CLINICAL CAPSULES

Vaccine Effective Against hMPV

Lower respiratory tract infections associated with human metapneumovirus were reduced by 45%, and clinical pneumonia was reduced by 55% among non-HIV–infected children who had received at least three doses of 9-valent conjugate pneumococcal vaccine, Dr. Shabir A. Madhi reported in a poster presented at the annual Interscience Conference on Antimicrobial Agents and Chemotherapy.

The randomized, placebo-controlled study enrolled nearly 40,000 children in South Africa between March 1998 and October 2000. The children received the first dose of vaccine at approximately 6 weeks of age and two additional doses at approximately 11 and 16 weeks of age.

In addition, lower respiratory tract infections due to hMPV and clinical pneumonia were reduced by 53% and 65%, respectively, among HIV-infected children who had been fully vaccinated, wrote Dr. Madhi of the University of the Witwatersrand, Soweto, South Africa, and associates.

Overall, 1,533 vaccinated children were hospitalized with a lower respiratory tract infection, compared with 1,643 placebo patients between January 1, 2000 and December 31, 2002. Of these, 1,306 vaccinated patients and 1,409 placebo patients were successfully tested for hMPV, which was identified in 76 (5.8%) and 126 (8.9%) cases, respectively.

Of the 189 hMPV-associated lower respiratory tract infections in which blood was cultured, only four HIV-infected children experienced episodes of *Staphylococcus aureus* bacteremia. One of the children had been vaccinated, and the other three were in the placebo group. The results suggest that bacterial coinfection with pneumococcus plays a role in hMPV-associated lower respiratory tract infections, and that use of the pneumococcal conjugate vaccine may prevent a significant number of these infections, the investigators said at the meeting, also sponsored by the American Society for Microbiology.

hMPV Contributes to URIs

Human metapneumovirus appeared in 5% of 2,384 nasal wash specimens from infants and children with upper respiratory tract infections, reported Dr. John V. Williams of Vanderbilt University, Nashville, Tenn., and his colleagues.

The Vanderbilt Vaccine Clinic conducted the study to evaluate the clinical characteristics of human metapneumovirus (hMPV) in otherwise healthy children over a period of 20 years (J. Infect. Dis. 2006;193:387-95). Most of the illnesses (78%) occurred between December and May of each year from January 1982 through December 2001, with 38% occurring in March and April. During the study period, 1,532 children, mean age 20 months, were followed for an average of 2.4 years.

Fifty percent of the children with upper respiratory infections (URIs) were prescribed antibiotics for acute otitis media.

Children who presented with URIs caused by hMPV were significantly less likely to be febrile, compared with children with influenza (54% vs. 85%). The mean duration of symptoms in the sick children prior to medical attention was 2.7 days for hMPV infection, compared with 3.2 days for influenza, 4.3 days for respiratory syncytial virus, and 3.8 days for parainfluenza virus. Children with URIs caused by hMPV also presented with standard symptoms including cough and rhinorrhea. However, these symptoms were not useful in diagnosis because of the overlap among the pathogens, and rapid tests are needed to distinguish hMPV from the influenza virus, respiratory syncytial virus, and parainfluenza virus.

Predictive Model of Lyme Meningitis

Three conditions—the presence of cranial neuritis, a long-lasting headache, and a predominance of cerebral spinal fluid mononuclear cells—can predict Lyme meningitis in children aged 2-13 years, said Dr. Robert A. Avery of the Alfred I. duPont Hospital for Children in Wilmington, Del., and his colleagues.

Data from a study of 27 children with Lyme meningitis (LM) and 148 children with aseptic meningitis (AM) provide the first model to distinguish between the two conditions in areas where Lyme disease is endemic (Pediatrics 2006;117:1-7).

Overall, 16 of the 27 (59%) patients with LM experienced headaches longer than 3 days' duration, compared with 37 of 148 (25%) patients with AM. The average duration of headache was 7.5 days among LM patients vs. 2.8 days among AM patients.

In addition, 15 (56%) of the LM patients had cranial neuritis, compared with 5 (3%) of the AM patients.

Finally, the average percentage of mononuclear cells in samples of cerebrospinal fluid was 87% in LM patients vs. 58% in AM patients, and 19 (70%) of the LM patients had CSF mononuclear cell levels greater than 86% compared with 42 (28%) of the AM patients.

—Heidi Splete

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