

positive for HSV-2. Compared to HSV-1 infection, HSV-2 encephalitis has a higher frequency of seizures, greater pleocytosis and protein level in CSF, and more severe structural brain damage on imaging. Other neurological complications of HSV-2 infection occur mainly in adults and include acute aseptic meningitis, recurrent aseptic meningitis (sometimes called Mollaret meningitis), ascending myelitis, lumbosacral radiculopathy, cranial neuropathy (Bell palsy), and acute retinal necrosis. HSV-2 CNS complications appear early in the course of HIV/AIDS. Diagnosis of HSV infection of the nervous system is made by PCR assays of CSF. Viral culture and serological assays for HSV antibodies may also be useful. Acyclovir is standard therapy. (Berger JR, Houff S. Neurological complications of herpes simplex virus type 2 infection. *Arch Neurol* May 2008;65:596-600). (Respond: Joseph R Berger MD, Department of Neurology, University of Kentucky College of Medicine, Kentucky Clinic Room L-445, 740 S Limestone St, Lexington, KY 40536. E-Mail: jrbneuro@uky.edu).

COMMENT. American Academy of Pediatrics Red Book (27<sup>th</sup> ed, 2006) finds that one third of cases of HSV infection in the neonate involve the CNS. CNS disease usually manifests between the second and third weeks of life. HSV-2 is the most common cause of disease in neonates, and accounts for 75% of cases.

## SEIZURE DISORDERS

### **MRI ABNORMALITIES AND FIRST FEBRILE SEIZURES**

The frequency of MRI-detected brain abnormalities with first febrile seizures (FS) and their association with FS type and with specific features of complex FS were determined in a prospective study at the Pediatric Emergency Department of New York-Presbyterian Children's Hospital, Columbia University, New York. MRI performed within 1 week of the first FS showed abnormalities in 12.6% of 159 children affected. The number and ratio of simple to complex FS was 105:54 or 2:1. Imaging abnormalities occurred in 11.4% with simple FS and 14.8% of complex FS (n.s.). Of 54 complex FS cases, those with both focal and prolonged FS (N=14, 26%) were more likely to have MRI abnormalities than simple FS cases. These included focal cortical dysplasia and gray matter heterotopia (known to be associated with seizures) and subcortical focal hyperintensities ( $\geq$  5 mm) and delayed myelination (not typically associated with seizures). Focal hyperintensities, the most common abnormality with first FS, were more frequent in children with complex (N=7, 13%) compared to simple FS (N=1, 0.9%,  $p=0.001$ ). In comparison, the NIH Study of Normal Brain Development found no brain abnormalities on baseline MRI scans. Brain abnormalities may be associated with a lower seizure threshold in febrile children, predisposing to the development of FS. The findings did not affect our clinical management of FS, and MRI is unnecessary in FS, without some other neurological indication. (Hesdorffer DC, Chan S, Tian H, et al. Are MRI-detected brain abnormalities associated with febrile seizure type? *Epilepsia* May 2008;49:765-771). (Respond: Dale C Hesdorffer PhD, GH Sergievsky Center, Columbia University, P & S Unit 16, 630 West 168<sup>th</sup> Street, New York, NY 10032. E-mail: dch5@columbia.edu).

COMMENT. AAP Practice Parameters on the evaluation and treatment of first simple febrile seizures (1996) advise against investigation with MRI, CT, or EEG. MRI abnormalities are reported in patients with febrile status epilepticus (Scott RC et al, 2003), but studies following first FS are understandably lacking, having regard to the hazards of heavy sedation in infants. Most neurologists consider MRI and EEG are indicated in children with recurrence of complex FS, prolonged impairment of consciousness following a seizure, or abnormal neurological signs. In the above prospective study of first FS, the incidence of abnormal MRIs in simple FS is unexpected, given the presumed benign nature of the FS. Although the finding did not change the clinical management of FS in this institution, the brain lesions are important in our understanding of the mechanism of FS. Authorities are divided regarding inclusion of children with a history of birth injury as FS, and some have grouped such patients as having epilepsy (Livingston (1954) and Friderichsen and Melchior (1954)). In unselected series of patients, however, evidence suggests that the threshold to FS may be lowered by both inherited and acquired factors. In addition to the essential role of fever, birth injury or anoxia and structural cerebral pathology may be factors in etiology and should not negate the diagnosis of FS. (Millichap JG et al, 1960). The necessity to guard against selection bias by such arbitrary exclusions is stressed by Baumann RJ and others (in **Febrile Seizures**. Eds. Nelson KB, Ellenberg JH. New York, Raven Press, 1981).

In the Columbia University study, the proportion of complex FS (both focal and prolonged) is high (25%), accounting for the higher frequency of MRI abnormalities among this group. An 11% incidence of MRI abnormalities in patients with simple FS is a novel finding, however, and suggests that febrile seizures are less benign than generally assumed. Without some other neurological indication, MRI is not recommended in children with FS. In support of this conclusion, a recent report of the management of FS in an unselected series of 100 patients found no structural brain abnormality in CT performed in 18% and MRI performed in 4% of FS patients. Head CT was obtained in 6% (4/77) of simple FS cases (1 had mastoiditis) and 61% (14/23) of complex cases. In keeping with AAP guidelines, no simple FS patients were examined with MRI; 17% of complex FS received MRI and all were normal (Millichap JJ. Febrile seizure management in hospital practice compared to recommended guidelines. **AAN 60<sup>th</sup> Annual Meeting**, Chicago, 2008:A131, Abstract PO3.006). The frequency of negative CT scans in FS studies is noteworthy, and more specific indications for neuroimaging in children with complex FS should be determined.

## ATTENTION DEFICIT DISORDERS

### ST JOHN'S WORT COMPLEMENTARY THERAPY FOR ADHD

A randomized, double-blind, placebo-controlled trial of hypericum perforatum (St John's Wort) in the treatment of attention-deficit/hyperactivity disorder (ADHD) was conducted in 54 children aged 6 to 17 years at Bastyr University, Kenmore, WA. No significant differences were found in: (1) the change in ADHD Rating Scale-4 scores from baseline to week 8 between the treatment and placebo groups; (2) the percentage of children showing improvement on the Clinical Global Impression Improvement Scale; or (3) the number experiencing adverse events. (Weber W, Stoep AV, McCarty RL, et al. **JAMA** June 11, 2008;299:2633-2641). (Respond: Wendy Weber ND, PhD, MPH, 14500 Juanita Dr NE, Kenmore, WA 98028. E-mail: [wendyw@bastyr.edu](mailto:wendyw@bastyr.edu)).