Trial Deems FluMist Safe for HIV-Positive Children

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SAN FRANCISCO — The live attenuated influenza vaccine known as FluMist is as safe as an inactivated virus vaccine for children who are infected by the human immunodeficiency virus and have CD4 percentages of 15% or greater, according to the findings of a randomized, controlled trial.

Investigators recorded similar toxicity profiles for FluMist and the trivalent inactivated virus (TIV) vaccine that is standard for this population, Dr. Sharon Nachman reported at the annual meeting of the Pediatric Academic Societies.

Prolonged shedding, a major concern, was not observed in either arm of the phase I-II trial, according to Dr. Nachman, chief of pediatric infectious diseases, department of pediatrics, State University of New York at Stony Brook.

"There were no unexpected toxicities or adverse events associated with administration of LAIV [live attenuated influenza virus] or TIV in HIV-positive children in this study," she said, summarizing 6 months of follow-up on behalf of the Pediatric AIDS Clinical Trials Group.

The investigators randomized 243 HIV-positive children from 5 to 18 years of age at the start of the 2004-2005 flu season: 122 to LAIV and 121 to TIV.

The LAIV arm of the study received the FluMist formulation that is currently approved for healthy children and adults from the ages of 5 to 49 years. The vaccine is delivered intranasally, whereas TIV must be injected.

Entry criteria included a current viral load below 60,000 copies per milliliter. All participants had at least 16 weeks of stable antiretroviral therapy with three different antiretroviral agents from at least two therapeutic classes.

All of the children had been vaccinated with TIV in at least one of the two previous years as well.

"Ethnicity looks exactly like [the] demographic of perinatally infected children across the United States," Dr. Nachman said.

She described the study arms as evenly matched with respect to mean age (11.4-11.9 years), CD4 percentage (33%-34%), and viral load (2.9 copies/mL in both groups).

Vaccine administration did not lead to clinically significant changes in CD4 count or viral load during the study. Nor were changes in antiretroviral therapy made necessary by vaccination.

Vaccine administration did not lead to clinically significant changes in CD4 count or viral load during the randomized, phase I-II trial.

Investigators detected influenza shedding in 31 of 115 LAIV recipients (27%) 3 days after they received the vaccine.

By day 28 only 1 of 119 subjects (0.9%) was shedding virus, and the results of a follow-up culture done on day 56 were negative.

During the first 28 days, eight children in the LAIV arm had nine events that may have been related to FluMist administration: fever (one), malaise (one), conjunctivitis (two), acute otitis media (one), sinusitis (one), pharyngitis (one), and lower respiratory tract illness (one). One child was hospitalized and recovered with antibiotic therapy, Dr. Nachman reported at the meeting, which was sponsored by the American Pediatric Society, Society for Pediatric Research, Ambulatory Pediatric Association, and American Academy of Pediatrics.

Six events that might have been related to the vaccine were reported in the TIV arm: acute otitis media (two), pharyngitis (two), conjunctivitis, and injection site swelling.

The proportion of children with grade 2 or higher signs and symptoms was similar (19% with LAIV vs. 17% with TIV), as were the proportion of children with grade 3 or higher signs and symptoms (2.5% vs. 0.8%, respectively), and the proportion of those with events possibly related to the vaccines (6.6% vs. 5%, respectively).

Dr. Nachman said that immunogenicity studies are ongoing. A coinvestigator is an employee of MedImmune Inc., manufacturer of FluMist. ■

Pages 16a—16d