

## INFECTIOUS DISORDERS

### **ACUTE CEREBELLITIS WITH PARVOVIRUS INFECTION**

An immunocompetent 5-year-old girl with acute cerebellitis associated with parvovirus B19 (PVB19) infection is reported from Nishi-Kobe Medical Center and Tokyo Medical University, Japan. She was hospitalized with seizures of the upper extremity and impaired consciousness after 3 days with fever. CSF showed 229 cells/mcL, predominantly polymorphs, 144 mg/dL protein, and 56 mg/dL glucose (blood glucose 74 mg/dL). EEG showed high-voltage delta in bilateral occipital regions, with diagnosis of encephalopathy. Brain diffusion-weighted MRI showed hyperintensity in the bilateral dentate nuclei, suggesting a diagnosis of acute cerebellitis. On the 10<sup>th</sup> day a repeat MRI showed hyperintensity in the cerebellar hemispheres. Following treatment with ceftriaxone, dexamethasone, methylprednisolone and acyclovir, she could sit alone on the 16<sup>th</sup> day and could walk with a wide stance on the 26<sup>th</sup> day. Mutism persisted until the 20<sup>th</sup> day, and 3 months later, slurred speech and intention tremor persisted. Follow-up MRI 6 months later showed cerebellar atrophy. A maculopapular rash appeared on the 10<sup>th</sup> day involving face and extremities, suggesting erythema infectiosum and confirmed by elevated serum PVB19 IgM and IgG antibodies, using enzyme immunosorbent assay. PCR analyses detected PVB19 DNA in the CSF and plasma, and also HHV6. HHV6-IgG antibody was positive and HHV6-IgM antibody was negative, consistent with a history of exanthema subitum. PCR for herpes simplex virus 1 and 2, HHV6, 7, and 8, varicella-zoster virus, cytomegalovirus, Epstein-Barr virus, JC and BK virus was negative. Collectively, cerebellitis and concurrent encephalitis were likely caused by CNS PVB19 infection with reactivation of latent HHV6. (Uchida Y, Matsubara K, Morio T, et al. Acute cerebellitis and concurrent encephalitis associated with parvovirus B19 infection. *Pediatr Infect Dis* 2012 April;31(4):427). (Respond: Yoshiko Uchida MD, Department of Pediatrics, Nishi-Kobe Medical Center, Kobe, Japan).

COMMENT. Parvovirus B19 infection (erythema infectiosum, Fifth disease) has a distinctive rash preceded by mild systemic symptoms including fever. The rash is intensely red with a “slapped cheek” appearance and circumoral pallor. (AAP Red Book. 27<sup>th</sup> ed. Elk Grove Village, IL; AAP 2006;484-487). Viral infections in addition to parvovirus B19 sometimes complicated by cerebellitis, and listed by the authors, include rotavirus, adenovirus type 3, HHV-6, and influenza virus. Of 31 childhood PVB19 CNS infections previously reported, 2 developed ataxia, but cerebellar involvement was not confirmed by MRI (Douvoyiannis M et al. *Clin Infect Dis* 2009;48:1713-1723).

**Cerebellitis with prerule varicella.** A 5-year-old boy admitted to the Mayo Clinic with cerebellar ataxia and symptoms of raised intracranial pressure was investigated for a presumed diagnosis of cerebral tumor and subsequently developed a generalized maculopapulovesicular rash of varicella. Ten days later, at time of discharge, the ataxia, papilledema and neck stiffness had improved but diplopia and strabismus persisted for 3 weeks. The ataxia and raised CSF pressure antedated the exanthema of varicella by 11 days. In 15 previous reports of prerule neurologic complications of varicella, cerebellar ataxia was mentioned in one. (Goldston AS, Millichap JG, Miller RH. *Amer J Dis Child* 1963 Aug;106:197-200).