.2-q24.3 in a linkage analysis study of a Finish family with a complex phenotype, in a report from Folkhalsan Institute and other centers in Helsinki and Oulu, Finland; University of California, Los Angeles; and Wellcome Trust Sanger Institute, Cambridge, UK. Of 60 family members, 12 (20%) had idiopathic epileptic seizures, and 8 of the 12 (67%) also had migraine. Seven (12%) had febrile seizures. (The novel migraine locus identified on chromosome 12 has previously been linked to febrile seizures [Gurnett CA et al. *Neurogenetics* 2007;8:61-63]). Ten family members (17%) had sudden somnolence lasting a few minutes to 2 hours and associated with centrotemporal EEG abnormalities. Thirty-three of the 60 family members (55%) had migraine (20 [33%] without and 13[22%] with aura), and 37 (62%) had either migraine or epilepsy. Nine (15%) family members had both migraine and epilepsy. (Polvi A, Siren A, Kallela M, et al. Shared loci for migraine and epilepsy on chromosome 14q12-q23 and 12q24.2-q24.3. *Neurology* January 17, 2012;78:202-209). (Response and Reprints: Dr Polvi. E-mail: anne.polvi@helsinki.fi).

COMMENT. Migraine and epilepsy share a common genetic etiology. Of patients with migraine, 6% have epilepsy and up to 26% of patients with epilepsy have migraine (Ottman R, Lipton RB. *Neurology* 1994;44:2105-2110 and others, cited by authors). Antiepileptic medications are effective in the prophylaxis of migraine. (Barbanti P et al. Migraine prophylaxis: what is new and what we need? *Neurol Sci* 2011;32(suppl 1):S111-S115).

### **EFFECT OF HEADACHE ON ACADEMIC PERFORMANCE**

Researchers at University of Pernambuco, Recife, Brazil interviewed 344 randomly selected, university, social communication students to determine the 1-year prevalence of headache, types of headache, and the effects on academic performance. The mean age was 23.4 years; 57.3% were women. Headache prevalence was 87.2%

(migraine 48.5%, tension-type 42.4%). In the 3 months before the interview, 8.7% sought emergency services because of headaches, 30.8% missed classes, 30.8% were less productive, 75.6% used analgesics, 1.5% reported analgesic overuse, and headache had a substantial/severe impact on daily activities in 49%. Multiple linear regressions showed that serious-impact headaches are significantly related to a greater number of subject failures and absenteeism, and are associated with worse academic performance. Neither anxiety (in 43.9% students) nor depression (in 18.9%) had a significant effect on grade point average. No headache variables were associated with the grade point average coefficient, whereas individuals who consumed alcohol (52.3%) had a smaller grade point average. (Souza-e-Silva HR, Roche-Filho PAS. Headaches and academic performance in university students: a cross-sectional study. *Headache* Nov-Dec 2011;51:1493-1502). (Respond: Dr Pedro AS Rocha-Filho, E-mail: pasrf@ig.com.br).

COMMENT. Headaches in 50% of university students are severe and may be associated with poorer academic performance. Migraine prophylaxis and reduction of impact of headache severity on social and cognitive functioning might be expected to benefit academic performance. However, data from controlled studies of drugs frequently prescribed for migraine prophylaxis (amitryptiline, valproate, topiramate, and levetiracetam) are insufficient for appraisal. (Lewis D, et al. AAN Practice Parameter: pharmacological treatment of pediatric migraine headaches. *Neurology* 2004;63:2215-2224). Headache is not correlated with grade point average, whereas alcohol consumption has a significant association with a lower grade point average, and the risk of failure increases with the quantity of alcohol consumed. (Lopez-Frias M et al. *J Stud Alcohol* 2001;62:741-744, cited by authors).

## **COGNITIVE DISORDERS**

### **ROLE OF THE CEREBELLUM IN COGNITIVE FUNCTION**

Researchers in the Department of Psychology, University of Rome, Italy, retrospectively analyzed charts from patients in the Ataxia Lab of Santa Lucia Foundation between 1997 and 2007, focusing on the role of the cerebellum in cognition. Of 223 charts of cerebellar patients, mostly adults, 67 were excluded because the pathology was not restricted to the cerebellum; 156 comprising 84 males and 72 females were selected for analysis. Patients with focal or atrophic damage were grouped by etiology or location of the lesion. Focal lesions were ischemic or hemorrhagic stroke or surgical ablation for AV malformation or tumor. MRI was used to identify the lobular distribution of the lesion. Twelve different cerebellar atrophic lesions were represented by 16 cases of olivo-ponto-cerebellar atrophy, 15 idiopathic, 11 Friedreich's ataxia and the remainder as 1-5 cases each. In the clinical focal subgroup of 118 cases, 64 involved cerebellar deep nuclei, 25 the distribution of the posterior inferior cerebellar artery, and 12 the superior cerebellar artery.

Subjects with cerebellar damage had below average z-scores for all cognitive domains. Language, executive function, visuospatial abilities and sequencing are most severely affected functions. Subjects with lesions in the posterior inferior cerebellar artery territory exhibit the worst cognitive patterns, especially affecting sequencing,