Adults, Teens Put Infants at Risk for Pertussis

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TORONTO — Adults and teens with waning immunity to pertussis are putting infants—particularly minority infants—as well as themselves at unnecessary risk for developing the bacterial disease, Dr. Irini Daskalaki said at the annual meeting of the Infectious Diseases Society of America.

In one of three studies designed to track and assess the incidence of pertussis in a metropolitan area, Dr. Daskalaki and colleagues at St. Christopher's Hospital for Children in Philadelphia determined that nearly half of more than 400 cases of pertussis reported in that city during a 6-year period occurred in infants too young to be fully immunized.

Similarly, in a study out of Seattle, children younger than 1 year—and particularly infants younger than 6 months—had the highest incidence of reported pertussis during a 5-year period. And, according to lead investigator Dr. Christopher Czaja of the University of Washington, a majority of the infant cases were linked to a household member as the likely source of infection.

The problem, according to Dr. Daskalaki, is that "a lot of people don't realize [pertussis] is out there."

And more still don't realize there's something they can do to protect themselves and their children. "Everyone should receive a Tdap [tetanus, diphtheria, and acellular pertussis] booster vaccine to help decrease the burden of disease. With less whooping cough around, young infants who are most vulnerable would have less possibility to be exposed," she said.

Minority infants, particularly Hispanic infants, have an even greater risk of infection because of the increased prevalence of the disease in minority populations, according to Kathryn Wymore of the California Emerging Infections Program in Oakland.

In the third tracking study presented, Ms. Wymore and her colleagues determined that 76 of 160 (48%) cases of infant pertussis in three San Francisco–area counties reported between 2000 and 2004 occurred among Hispanics.

"The average annual incidence of disease per 100,000 infants was 127.1 among Hispanics and 55.8 among non-Hispanics, which is consistent with national surveillance data," she said.

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In the Philadelphia study, of 409 cases of reported pertussis, 41% occurred in African American patients and 11% in Hispanic patients. Among the 176 infected infants, 54% were African American and 18% were Hispanic. Given these findings, it's especially imperative to target Tdap booster strategies toward difficult-to-reach populations, Dr. Daskalaki stressed, adding that "the implementation rate of adult vaccination has to be really high in order to have a chance of protecting infants."

While boosting immunization rates is one component of an effective public health strategy, building physician awareness of the disease in the community is another. In the Seattle study, investigators determined that 15% of all of the patients and one-third of the infants younger than 1 year diagnosed with pertussis during the 5-year study period had been seen by a doctor at least three times before being correctly diagnosed. "Doctors are just not thinking of whooping cough, but they should be in any person with prolonged cough, because earlier diagnosis could decrease disease transmission," said Dr. Czaja.

The Seattle study showed significant increases in pertussis infections among adolescents and adults between 2000 and 2005, "which explains the significant increase among infants," according to Dr. Czaja.

In the 5-year study period, pertussis cases increased from a low of 39 in 2001 to a peak of 280 in 2003, with 192 cases reported through August 2005. Although the highest incidence occurred in children younger than 1 year, peaking at 202 per 100,000 in 2003, "the greatest rise in incidence was among people 20 years and older, with an 11-fold increase, followed by adolescents and teens between 10 and 19 years, with an almost 6-fold increase," he said, adding that in 62% of cases that involved an infant, "a household member was identified as the likely source of infection." ■