MCV4 Advocated for At-Risk Kids Aged 2-10 Years

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ATLANTA — The tetravalent meningococcal conjugate vaccine is now recommended for children aged 2-10 years with an increased risk of meningococcal disease, the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices voted at its fall meeting.

The tetravalent meningococcal conjugate vaccine (MCV4), marketed as Menactra by Sanofi Pasteur Inc., was approved by the Food and Drug Administration on Oct. 18, 2007, for use in 2- to 10-year-olds.

The committee members voted (12 "yes" and 2 abstentions) to recommend MCV4 over the meningococcal polysaccharide vaccine (MPSV4) that is currently used in children in this age group. They emphasized that this is not a recommendation to administer MCV4 to all 2- to 10-year-olds—only to at-risk children, which includes those with functional or anatomy asplenia, terminal complement deficiencies, or HIV infection, and children traveling to areas endemic for *Neisseria meningitidis*.

The current vaccine, MPSV4, has shown safety and efficacy in children at least 2 years of age, but serum bacterial antibodies are known to decline after a few years. It's hoped that the new conjugate vaccine might provide a longer duration of protection, though this hasn't been determined.

"For children 2-10 years old with increased risk of meningococcal disease, MCV4 is preferable to MPSV4," said Dr. Amanda Cohn, of the Meningitis and Vaccine Preventable Diseases Branch of the National Center for Immunizations and Respiratory Diseases (NCIRD), on behalf of the ACIP Meningococcal Working Group.

In 2005, Dr. Michael Pichichero of the University of Rochester, New York, and his colleagues demonstrated comparable immunogenicity with MPSV4 and MCV4 and similar safety profiles (Pediatr. Infect. Dis. J. 2005;24:57-62). MCV4 is associated with a greater incidence of local reactions, including swelling (20%, compared with 15% with MPSV4) and induration (22% vs. 16%); though most reactions resolve within 3 days.

A group of 4- to 5-year-olds who received an MCV4 vaccination followed by an MPSV4 challenge dose 2-3 years later showed booster responses on the challenge.

ACIP also suggested children aged 2-10 years old who have received MPSV4 and remain at risk for meningococcal disease should receive MCV4 about 3-5 years after their MPSV4 shot. The advisory committee will provide recommendations for revaccination when additional data on the duration of protection with MCV4 become available.

The panel did not address what should happen when a child turns 11 and falls outside the recommended age range for the vaccine. However, it noted the increased incidence of Guillain-Barré syndrome (GBS) associated with MCV4, and recommended that a history of GBS should be a precaution to receiving the vaccine.

ACIP anticipates voting on the use of meningococcal vaccine in all 2- to 10-year-olds in February 2008. ■

GBS, the Vaccine, And Adolescents

Guillain-Barré syndrome is a subacute-onset neuropathy involving bilateral, symmetric, flaccid paralysis. The condition has an autoimmune etiology, with vaccines accounting for some reported cases.

One case of Guillain-Barré syndrome (GBS) after the MPSV4 vaccine was reported to Vaccine Adverse Events Reporting System (VAERS) between 1990 and 1999.

As of October 2007, 24 reports of GBS after MCV4 have been made to VAERS: 20 cases in 15- to 19-year-olds, 2 cases in 11- to 14-year-olds, and 2 cases in persons aged at least 19 years. In the 22 adolescents with GBS, the onset of symptoms occurred between 2 and 33 days after vaccination, with a cluster of 13 cases at 9-16 days. MCV4 thus is predicted to result in five excess cases of GBS predicted per million 11-year-olds vaccinated but would prevent an estimated 359 cases of meningococcal disease and 35 associated deaths in the same group.

Dr. Thomas Clark of the Meningitis and Vaccine Preventable Diseases Branch of the NCIRD said this risk is comparable with that seen in seasonal influenza vaccine in some years.