

factors for postencephalitic epilepsy include seizures in the acute illness and focal epileptiform discharges in the initial EEG. All children with status epilepticus during hospitalization developed postencephalitic epilepsy. Of the 47 children with postencephalitic epilepsy, 19 (40%) had intractable seizures, and 40% had favorable outcomes. (Lin J-J, Hsia S-H, Wu C-T, Wang H-S, Lin K-L. *Mycoplasma pneumoniae*-related postencephalitic epilepsy in children. **Epilepsia** Aug 2011;E-pub ahead of print). (Respond: Kuang-Lin Lin, Division of Pediatric Neurology, Chang Gung Children's Hospital, 5 Fu-Shin Street, Kwei-Shan, Taoyuan 333, Taiwan. E-mail: [linchg@adm.cgmh.org.tw](mailto:linchg@adm.cgmh.org.tw)).

COMMENT. Previous reports of postencephalitic epilepsy from centers in Taiwan have examined clinical and prognostic factors (Chen YJ et al. **J Child Neurol** 2006;21(12):1047-1051). Of 44 patients, 20 had a favorable outcome and 24 a poor outcome. Factors indicating a poor prognosis during the acute encephalitis phase were 1) status epilepticus as the first seizure ( $p<0.005$ ), 2) slow background activity ( $p<0.001$ ) and multifocal spike discharges on EEGs ( $p<0.01$ ), and 3) herpes simplex viral encephalitis ( $p<0.01$ ). Herpes simplex virus type 1 is a major pathogen causing postencephalitic epilepsy. Early identification of the HSV-1 and treatment with antivirals may improve the outcome and prevent the epilepsy complication.

**Hippocampal dynorphin and epilepsy.** Animal studies at UC-Irvine have investigated the relation of the dynorphin promoter system in the hippocampus to HSV-1 precipitated seizures. Reduced dynorphin expression in the dentate gyrus due to HSV-1 infection leads to an increased propensity to seizures. The loss of dynorphin immunoreactivity in the hippocampus is independent of a direct viral induced cell loss, suggesting a neurochemical basis for viral-induced seizures. Viruses are environmental triggers for seizures. (Solbrig MV et al. **Neurobiol Dis** 2006;23(3):612-620).

**Influenza vaccination (and/or Mycoplasma pneumoniae) as cause of transverse myelitis.** (Ambrose CS et al. **Arch Neurol** Aug 2011;68(8):1085-6). In response to a report of transverse myelitis (TM) in a 27-year-old woman 4 days after vaccination with monovalent A (H1N1) live, nasal attenuated influenza vaccine, Ambrose et al comment that the patient may have had mycoplasma pneumonia 20 days before symptom onset. M pneumoniae is a well-established cause of TM, with an interval of 4 to 30 days between respiratory illness and neurologic symptoms. Possible mycoplasma infection and influenza vaccination should be considered as potential etiologies of TM in this patient.

## VASCULAR DISORDERS

### **ACUTE ISCHEMIC STROKE IN CHILDREN VS YOUNG ADULTS**

Clinical characteristics, stroke etiology, and outcome (modified Rankin scale [0-6] score at 3-6 months) in children (1 month-16 years) and young adults (16-45 years) with arterial ischemic stroke (AIS) were compared in a multicenter study at University of Bern and other centers in Switzerland. Using the Swiss NeuroPediatric Stroke Registry and Bernese stroke database, data collected prospectively from Jan 2000 to Dec 2008

showed that 128 children and 199 young adults suffered from AIS. Children were more likely to be male than young adults (62%/49%,  $p=0.023$ ). Children were less frequently hypertensive, and less likely to have hypercholesterolemia and family history of stroke. Stroke severity was similar in children and young adults. The etiology of stroke in children was more likely to be “other determined cause.” Cervicocerebral artery dissections were less frequent in children. Outcome was similar, and favorable in 59% children and 60% of young adults. Mortality was also similar, 4% and 6%. A low score on the pediatric version of the National Institutes of Health stroke scale was the most important predictor of favorable outcome ( $p<0.001$ ). (Bigi S, Fischer U, Wehrli E, et al. Acute ischemic stroke in children versus young adults. *Ann Neurol* August 2011;70:245-254). (Respond: Prof Dr Steinlin, Division of Neuropediatrics, University of Bern, Inselspital, Freiburgstrasse 4, 3010 Bern, Switzerland. E-mail: [maja.steinlin@insel.ch](mailto:maja.steinlin@insel.ch)).

COMMENT. Stroke severity and clinical outcome at 3 to 6 months are similar in children and young adults but stroke etiology and risk factors are different.

## **SEIZURES AS PRESENTING SYMPTOM OF ARTERIAL STROKE**

Researchers at The Children’s Hospital of Philadelphia, PA, determined the incidence of seizures as a presenting symptom of acute arterial ischemic stroke (AIS) in children and identified risk factors for seizures. Among 60 children aged 2 months to 18 years with AIS, 13 presented with seizures (22%), focal in 10. Of 47 children not presenting with seizures, only 2 had clinical seizures later in the hospitalization period. Seizure was the heralding sign of stroke onset in children presenting with seizures, preceding other focal neurologic signs and symptoms. Younger age was a risk factor for seizures at presentation (1.1 years with seizures vs 10 years with no seizure;  $p=0.0009$ ). Occurrence of seizures was not associated with infarct location or etiology. All patients with seizures had hemiparesis. Three of 4 children with clinical seizures also had nonconvulsive seizures on continuous EEG monitoring at presentation. (Abend NS, Beslow LA, Smith SE, et al. Seizures as a presenting symptom of acute arterial ischemic stroke in childhood. *J Pediatr* September 2011;159:479-483). (Reprints: Nicholas S Abend MD, Division of Neurology, Children’s Hospital of Philadelphia, 3501 Civic Center Blvd, Philadelphia, PA 19104. E-mail: [abend@email.chop.edu](mailto:abend@email.chop.edu)).

COMMENT. Stroke should be considered in a child presenting with new-onset seizure in combination with focal neurologic deficits. Seizures are rare during acute hospitalization for AIS if they do not occur at presentation, and prophylactic anticonvulsant therapy is probably not warranted. Nonconvulsive seizures, detected by continuous EEG monitoring, may be an under-recognized complication of AIS, and EEG should be considered in patients with impaired consciousness.