

# PEDIATRIC NEUROLOGY BRIEFS

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J. GORDON MILLICHAP, M.D., F.R.C.P., EDITOR

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## INFECTIOUS DISORDERS

### **CYTOMEGALOVIRUS IN PRETERM INFANTS**

The clinical, radiological and neuropathological findings in 15 premature infants with lethal congenital cytomegalovirus infection were studied at the Departments of Pediatrics and Pathology, University of Texas Southwestern Medical Center, Dallas, TX. Six infants were stillborn and 9 were live born, but died at a postnatal age of  $18 \pm 21$  days. Clinical findings included microcephaly (77%), seizures (55%), hypotonia (33%), multiple contractures (18%), chorioretinitis, optic atrophy and corneal opacities. CT scan in 2 infants showed periventricular calcification; MRI in 1 infant demonstrated cerebellar hypoplasia and diffuse cortical atrophy. Sonograms were normal in 4 infants and 2 had ventriculomegaly and periventricular calcification. Neuropathological findings included periventricular necrosis and calcification, cerebellar hypoplasia, leukomalacia, intraventricular hemorrhage, hydrocephalus and pencephalic cyst. Systemic inclusion bodies were present in all infants and intranuclear bodies within the brain in 4 infants. The atypical findings in preterm infants which are rarely reported in term infants included hypotonia, multiple contractures, periventricular leukomalacia and optic atrophy (Perlman JM, Argyle C. Lethal cytomegalovirus infection in preterm infants: clinical, radiological, and neuropathological findings. *Ann Neurol* Jan 1992; 31:64-68). (Reprints: Dr. Perlman, Department of Pediatrics, University of Texas Southwestern Medical Center, 5323 Harry Hines Blvd., Dallas, TX 75235.)

**COMMENT.** These findings indicate that cytomegalovirus infection should be considered in the differential diagnosis of unexplained hypotonia and arthrogryposis multiplex congenita in premature infants. Newer antiviral agents such as ganciclovir may modify the prognosis and may be indicated in treatment of some preterm infants with congenital CMV infection.

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Fowler KB and colleagues at the University of Alabama, Birmingham, AL, compared the outcomes of CMV-infected infants born to mothers who acquired primary CMV during pregnancy (primary-infection group) with those born to mothers with immunity (recurrent-infection group). Infants in the primary-infection group had symptomatic CMV infection at birth in 18%, sequelae in 25% including sensorineural hearing loss in 15%, and mental impairment in 13%. Infants born to mothers with recurrent infection and having antibody to CMV before conception had no symptoms at birth, sequelae in only 8%, and none became mentally impaired at early childhood follow-up. The presence of maternal antibody to CMV before conception provides protection against sequelae to congenital CMV in the newborn. (N Engl J Med March 5, 1992; 326:663-7).

CMV was the most common viral infection complication in 100 children who underwent liver transplantation at Addenbrooke's Hospital, Cambridge, England. Of 23 infected, 13 had primary infections and one died of encephalitis. Of 9 receiving ganciclovir, 8 recovered fully. (Salt A, Barnes ND et al. BMJ Feb 15, 1992; 304:416-421).

#### **HUMAN HERPESVIRUS-6 AND ROSEOLA INFANTUM MENINGITIS**

Two infants with roseola infantum and meningitis caused by human herpesvirus-6 infection are reported from the Department of Pediatrics, College of Medicine, National Taiwan University, Taipei, Taiwan. A 7 month old girl presented with fever, bulging anterior fontanelle and mild hepatomegaly. Lumbar puncture showed 18 mononuclear and 2 polymorphonuclear cells/mm<sup>3</sup> and CFS protein of 0.35 g/l and glucose 3.05 mmol/l. The first serum on the 4th day of the illness was positive for IgM anti-HHV-6 (titre 1:10), and the second serum taken 11 days later was positive for both IgG and IgM anti-HHV-6 (1:160 and 1:80 respectively). A maculopapular rash appeared on the face, scalp and neck on the 4th day of illness. Case 2. A 4 month old boy presented with cough and high fever and 4 episodes of generalized seizures in the next 2 days. CSF examination on the third day revealed 8 polymorphonuclear cells and 1 mononuclear cell/mm<sup>3</sup>. CSF protein and glucose were normal. A blood smear revealed lymphocytosis. Liver function tests were abnormal. A rash appeared on the 4th day and fever subsided. The first serum was negative for both IgG and IgM anti-HHV-6 and the second serum taken 12 days later was positive for both (1:160 and 1:40 respectively). The boy recovered without sequela (Huang Li-Min et al. Meningitis caused by human herpesvirus-6. Arch Dis Child; Dec 1991; 66:1443-1444). (Reprints: Dr. Li-Min Huang, Laboratory of Molecular Microbiology, 9000 Rockville Pike, Building 4, Room 306, NIAID, National Institutes of Health, Bethesda, MD 20892.)

**COMMENT.** The illnesses linked to human herpesvirus-6 infection have included roseola infantum, hepatitis, lymphadenitis and mononucleosis. Roseola infantum is the infectious fever most commonly associated with febrile convulsions. In a review of the