

**NIH Workshop on Ischemic Perinatal Stroke (IPS)** is summarized by Raju TNK, Nelson KB and other participants (**Pediatrics** Sept 2007;120:609-616). The estimated incidence of IPS is 1 in 2300 to 5000 births. It is more likely to occur in the perinatal period than at any time in childhood. Long-term neurologic morbidity is common. Risk factors are not well defined and are unreliable. An agenda for future research is proposed.

## INFECTIOUS DISORDERS

### **CNS COMPLICATIONS OF PRIMARY HUMAN HERPESVIRUS-6 INFECTION**

Central nervous system manifestations of primary human herpesvirus-6 (HHV-6) are described in 9 children, ages 3 to 24 months, with HHV-6 DNA in the cerebrospinal fluid, in a prospective study at the University of Helsinki, and other centers in Finland. Of 393 young children with neurologic infections evaluated in 1995 and 1996, 32 had serological HHV-6 diagnoses, and of 21 less than 2 years of age, 9 tested positive for HHV-6 on the CSF by polymerase chain reaction. In 6 children, HHV-6 DNA was present in CSF on days 1 to 4 after onset. In 2 cases, PCR was negative on days 1 and 2, but was positive on days 9 and 17. In 6 of 9 children, seroconversion of HHV-6 immunoglobulin G antibody confirmed the acute primary infection. A 4-fold increase or decrease in antibody titers was found in sera of 2 children. No HHV-6 specific antibodies were detected in the CSF. The PCR was negative for HHV-6 in CSF in the remaining 12 of the 21 seropositive patients, when tested at comparable times of patients who were CSF positive. CSF glucose and protein levels were normal, and white cells were absent or normal in 8 and increased to 11 to  $12 \times 10^6/L$  in 2. Neuroimaging was normal in 5 studied, and EEG was slightly abnormal in 2 children.

Clinically, the HHV-6 infection was highly acute with high fever. Convulsions in 6 of 9 patients were generalized, often prolonged, asymmetric, or recurrent. One child had a previous history of 2 febrile seizures. Four had rash, 4 had diarrhea, and 4 were ataxic. Fever and rash lasted 3 to 6 days, ataxia for 2 weeks. Three were treated with acyclovir for suspected herpes encephalitis. Hospital stay ranged from 4 to 11 days. One relapsed and was rehospitalized for 3 weeks with ataxia. Initial recovery in all patients was favorable, but at 4 to 7 year follow-up, 4 had ataxia and developmental delay, and required special education, 1 manifested symptoms of autism, and 1 developed extreme obesity. The patient with a previous history of febrile seizures continued to have recurrent seizures. Neurologic sequelae were severe in 4 (44%) of the 9 patients. (Mannonen L, Herrgard E, Valmari P et al. Primary human herpesvirus-6 infection in the central nervous system can cause severe disease. **Pediatr Neurol** Sept 2007;37:186-191). (Respond: Dr Mannonen, Haartman Institute, Department of Virology, University of Helsinki, POB 21, FIN-00014 Helsinki, Finland.)  
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COMMENT. Primary HHV-6 infection may invade the CNS of young children, and can cause serious neurologic sequelae. Complex febrile seizures are the most frequent acute manifestations of primary HHV-6 infection, and ataxia and developmental delay are serious long-term sequelae. CSF-HHV-6 DNA is reported in 14.5% of 138 cases of febrile seizures in a review of 10 published series. (Millichap JG and JJ. **Pediatr Neurol** 2006;35:165-172).