INFECTIOUS DISEASES

BACTERIAL MENINGITIS IN INFANTS

A retrospective study of 80 infantile patients (ages 30-365 days; 47 male, 33 female) with culture-proven bacterial meningitis seen over a 16 year period (1986-2001) is reported from Taiwan. Two had post-neurosurgical meningitis, 16 were nosocomial cases, and 62 the community-acquired spontaneous form. The most prevalent pathogens were Salmonella species, Streptococcus agalactiae, Escherichia coli, and Haemophilus influenza. Salmonella, E coli and H influenzae occurred more often in older infants, whereas S agalactiae were more prevalent in younger infants. A decrease in Salmonella cases from 27% in the first 8 years of the study to 9% in the second 8 years was accompanied by a proportional increase in E coli meningitis in the second half of the study. Presenting clinical manifestations included fever in 76 patients, disturbed consciousness in 49, seizures in 45, bulging fontanelle in 26, neck stiffness 11, and gastrointestinal disorders 24. Mortality for both periods was 11%, and 43% had poor outcomes. H influenzae, S pneumoniae, and Salmonella species meningitides were complicated by a high prevalence of neurologic disorders (subdural empyema [30], hydrocephalus [25 cases], and cerebral infarctions [7]). Initial changing levels of consciousness were independently associated with treatment failure. Of 42 patients with meningitis caused by Gram-negative bacilli and Hemophilus species, 22 had antibiotic-resistant strains. Combined antibiotic and dexamethasone therapy was used in 14 patients, 9 of whom had a poor outcome. (Chang C-J, Chang W-N. Huang L-T et al. Bacterial meningitis in infants: the epidemiology, clinical features, and prognostic factors. **Brain Dev** 2004;26:168-175). (Respond: Cheng-Hsien Lu MD, Department of Neurology, Chang Gung Memorial Hospital-Kaohsiung, 123 Ta Pei Rd, Niao Sung Hsiang, Kaohsiung, Taiwan).

COMMENT. In the United States the 3 most common causative organisms causing infantile meningitis were H influenzae (64%), S pneumoniae (12%), and N meningitides (11%) (Feigin RD et al. 1992). Since 1988 when Hib conjugate vaccines were introduced, the incidence of Hib disease in infants and young children has declined by 99%. Invasive Hib disease now occurs primarily in underimmunized infants too young to have completed the primary immunization series. (AAP Red Book 2000). The emergence of resistant strains presents a challenge to infectious disease specialists and the choice of optimum antibiotic therapy. Dexamethasone use was not associated with a statistical improvement in outcome in the Taiwan study.

INFECTIONS IN ATAXIA-TELANGIECTASIA

Immunodeficiency and infections were determined in 100 consecutive patients with ataxia-telangiectasia (A-T) seen at the Johns Hopkins Ataxia-Telangiectasia Clinical Center. Immunoglobulin (Ig) deficiencies were common: IgG4 in 65%, IgA in 63%, IgG2 48%, IgE in 23%, and IgG in 18%. Lymphopenia occurred in 71% of patients, with reduction of B-lymphocytes in 75%, CD4 T lymphocytes in 69%, and CDS T lymphocytes in 51%. Increasing age was not associated with increased frequency or severity of immune

abnormalities. Infections included frequent, recurrent upper and lower respiratory tract infections (otitis media in 46% patients, sinusitis in 27%, bronchitis in 19%, and pneumonia in 15%). Uncomplicated varicella infection occurred in 44% of patients. Systemic bacterial, severe viral, and opportunistic infections are uncommon in A-T, and the immune defect is rarely progressive. (Nowak-Wegrzyn, Crawford TO, Winkelstein JA et al. Immunodeficiency and infections in ataxia-telangiectasia. **J Pediatr** April 2004;144:505-511). (Reprints: Howard M Lederman MD, PhD, Division of Pediatric Allergy and Immunology, The Johns Hopkins Hospital, CMSC 1102, 600 N Wolfe St, Baltimore, MD 21287).

COMMENT. Despite significant immune system abnormalities, patients with A-T are not commonly subject to systemic bacterial, severe viral, and opportunistic infections. The progressive neurodegenerative process typical of A-T is not accompanied by a worsening immune defect with age. A-T, a neurocutaneous syndrome, results from a defect in DNA repair. The A-T gene (known as ATM, for AT 'mutated') has been mapped to chromosome 11 (11q22.3) (Charrow J. Neurocutaneous syndromes. In: Millichap JG, ed. **Progress in Pediatric Neurology III**, PNB Publishers;435-439).

RASMUSSEN ENCEPHALITIS WITH DELAYED SEIZURE ONSET

Two children, ages 6 and 7 years, with progressive hemiparesis and radiological and histopathological confirmation of Rasmussen encephalitis (RE) had no seizures or epileptic EEG activity until 6 to 7 months after onset of symptoms, in a report from Bikur Cholim Hospital, Jerusalem, Israel. The onset of epilepsy with RE may be dissociated from the early inflammatory stage of the disease. (Korn-Lubetzki I, Bien CG, Bauer J et al. Rasmussen encephalitis with active inflammation and delayed seizure onset. **Neurology** March (2 of 2) 2004;62:984-986). (Dr I Korn-Lubetzki, Neurological Service, Bikur Cholim Hospital, Strauss St 5, PO Box 492, Jerusalem 91004, Israel).

COMMENT. Seizures as a presenting symptom are not a sine qua non for a diagnosis of Rasmussen encephalitis, but partial seizures, often epilepsia partialis continua, following a nonspecific febrile illness are the usual early manifestations of the syndrome. Seizures are usually accompanied by a progressive hemiparesis, hemianopia, and aphasia and MRI evidence of a contralateral hemicerebral atrophy. RE is thought to be an immune mediated disorder, and immunological abnormalities include elevated antinuclear antibodies, especially autoantibodies to the glutamate receptor subunit 3 (GluR3), CSF oligoclonal bands, elevated immunoglobulins, and cytotoxic T cells in brain tissue specimens.

Bed rest following lumbar puncture was studied at the Pediatric Hospital, University of Heidelberg, Germany, in 111 patients aged 2 to 17 years. Significantly more head or backaches were encountered in the group kept at 24-hour strict bed rest than in patients allowed free mobility (headaches 39 vs 21%; backaches 42 vs 23%, respectively). Prophylactic bed rest following lumbar puncture in children and adolescents is of no benefit and may increase the risk of headache or backache. (Ebinger F et al. **Neurology** March (2 of 2) 2004;62:1003-1005).