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

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INFECTIOUS DISORDERS

MYCOPLASMA PNEUMONIAE ENCEPHALITIS

The epidemiological, clinical, laboratory, and imaging findings of patients with *M. pneumoniae* encephalitis referred to the California Encephalitis Project are reported from the California Department of Health Services, Viral and Rickettsial Disease Laboratory, Richmond, CA, and the Centers for Disease Control and Prevention, Atlanta, GA. Of 1988 patients referred, 111 (5.6%) had *M. pneumoniae* infection, of which 84 (76%) were children <18 years old. Eighty percent were positive by serology alone, whereas only 2% showed a positive CSF polymerase chain reaction for *M. pneumoniae.* The median age was 11 years (range, 6 mo-18y); and the interval from CNS onset to hospitalization was 2 (0-92) days. Length of hospital stay was a median of 8 (1-72) days; 46 were admitted to ICU. General symptoms were fever (70%), gastrointestinal (45%) respiratory (44%), and rash (14%). Neurological symptoms were lethargy (68%), altered consciousness (58%), seizures (40%), focal neurologic signs (37%), nuchal rigidity (24%), hallucinations (18%), and coma (14%). Laboratory findings showed CSF mild-moderate pleocytosis, predominantly mononuclear cells; a median protein of 45 mg/dL, and normal glucose. CT was normal in 82% of 56, whereas MRI was abnormal in 49% (diffuse in 24%, white matter abnormalities in 16%). EEG was abnormal in 79% (diffuse slowing in > half (51%), and focal in 19%). Diagnosis was confirmed by *M pneumoniae* IgM in acute and/or convalescent serum. Patients with *M pneumoniae*-associated encephalitis had fewer seizures and a less severe hospital course compared to those with other bacterial or viral agents (eg HSV-1). Their clinical presentation and course resembled enterovirus infection encephalitis. (Christie LJ, Honarmand S, Talkington DF, et al. Pediatric encephalitis: What is the role of *Mycoplasma preumoniae?* Pediatrics August 2007;120:305-313). (Respond: Laura J Christie MD, Viral and Rickettsial

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COMMENT. The majority of patients referred to the California Encephalitis Project are positive for *M pneumoniae,* and these are predominantly pediatric. *M pneumoniae* is more than twice as frequent as enterovirus and more than 7 times that of HSV-1 encephalitis. Respiratory symptoms are less common in patients with cerebral involvement. In this series, children presented with gastrointestinal symptoms as frequently as respiratory. The course resembled that of enterovirus encephalitis rather than HSV-1. The value of antibiotics in treatment and the mechanism of encephalitic disease with *M pneumoniae* require further study. The literature includes references to cases with direct invasion of the CNS, and others with immune-mediated "para-infectious" disease. The authors cite recommendation of azithromycin, ciprofloxacin, doxycycline, or chloramphenicol, but penetration of the blood-brain barrier is limited. IV immunoglobulin and steroids have been used in patients with *M pneumoniae*-associated white matter involvement and acute disseminated encephalomyelitis. Full recovery followed treatment with steroids and antibiotics in 3 patients treated at Great Ormond Street Hospital, London, UK (Chandler PM, Dale RC. **Pediatr Neurol** 2004;31:133-138; **Ped Neur Briefs** August 2004;18:62).

Role of viruses in Rasmussen's encephalitis. Several viruses have been implicated in Rasmussen's encephalitis, including enterovirus, Epstein-Barr, cytomegalovirus, and herpes simplex virus, but none has shown a specific link. Astrocytic degeneration or apoptosis and loss caused by cytotoxic T lymphocytes are demonstrated by immunohistochemical studies at Medical University of Vienna, Austria; and University of Bonn, Germany. (Bauer J et al. **Ann Neurol** July 2007;62:67-80).

BRAINSTEM INVOLVEMENT IN NEONATAL HERPES SIMPLEX VIRUS TYPE 2 ENCEPHALITIS

A 16-day-old female infant with predominant brainstem and cerebellar involvement secondary to herpes simplex virus type 2 infection is reported from Children's and Women's Health Centre of British Columbia, Canada. The mother had no history of genital HSV infection and no active lesions at delivery. The infant admitted to the NICU was well for the first 2 weeks of age. At 16 days of age, she developed lethargy, hypotonia, feeding intolerance, and paroxysmal movements, treated with phenobarbital. Within 10 hours of onset of symptoms, the infant was encephalopathic and required assisted ventilation. A PCR of the CSF detected HSV type 2 DNA. Conventional MRI was normal, but diffusion-weighted MRI showed restricted diffusion in the pons, cerebellar peduncles, right cerebellar hemisphere, and vermis. Improvement followed treatment with IV acyclovir for 21 days, and the infant was discharged on oral acyclovir at 38 days. At 9 months follow-up, she had gross and fine motor delay, left esotropia, hypertonia and hyperreflexia, with preservation of alertness, interaction and cognitive function. (Pelligra G, Lynch N, Miller SP, Sargent MA, Osiovich H. Brainstem involvement in neonatal herpes simplex virus type 2 encephalitis. **Pediatrics** August 2007;120:e442-e446). (Respond: Horacio Osiovich MD, Division of Neonatology, Room 1R47, Children's and Women's Health Centre of British Columbia, 4480 Oak St, Vancouver, British Columbia, Canada V6H 3V4).