

The majority of children with pandemic H1N1 influenza-associated hospitalizations in Milwaukee, WI, April to August 2009, had uncomplicated illness. Of 75 admitted, neurological disorders included seizures in 5 (6.6%), febrile seizure in 1 (1.3%), cognitive dysfunction in 6 (8%), and neuromuscular disorder in 7 (9.3%). None had encephalopathy. (Kumar S et al. *Pediatr Infect Dis J* July 2010;29:591-594).

**Abnormal behavior during influenza virus infection and use of Tamiflu.** In Japan, oseltamivir (Tamiflu) is prescribed at the onset of influenza infection as prophylactic therapy for encephalopathy. The media has questioned whether the treatment might trigger the behavior disorder and suicidal thoughts sometimes associated with influenza virus infection. A study of 22 children admitted to hospital with abnormal behavior in Osaka, Japan, during the 2004-2007 influenza seasons, found the behavior appeared before treatment in 13 and after medication was started in 9. Oseltamivir was continued for 3-5 days after admission. Meaningless speech and involuntary movements were most frequent (16 children), and illusions, delusions, and altered awareness occurred in 14. Fear and excitement affected 6 children. All children recovered without development of severe encephalopathy. The clinical course was similar in the pre-Tami and post-Tami groups. The researchers concluded that abnormal behavior associated with some epidemics of influenza virus is not caused by oseltamivir, but further study is needed to determine the value of this treatment in prevention of encephalopathy. (Tanabe T et al. *Brain Dev* June 2010;32:440-444). Abnormal behavior complicating the presenting symptoms of influenza should warn of an impending encephalopathy.

### **CYTOMEGALOVIRUS G<sub>N</sub> GENOTYPES, SYMPTOMS AT BIRTH, AND SEQUELAE**

Researchers at St Orsola General Hospital, Bologna, Italy, monitored symptoms of cytomegalovirus virus (CMV) at birth and during long-term follow-up of 74 congenitally infected newborns, and analyzed the distribution of gN variants in relation to virological parameters, clinical signs at birth, and sequelae, psychomotor impairment and sensorineural hearing loss. The population examined consisted of 29 (39.2%) symptomatic and 45 (60.8%) asymptomatic infants at birth; 2 (2.7%) died in the first weeks, and follow-up data were available for 64 (86.5%) children. The asymptomatic group with a favorable long-term outcome was significantly associated with gN-1 and gN-3a genotypes. The symptomatic group, with abnormal imaging and sequelae was associated with gN-4 genotypes ( $p < 0.05$ ). gN-1 and gN-3A genotypes reduce the risk of sequelae 5 fold, whereas variants of gN-4 increase the risk of sequelae 8 fold. gN genotypes are markers for virulence of CMV wild-type strains and the risk of sequelae in CMV-infected newborns. (Pignatelli S, Lazzarotto T, Gatto MR, et al. Cytomegalovirus gN genotypes distribution among congenitally infected newborns and their relationship with symptoms at birth and sequelae. *Clin Infect Dis* July 2010;51:33-41). (Respond: Dr Sara Pignatelli, Department of Hematology, Oncology, and Laboratory Medicine, St Orsola Malpighi General Hospital, Bologna, Italy. E-mail: [sarapignatelli@unibo.it](mailto:sarapignatelli@unibo.it)).

COMMENT. Markers for the early identification of newborns with CMV at increased risk of developing neurological sequelae should assist in monitoring follow-up

and early intervention with ganciclovir for treatment of sensorineural deafness. (Kimberlin DW et al. *J Pediatr* 2003;143:16-25). This report shows that genetic and immunologic variability affects CMV virulence and may be used as prognostic factors to determine severity of infection and outcome.

**Normal psychomotor development in infants with CMV infection treated early with intravenous ganciclovir and antiepileptic drugs.** (Dunin-Wasowicz D et al. *Epilepsia* July 2010;51:1212-1218). Onset of seizures was generally in the first 6 months of life, most frequently in the second and fourth months. Seizures were controlled in 19 infants (59.4%), and treatment was withdrawn successfully in 11 (34.4%) children after 30-36 months. At a median follow-up of 7 years, psychomotor development was normal in 15 (46.9%), including the 11 patients withdrawn from AEDs. Cerebral palsy was diagnosed in 17 (53.1%).

## SEIZURE DISORDERS

### **EEG EPILEPTIFORM DISCHARGES IN “HEALTHY” CHILDREN**

Researchers from Helios Klinikum Wuppertal, Germany, analyzed the prevalence of epileptiform discharges in digitally recorded EEG (DEEG) of 382 healthy children (226 male, 156 female) ages 6-13 years, and compared the data to those of previously published paper analog recordings. The patients referred for EEG had suffered minor head trauma without impaired consciousness or amnesia; they had no focal neurological deficits. Recordings were a minimum of 20 min and included hyperventilation and photic stimulation. Epileptiform discharges were recorded in 25 (6.5%) children; 4 had generalized or bifrontal spikes, 12 had constant localized focal discharges, and 9 showed multifocal discharges. Epileptiform discharges were “rolandic” in 16 children (4.2%). Afebrile seizures, 1 or more, occurred in 3 (12%) of the 25 children with epileptiform discharges during a median follow-up period of 4.2 years (range 1.2-7.1 years).

Comparing prevalences of epileptiform EEG discharges in healthy children, those reported in 3 previous studies were lower than the present cohort (3.5%, 3.5%, and 5%) and significantly lower in one report ( $p < 0.005$ ). Subgroup analysis according to age and sex also showed differences, with a higher prevalence in a male subgroup and younger age group of 6-9-year old children in the present cohort. Comparison of prevalence data in selected previous reports of children with ADHD found no significant differences with the present data obtained from healthy children. The findings indicate the need for further research, using digitally recorded EEG, but the significance of the comparative data is limited by the small number of children examined. (Borusiak P, Zilbauer M, Jenke ACW. Prevalence of epileptiform discharges in healthy children - new data from a prospective study using digital EEG. *Epilepsia* July 2010;51:1185-1188). (Respond: Dr Peter Borusiak, Wuppertal, Germany. E-mail: [peter.borusiak@helios-kliniken.de](mailto:peter.borusiak@helios-kliniken.de)).

COMMENT. In this study using digital EEG, the prevalence of epileptiform discharges recorded in “healthy” children is 6.5%, and higher than that reported in three previous studies. The authors also claim that their findings in “healthy” children are not different from those reported in studies of the EEG in children with ADHD. Several