Despite vaccine, public should not get complacent about pneumococcal disease

3 June 2008

Although the childhood pneumococcal conjugate vaccine has been a boon in reducing the incidence invasive pneumococcal disease (IPD), the public and the medical community must not get complacent, as non-vaccine strains, some resistant to antibiotics, are on the rise, say scientists at a meeting today in Boston.

“We have a vaccine that has dramatically reduced the total burden of pneumococcal disease. It targets 7 strains of the bacteria that were responsible for 90 percent of cases of severe pnuemococcal infection. While that is good news, we still need to be concerned about the replacement strains that are rising to take their place,” says Keith Klugman of Emory University, speaking to the 108th General Meeting of the American Society for Microbiology.

Streptococcus pneumoniae, also called pneumococcus, is one of the most common causes of bacterial pneumonia and deadly bloodstream infections in the United States. It can also cause bacterial meningitis in children and adults. In its less severe forms it commonly causes ear infections. Pneumococcus bacteria can be found colonizing many people’s noses without causing infection. Why it suddenly invades the body and causes disease is unknown.

A vaccine against pneumococcal disease has been available for adults and children over 2 years of age since the 1980s, but in 2000 a new vaccine, known as PCV7, was approved by the FDA for children under 5 years of age.

Since the introduction of PCV7, the Centers for Disease Control and Prevention (CDC) has reported a significant decline in IPD rates among all age levels, but the incidence of IPD caused by strains not included in the vaccine rose by 40%. The most prevalent non-vaccine strain is 19A.

“The PCV7 vaccine contained strain 19F, which is similar to 19A. It was hoped that this would provide some level of protection against 19A. This does not appear to have been the case,” says Klugman.

Of additional concern is the fact that 19A infections are showing up that are resistant to multiple antibiotics. Klugman warns that unncessary antibiotic use driving the development of resistant bacteria and that physicians should prescribe antibiotics only when necessary.

The good news is there is a new vaccine on the horizon, and it contains 13 instead of 7 of the most common pneuococcal strains, including 19A. It is currently in late phase III clinical trials and is most likely to replace PCV7 once it is approved, which could be in the next year or two.

“If we didn’t have PCV13 around the corner, I think our sense of unease would be much greater,” says Klugman.

Source: American Society for Microbiology