Alter Pneumonia Strategies to Fight Resistance

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MONTREAL — In vitro pneumococcal resistance continues to have a substantial role in guiding antibiotic choices and disease management plans for patients with community-acquired pneumonia, according to Dr. William M. Niederman, M.D. Many surveillance studies have revealed an increasing global prevalence of in vitro drug resistance among pneumococcal isolates obtained from patients with community-acquired pneumonia. Updated treatment guidelines reflect these findings by stressing the need for clinicians to keep in mind local resistance trends as well as patient risk factors for infection with drug-resistant pathogens, Dr. Niederman said at the Second International Conference on Community Acquired Pneumonia.

"Drug-resistant pneumococcus is more likely in certain at-risk populations, including people older than 65 years and those with immune suppression, exposure to a child in daycare, or a history of alcoholism, multiple medical comorbidities or aspiration pneumonia," he said. For example, in one study of 100 consecutive emergency department patients who were discharged on quinolone therapy, 81 of the patients

Incidence Is Up For Some Strept Empyemas

SAN FRANCISCO — The incidence of pediatric pneumococcal parapneumonic empyema doubled in Utah and surrounding areas since introduction of the pneumococcal conjugate vaccine. Byington, M.D., said in a poster presentation at the annual meeting of the Infectious Diseases Society of America.

Activity of bacterial serotypes varies by geographical region. In the past decade, Utah has had one of the highest rates of pneumococcal parapneumonic empyema (PPE) in children due to Streptococcus pneumoniae serotype 1, which the vaccine does not cover, said Dr. Byington of the University of Utah, Salt Lake City, and associates.

A search of the Intermountain Health Care data warehouse found 776 cases of pediatric PPE between March 1996 and June 2005, 62% of which were treated at Primary Children’s Medical Center, Salt Lake City. In the period 1996-2000, before introduction of 7-valent pneumococcal conjugate vaccine (Pneumovax), the center saw 38 cases per year, compared with 72 cases annually between 2001 and 2004, a significant difference.

Among 295 cases of culture-confirmed invasive pneumococcal disease in children at the center, 74 were PPE, representing 18% of invasive pneumococcal disease in the prevaccine years and 32% since the vaccine. The investigators retrieved and serotyped pleural and fluid isolates of 5 pneumococcal serotypes from the 74 cases. The proportion of PPE due to serotypes covered in the vaccine decreased from 37% (9 of 24 cases) in the prevaccine era to 14% (7 of 50 cases) in more recent years.

Serotype 1 was the most common cause of PPE due to nonvaccine serotypes in both time periods, but disease due to other nonvaccine serotypes has become more common. Serotype 1 caused 11 (46%) of 24 PPE cases in the earlier period and 17 (34%) of 50 cases since the vaccine. Other nonvaccine serotypes caused only four cases (16%) of PPE in the prevaccine years but 26 cases (52%) of PPE in the postvaccine years.

The pneumococcal vaccine may need to be broadened to include additional serotypes, Dr. Byington suggested in an interview.