

International Meeting on Borreliosis, Prague, Czech Republic

Approximately 150 participants from 10 countries gathered in Prague, the Czech Republic, August 27-29, 1997, to discuss research topics related to the theme of the meeting, "Lyme Borreliosis—Basic Science and Clinical Approaches." The meeting was organized by the National Institute of Public Health (Centre of Epidemiology and Microbiology); the World Health Organization Collaborating Center for Reference and Research on Borreliosis; the Second School of Medicine, Charles University (Prague); and the Czech Medical Association J.E. Purkyně. Meeting sessions focused on topics including epidemiology, clinical treatment, dermatology, diagnosis and treatment, neurology, and laboratory diagnosis.

The session on epidemiology presented surveillance data on the incidence of Lyme borreliosis (LB) in the Czech Republic (incidence rates were 61.8/100,000 in 1995 and 41.2/100,000 in 1996) and in Slovakia, Austria, and Slovenia. Data underscored the high risk for transmission of LB in central and eastern Europe. The results of vaccine trials using the recombinant outer surface protein (Osp)A antigen of *Borrelia burgdorferi* were also presented; more detailed studies are needed to examine intraspecies variability of OspA antigens in Europe.

The session on clinical approaches and treatment reviewed research conducted in the United States and discussed the diagnostic importance of organism-specific biologic markers, e.g., *Borrelia*-specific antigens or DNA, as well as pleocytosis in cerebrospinal or synovial fluid. Experience with the diagnosis and treatment of LB in the hyperendemic-disease regions of west Bohemia underscored the importance of accurate diagnosis in avoiding overtreatment.

The use of nonhuman primates as models for studying neuroborreliosis was examined in the session on neurology. Problems related to the diagnosis and treatment of chronic disease, and their economic consequences, were identified. Several methods to assist clinicians in making a correct diagnosis were presented and discussed. The persistence of *B. burgdorferi* DNA in patients with Lyme arthritis was considered in the rheumatology session. Ultrastructural evidence for the intracellular location of *B. burgdorferi* in synovium also was presented.

The session on laboratory diagnosis focused on the genomic sequence of the linear chromosome of *B. burgdorferi* (B31 strain) and the crystal structure of OspA; both apply to the laboratory diagnosis of LB. Other studies affirmed the importance of standardizing diagnostic methods to ensure reproducibility and uniformity of the results from different laboratories. The influence of certain in vivo-expressed antigens (virulence antigens) on invasiveness and the ability of *B. burgdorferi* to adapt to the host environment were noted. Other topics were the sensitivity and reproducibility of polymerase chain reaction and the importance of the primers selected for the assay.

The studies presented in the poster session addressed a wide array of themes: among them, epidemiology and population awareness, reactivity of *B. burgdorferi* antigens in immunoblot procedures when specimens derived from humans or animals are used, and incidence of ticks and their association with disease in different regions.

The importance of apoptosis in the morphology of LB, the role of Langerhans cells in the skin reactions, and the role of integrin CR3 in the interaction of *B. burgdorferi* with host cells were discussed. The sensitivity and the selection of the primers used for polymerase chain reaction to detect *B. burgdorferi* in ticks were considered. Aspects of vector biology and ecology were investigated (e.g., habitats, the tick as LB's major vector, vector capacity). Other diseases transmitted by *Ixodes ricinus* ticks in Europe (e.g., tick-borne encephalitis, babesiosis, ehrlichiosis) as well as human ehrlichiosis in Europe were reviewed.

Dagmar Hulínková and Jiří Bašta
National Institute of Public Health,
Prague, Czech Republic

Workshop on Climate Change and Vector-Borne and Other Infectious Diseases

Climate changes may affect human health through a myriad of pathways; of particular interest are pathways affecting the geographic ranges and incidence of vector- and water-borne diseases. As society chooses how to deal with projections of long-term climate change, decisions must be based on scientific knowledge. A 2-day