COMMENT. Children with rolandic epilepsy are predisposed to impairments of attention that resolve with remission of EEG centrotemporal spikes. Attention impairment in RE is correlated not with seizures but with EEG epileptiform discharges. Children with RE should be monitored for attention, language, and learning disorders. Rolandic spikes may aggravate the course of ADHD and predispose to increased impulsivity (Holtmann M et al. **Brain Dev** 2006;28:633-640).

ANXIETY AND DEPRESSION WITH FIRST SEIZURE

Anxiety and depressive signs were investigated in 22 children (mean age, 12+/-2.7 years SD) with a first unprovoked afebrile seizure, in a study at Alberta Children's Hospital, University of Calgary, Canada. Compared with published norms for a Child Anxiety Scale and Depression Inventory, patients reported significantly higher scores for total anxiety, worry/oversensitivity, and social concerns/concentration. Compared with a medical cohort, anxiety symptoms were similar. Children with a first seizure had greater interpersonal problems, ineffectiveness, and negative self-esteem than published norms. Compared to controls, they had increased negative mood, ineffectiveness, anhedonia, and negative self-esteem. Anxiety may be related to illness or hospital experience, and depressive symptoms may be comorbid at time of seizure. (Loney JC, Wirrell EC, Sherman EMS, Hamiwka LD. Anxiety and depressive symptoms in children presenting with a first seizure. **Pediatr Neurol** Oct 2008;39:236-240). (Respond: Dr Hamiwka, Division of Pediatric Neurology, Alberta Children's Hospital, 2888 Shaganappi Trail NW, Calgary, Alberta T3B 6A8, Canada. E-mail: ihamiwka@mac.com).

COMMENT. Children presenting with a first seizure may be at increased risk of anxiety and depressive symptoms.

DEMYELINATING DISORDERS

RISK FACTORS FOR MULTIPLE SCLEROSIS AFTER FIRST ATTACK OF INFLAMMATORY CNS DEMYELINATION

Clinical, radiologic, or CSF factors predicting development of multiple sclerosis (MS) after a first inflammatory demyelinating attack were identified in 117 children (56% <10 years, 34% <6 years) participating in a nationwide retrospective multicenter study in the Netherlands. A second MS-defining attack occurred in 43% of 54 children who presented with a monofocal clinically isolated syndrome (CIS), compared to 21% of 63 patients with a polyfocal CIS ($p<0.006$). Lesions considered typical of ADEM (basal ganglia and thalamic lesions and lesions >2 cm on MRI) occurred during PCIS, with or without encephalopathy. Children with PCIS had a preceding infection in 50%, fever in 42%, and seizures in 28%; they were not at greater risk of developing MS. Children with PCIS without encephalopathy progressed to MS more frequently than those with encephalopathy (ADEM). Risk factors for development of MS included elevated IgG index, oligoclonal CSF bands, 3 Barkhof MRI criteria (>9 lesions T2, infratentorial, juxtacortical, and >3 perivascular lesions), and KIDMUS supplemental MRI criteria (perpendicular to corpus callosum, thalamic/basal

ganglia, and well-defined lesions). In children <10 years, Barkhof criteria had a higher sensitivity than KIDMUS criteria, but lower than in older children. Mean time to conversion to MS after a CIS was 17.7 months (range 2-75 months); after a PCIS attack, the mean time to MS diagnosis was 24 months (range 2-79 months). (Neuteboom RF, Boon M, Berrevoets CEC, et al. Prognostic factors after a first attack of inflammatory CNS demyelination in children. **Neurology** Sept 2008;71:967-973). (Reprints: Dr RQ Hintzen, Department of Neurology, MS centre ErasMS, Erasmus MC, Rotterdam. E-mail: r.hintzen@erasmusmc.nl).

COMMENT. Barkhof and KIDMUS MRI criteria have a high specificity and are risk factors for conversion to MS in children with a first demyelinating attack, but their sensitivity is poor, especially at age <10 years. Over a mean period of observation of 54 months (range 5-201 months), 37 children (31%) developed MS. In this study children with initial monofocal symptoms were more likely to have MS (43%) compared to those with polyfocal features (21%). In contrast, 17% of children with an initial ADEM-like presentation were diagnosed with MS at follow-up (Banwell BL. Editorial. **Neurology** 2008;71:962-963).

SIGNIFICANCE OF MRI PERIVASCULAR SPACES IN MS

The role of perivascular Virchow-Robin spaces was investigated in 45 multiple sclerosis (MS) patients and 30 healthy controls, in a study at Charite-Universitaetsmedizin Berlin, and Goethe University, Frankfurt. Virchow-Robin spaces (VRS) that surround small blood vessels as they penetrate brain parenchyma were identified in the same number of MS patients as healthy controls. However, the VRS were significantly larger in volume in MS ($p=0.004$). This difference was not explained by brain atrophy but at follow-up, a significant increase in VRS volume was correlated with contrast-enhancing lesions, indicative of inflammation. VRS volume increase may be supportive of inflammatory demyelination in the brain. (Wuerfel J, Haertle M, Waiczies H, et al. Perivascular spaces – MRI marker of inflammatory activity in the brain? **Brain** Sept 2008;131(9):2332-2340). (Respond: Prof Dr F Zipp, Scientific Director of the Cecilie Vogt Clinic for Neurology in the HKBB, Chariteplatz 1, Charite-Universitaetsmedizin Berlin, 10117 Berlin, Germany.
E-mail:frauke.zipp@charite.de).

COMMENT. The authors interpret the prominence of Virschow-Robin spaces in the brain of MS patients as a sign of inflammation, not of age, and VRS are recognized for their potential as modulators of immune responses.

The prevalence and clinical significance of dilated VRS in childhood was investigated by MRI in 1,250 patients, during 12 consecutive months at Children's Medical Center, Dallas, TX. (Rollins NK et al. **Radiology** 1993;189:53-57). Of 37 patients with prominent VRS, 12 had severe headache, 17 had moderate or severe delay in development, and 18 had serious behavioral or psychiatric problems. The association of these symptoms and dilated VRS was significant ($p<0.001$).

In a retrospective review of 816 MR scans, 314 had large VRS in a study at New York Hospital, NY (Heir LA et al. **AJNR** 1989;10:929-936). Of patient variables studied statistically, that included age, gender, incidental white matter lesions, infarction, dementia, hypertension, and atrophy, only age was significantly correlated with large VRS.