Varicella Vaccine Was Effective During Outbreak

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aricella vaccination was found to be highly effective during an outbreak of varicella among elementary school children in Utah, reported Maryam B. Haddad of the Centers for Disease Control and Prevention, Atlanta, and associates.

The outbreak occurred from October 2002 until February 2003 in two schools, one with 597 students (school A) and another with 952 students (school B). Most parents returned a questionnaire about their children's health. Parents who reported varicella symptoms in their children were interviewed, their children's vaccination records were verified, and they were asked to submit any existing lesions for polymerase chain reaction (PCR) testing.

"Health care providers should verify the vaccination status of older children who are not subject to a school-entry requirement and might remain susceptible during adulthood," Ms. Haddad and associates recommended.

During the outbreak, 57 unvaccinated and 26 vaccinated children were reported to have varicella, with 17 more cases

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the investigators reported.

"Watchful waiting seems to be an alternative that is acceptable to parents, reduces the number and cost of antibiotic prescriptions, and reduces the percent of multidrug-resistant bacteria colonizing the nasopharynx of children after an episode of AOM," Dr. McCormick and his associates said. Regardless of the intervention, children who had received antibiotics within the previous 30 days were more than twice as likely to fail treatment as those who had not recently received antibiotics.

In addition to parent education, key factors for implementation of a watchful waiting strategy include access to follow-up care, management of AOM symptoms, and a method to classify AOM severity, the investigators said.

Dr. McCormick and his colleagues assessed AOM severity based on four factors: parental perception of severity, otoscopic examination, body temperature, and tympanogram scores. However, "in retrospect," they reported, they "could have obtained the same results"—identifying 87% of the nonsevere cases identified with the four-factor scoring system—by using a two-factor scoring system that omitted body temperature and tympanogram.

"Most children with AOM are afebrile at the time of diagnosis as a result of antipyretic medication," they said, adding that "practicing clinicians rarely use the tympanogram to make a diagnosis of AOM."

Dr. Lieberthal, cochair of the AAP's subcommittee on management of AOM and professor of pediatrics at the University of Southern California, Los Angeles, said the issue of how to most accurately and uniformly assess AOM severity is still unresolved. "We still need a validated scoring system."

among household contacts, they said. PCR analysis found wild-type varicella in five unvaccinated and three vaccinated children (specimens from two other vaccinated children were insufficient for testing). Nine unvaccinated children with varicella reported that it was a second occurrence of the disease.

In school A, 27% of the 66 unvaccinated children acquired varicella, while only 4% of the 223 vaccinated children did. In school B, 41% of the 74 unvaccinated chil-

dren reported varicella, while only 5% of the 348 vaccinated children did (Pediatrics 2005;115:1488-93).

The varicella vaccine overall was 87% effective. It was 90% effective against moderate or severe disease in school A and 99% effective in school B. Among the nine unvaccinated children with a history of varicella, the attack rate was 0.4% in school A and 1.4% in school B. Mild varicella was more common among vaccinated children (69%) than unvaccinated children (15%).

Risk factors for breakthrough varicella included a history of eczema (3.8 times greater risk), time since vaccination (relative risk 3.0 if vaccinated 5 or more years before the outbreak), and age at vaccination (relative risk 2.6 if vaccinated at age 18 months or less). Among the 163 children vaccinated 5 or more years before the outbreak, children vaccinated at age 18 months or less were 9.3 times more likely than those vaccinated after age 18 months to develop breakthrough varicella.

