CLINICAL CAPSULES

Amoxicillin and GAS Pharyngitis

Amoxicillin given once daily to treat group A streptococcal pharyngitis was no less effective than a twice-daily dose, based on data from 652 children seen in a private pediatric practice during a 2-year period.

Although once-daily penicillin has less effectiveness against group A streptococcal (GAS) pharyngitis than twice-daily dosing, the researchers proposed that amoxicillin, with its longer serum half-life, might be just as effective in one daily dose as in two daily doses, which could improve adherence in some cases.

Dr. Herbert W. Clegg, a pediatrician in group practice in Charlotte, N.C., and his colleagues recruited children aged 3-18 years with signs and symptoms of GAS pharyngitis. The children were randomized to a once-daily dose of either 750 or 1,000 mg or a twice-daily dose of 375 or 500 mg, depending on the child's weight. The treatment duration was 10 days for both groups, and patient demographics and compliance with therapy were similar in both groups.

The researchers assessed bacteriologic failure rates based on pharyngeal swabs taken at 14-21 days (visit 2) and 28-35 days (visit 3) after the start of treatment (Pediatr. Infect. Dis. J. 2006;25:761-7).

Not all children returned for visits 2 and 3 for various reasons, but the bacteriologic failure rate was 33% for both groups in an intent-to-treat analysis that included all patients, the researchers noted. The rates between the groups were not significantly different on further analysis.

Failure rates at visit 2 were 20% (59 of 294) in the once-daily group vs. 16% (46 of 296) in the twice-daily group. Failure rates at visit 3 were 3% (6 of 216) in the once-daily group vs. 7% (16 of 225) in the twice-daily group.

Pertussis Booster May Be Needed

Children may need a booster dose of the acellular pertussis vaccine between the ages of 5 and 7 years to ensure protection from illness, according to data from a 7-year population-based study.

A total of 1,293 cases of culture-confirmed pertussis were seen in Swedish children born in 1996 or later during the period from October 1997 to September 2004—after the introduction and widespread use of an acellular pertussis vaccine in Sweden, reported Lennart Gustafsson, Ph.D., of the Swedish Institute for Infectious Disease Control in Solna, and his colleagues (Pediatrics 2006;118:978-84).

Overall, 516 cases of pertussis occurred in unvaccinated children (225 per 100,000 person-years in children aged 2 months and younger). But the reported incidence of pertussis dropped significantly after the second and third doses of vaccine. The incidence was 31 per 100,000 person-years between dose two and dose three, and 8 per 100,000 person-years in fully vaccinated children within a year of the third dose (children aged 2 years and younger).

The incidence at 6 years among vaccinated children who had received at least two doses was similar to the incidence shortly after the second dose at ages 5-12 months (32 per 100,000 person-years vs. 31 per 100,000 person-years). But the incidence had increased to 48 per 100,000 person-years in children aged 7-8 years, which suggests a waning of vaccine protection after 6-7 years, the researchers said.

Infant Flu Vaccination Rates Are Low

Only 7.4% and 17.5% of children aged 6-23 months received at least one dose of the influenza vaccine during 2002-2003 and 2003-2004, respectively, based on a representative sample of 13,881 children from the 2003 and 2004 National Immunization Surveys.

The 2002-2003 and 2003-2004 seasons were the first two flu seasons in which vaccination was encouraged, but not formally recommended, for children aged 6-23 months, and more work is needed to ensure at least two doses for previously unvaccinated children in this age group, said Tammy A. Santibanez, Ph.D., and her colleagues at the Centers for Disease Control and Prevention in Atlanta.

Of the children who received at least one dose of flu vaccine, about 40% and 52% went on to be fully vaccinated during the 2002-2003 and 2003-2004 seasons, respectively. Overall, 4.4% and 8.4% of children aged 6-23 months were fully vaccinated during these two seasons.

"Receipt of two doses for previously unvaccinated children is paramount, because receipt of only one dose may provide little to no protection," the researchers said.

Vaccination rates were significantly lower among children living below the poverty level, non-Hispanic black children, and children with less-educated mothers (Pediatrics 2006;118:1167-75). Receipt of at least one vaccination was significantly associated with white or Asian race, younger age at the start of flu season, and vaccine receipt at a private practice or a hospital, after controlling for multiple demographic variables.

—Heidi Splete