

INFECTIOUS DISORDERS

CSF-PCR IN DIAGNOSIS OF LYME MENINGITIS

The sensitivity, specificity and predictive value of a Lyme CSF-PCR assay were evaluated in children from a Lyme-endemic region admitted to the Alfred I duPont Hospital for Children, Wilmington, DE, for suspected Lyme meningitis. Twenty met CDC criteria for Lyme meningitis, and 88 were diagnosed with aseptic meningitis, based on negative Lyme serology and absence of erythema migrans. Of the 20 with Lyme meningitis, 12 had erythema migrans and 6 had both enzyme-linked immunosorbent assay and Western blot reactivity. Lyme CSF-PCR was positive in 1 patient (5%) with Lyme meningitis and in 1 (1%) classified as aseptic meningitis. Lyme CSF-PCR had a sensitivity of 5% and a specificity of 99%. The Lyme meningitis patient with a positive Lyme CSF-PCR had the highest CSF white blood cell count (762 mm³) and CSF protein value (138 mg/dL) when compared with other Lyme meningitis patients. The patient classified as aseptic meningitis but having a positive Lyme CSF-PCR had presented after a 2-day history with facial palsy, a history of a tick bite some 3 weeks earlier, and a rash 1 week before presentation. Given this history, and despite the negative Lyme serology and absent erythema migrans on admission, the patient probably had Lyme meningitis, and a 29-day course of parenteral antibiotics had been initiated prior to knowledge of the positive Lyme CSF-PCR result. The commercially available Lyme CSF-PCR assay used in this study was not generally helpful in identifying Lyme meningitis. (Avery RA, Frank G, Eppes SC. Diagnostic utility of *Borrelia burgdorferi* cerebrospinal fluid polymerase chain reaction in children with lyme meningitis. **Pediatr Infect Dis J** August 2005;24:705-708). (Reprints: Stephen C Eppes MD, Division of Infectious Diseases, AI duPont Hospital for Children, PO Box 269, Wilmington, DE 19899).

COMMENT. A Lyme CSF-PCR assay used to identify patients with suspect Lyme meningitis, admitted to hospital in a Lyme-endemic region, had a low sensitivity and was not of practical diagnostic value. The diagnosis of Lyme meningitis and its differentiation from aseptic meningitis must rely on clinical and CSF findings combined with serum antibody testing. Apart from the cost and low reliability, a Lyme CSF-PCR assay may lead to delay in diagnosis, and prolong unnecessary antibiotic therapy while waiting for a result. The authors comment that a CSF-PCR assay may be appropriate in selected patients: eg those with aseptic meningitis in an endemic area, having suggestive clinical findings, a negative Lyme serum antibody test, negative viral CSF, and an elevated CSF protein (>100 mg/dL).

AUTISTIC SPECTRUM DISORDER

TEMPORAL LOBE ABNORMALITIES RELATED TO AUTISM SEVERITY

The relation between cerebral blood flow (rCBF) and the clinical severity of symptoms in 45 autistic children, mean age 7.9 years, was determined at centres in Paris, France. CBF was measured with PET after IV injection of H₂¹⁵O. A global index of autism severity (Autism Diagnostic Interview-Revised [ADI-R]) and indices of stereotypes and

repetitive behaviors correlated with rCBF reduction in the left superior temporal gyrus. The more severe the autism, the greater the reduction in rCBF. Social interaction deficits corresponded with dysfunction in the right parietal lobe. (Meresse IG, Zilbovicius M, Boddaert N et al. Autism severity and temporal lobe functional abnormalities. **Ann Neurol** September 2005;58:466-469). (Respond: Dr Zilbovicius, CEA, Serrvice Hospitalier Frederic Joliot, 4 place du General Leclerc, 91406 Orsay, France).

COMMENT. The superior temporal lobe in the dominant hemisphere represents language functions and may be involved in social interaction (Zilbovicius M et al. **Am J Psychiatry** 2000;157:1988-1993). The above study supports the concept of a neurobiological cause for autism, localized to the temporal lobe.

ATTENTION DEFICIT DISORDERS

REVERSIBLE DOPAMINE TRANSPORTER MODIFICATIONS IN RESPONSE TO METHYLPHENIDATE TREATMENT OF ADHD

Single-photon emission computed tomography (SPECT) was used to monitor the dopamine transporter activity in 5 males, ages 8 to 10, with ADHD, after cessation of methylphenidate (MPH) treatment, in a study at the University Hospital Maastricht, The Netherlands. A reduction in dopamine transporter in the striatal system was observed at 3 months after initiation of treatment with MPH. After withdrawal of MPH for a minimum of 4 weeks, following prolonged treatment for 9 to 20 months, dopamine transporter activity had increased to pretreatment levels. Prolonged MPH treatment of ADHD does not cause any permanent modification of nigrostriatal dopaminergic pathways. (Feron FJM, Hendriksen JGM, van Kroonenburgh MJPG et al. Dopamine transporter in attention-deficit hyperactivity disorder normalizes after cessation of methylphenidate. **Pediatr Neurol** Sept 2005;33:179-183). (Respond: Dr Feron, Youth Health Care Division of the Regional Public Health Institute Maastricht, PO Box 3973, 6202 NZ Maastricht, The Netherlands).

COMMENT. In this small pilot study using SPECT, the reduction in dopamine transporter activity induced by MPH in the treatment of ADHD is shown to be reversible after withdrawal of the medication, and no permanent damage to the striatal system results when therapy is prolonged for up to 20 months. The dopamine transporter system appears to be a primary target for MPH in ADHD (Dresel S et al, 2000; Dougherty DD et al, 1999;cited by authors).

EFFECT OF ADHD ON THE QUALITY OF LIFE

The quality of life (QOL), measured with a Child Health Questionnaire (CHQ), was evaluated in 120 untreated children, aged 6 to 12 years, with newly diagnosed attention deficit/hyperactivity disorder (ADHD). Findings were compared with 2 control groups of asthmatic and healthy children, in a prospective, case-control study at Lilly Research Laboratories, Alcobendas, and other centers in Spain. The QOL of ADHD children was impaired compared to controls, the greatest differences found in behavior, social limitations