Rotavirus Vaccine Lowered Admissions for the Infection

BY MICHELE G. SULLIVAN

PHILADELPHIA — The introduction of the rotavirus vaccine was associated with a significant decrease in the number of children admitted to a New York City hospital for rotavirus infections, as well as a decline in the severity of the rotavirus season.

The annual percentage of admitted patients who tested positive for the virus decreased from more than 12% before the vaccine was available to 3% afterward, Dr. Haytham Hamwi said at the annual meeting of the Eastern Society for Pediatric Research.

Dr. Hamwi of the Flushing (N.Y.) Hospital Medical Center discussed a retrospective study of rotavirus testing and admissions spanning three time periods: September 2004 through August 2005 (before the vaccine was available), and after the vaccine was available, September 2007 through August 2008 and September 2008 through August 2009.

The hospital database and the New York City vaccine registry provided the data for the study.

Dr. Hamwi and his colleagues included in their study all patients aged 0-6 years who were admitted to the hospital during those periods, except any child who had received the rotavirus vaccine within 3 weeks of a hospital admission.

"The vaccine can cause shedding of antigen in the stool, leading to a false-positive result," Dr. Hamwi explained.

During the first study period (2004-2005), 442 patients aged 0-6 years were admitted to the hospital; 200 of those were tested for rotavirus. Of these, 55 (27%) tested positive for the virus. Patients with rotavirus infections comprised 12% of all hospital admissions among 0-6 year olds.

During the second study period (2007-2008), 744 children aged 0-6 years were admitted to the hospital. The surge in admissions occurred because several neighboring hospitals had closed, Dr. Hamwi said. Of the admissions, 161 were tested for rotavirus and 20 (12%) tested positive. Rotavirus accounted for 2.6% of admissions for 0- to 6-year-old children during that time.

VITALS

Major Finding: Of 200 hospitalized children tested for rotavirus before approval of the vaccine, 27% tested positive. Of 161 and 180 hospitalized children tested in the subsequent 2 years after vaccine approval, 12% and 14% tested positive for rotavirus infections.

Data Source: A retrospective cohort study of 1,996 children admitted to a single hospital.

Disclosures: Dr. Hamwi said he had no relevant financial conflicts of interest. One of the coinvestigators, Dr. David DiJohn, disclosed that he is on the speakers bureau for both GlaxoSmithKline and Sanofi-Aventis.

In the third study period (2008-2009), there were 810 admissions. Of these, 180 were tested for the virus and 26 (14%) tested positive. Children with rotavirus accounted for 3% of the admissions.

A vaccination history was available for 76 children who tested positive for the virus in the study. Of these, 75 were unvaccinated against rotavirus and 1 had been incompletely vaccinated, Dr. Hamwi said. No rotavirus was found in unvaccinated children.

The investigators also examined the relationship between the vaccine and rotavirus seasonality. In the prevaccine study periods, rotavirus appeared in November, peaked in February, and had a second peak in April. In both postvaccination study periods, the disease appeared later and did not show the typical winter peak. A smaller peak occurred in March and April of the second of the two study periods. ■

Urethritis Common in Men With No Symptoms

BY MELINDA TANZOLA

ATLANTA — Asymptomatic urethritis is relatively common even in men reporting no urethral concerns, according to study findings suggesting that routine genital examination may help diagnose unsuspected sexually transmitted diseases.

VITALS

Major Finding: Among 236 men without urethral symptoms or concerns, 16% had microscopic evidence of inflammation and nearly half of those men (7% of the total group) had discharge that was visible upon examination.

Data Source: An observational study.

Disclosures: None reported.

Of 236 men, aged 16-63, recruited from a Seattle emergency department waiting room who reported having no urethral symptoms or concerns, 16% had microscopic evidence of inflammation and nearly half of those men (7% of the total group) had discharge that was visible upon examination by the study clinician. Another 2% of men had visible discharge without microscopic evidence of inflammation, according to Catherine M. Wetmore, whose results were presented at a conference on STD prevention sponsored by the Centers for Disease Control and Prevention.

"Conventional wisdom suggests that women frequently experience asymptomatic reproductive tract infections but that men are generally more aware of potential signs/symptoms of infection," Ms. Wetmore explained in a written statement. However, urethral discharge was visibly detectable in nearly 10% of these men reporting no urethral signs or symptoms.

Moreover, 80% of men with visible discharge had microscopic evidence of urethral inflammation, defined as having at least five polymorphonuclear neutrophils (PMNs) per high-power field over at least three fields on a urethral gram-stain.

Ms. Wetmore, of the University of Washington, Seattle, and her colleagues also evaluated the incidence of sexually transmitted infections (STIs) in these men. Nearly one in five men (18%) with asymptomatic urethritis, and 4% of men without urethritis, had detectable STIs, including *Mycoplasma genitalium* (9% and 2%, respectively), *Chlamydia trachomatis* (8% and 2%, respectively) and *Trichomonas vaginalis* (3% and 1%, respectively). No cases of gonorrhea were detected.

Participants were an average of 37-39 years old; 52% were African American, 33% were white, 2% were Asian/Pacific Islander, and the remainder were other races.

In a multivariate analysis, factors that were independently associated with an increased risk of asymptomatic urethritis included having a detected STI, older age, race (African American vs. white), having a greater number of recent sex partners, being uncircumcised, having had recent anal sex, and having voided at least 2 hours before the exam.

Although Ms. Wetmore was hesitant to make clinical recommendations, she noted that her findings suggest that a genital examination may provide an opportunity for diagnosing and treating unsuspected sexually transmitted infections.

She reported having no conflicts of interest. ■

Interferon-Gamma TB Tests Not Yet Ready for Prime Time

BY DAMIAN McNAMARA

MIAMI — Cost and other challenges need to be overcome before interferon-gamma release assays are adopted for widespread tuberculosis testing in children, according to Dr. John Bradley.

Although interferon-gamma release assays (IGRAs) are more accurate than standard tuberculin skin tests, they require 2-5 cc of blood, which can be a challenge in some children, Dr. Bradley said.

In addition, the accuracy of IGRAs is not well studied for children with latent TB infection, miliary TB or other disseminated infections, or active infections such as meningitis.

"There are insufficient data at present to recommend switching from tuberculin skin testing to an IGRA blood test for all kids," Dr. Bradley said at a pediatric update sponsored by Miami Children's Hospital.

'We believe the IGRA is a more sensitive test.' However, 'they cost a lot more, so we're not ready to recommend them for widespread use.'

Also, "there are insufficient data to recommend a specific IGRA test," said Dr. Bradley, an editor of the 2010 Red Book who is also with the division of infectious diseases, Rady Children's Hospital, San Diego.

There is a role for IGRA tests in specific clinical situations, however, Dr. Bradley said. For example, if a physician believes a parent is unlikely to return for the reading of a tuberculin skin test result, the IGRA may be indicated. In addition, the blood test is preferred for Bacillus Calmette-Guérin–immunized children with a positive tuberculin skin test result, as well as for a child with a positive skin test with no known exposures (these are presumed to be false-positive tuberculin skin tests, he said).

"Although the [IGRA] test is clearly an advance, it's not a perfect solution," Dr. Bradley pointed out.

The two Food and Drug Administration–cleared IGRAs (QuantiFERON-TB Gold, Cellestis; T-SPOT.TB, Oxford Immunotec Ltd.) measure an in vitro lymphocyte response to Mycobacterium tuberculosis proteins.

"We believe the IGRA is a more sensitive test," Dr. Bradley said. However, "they cost a lot more, so we're not ready to recommend them for widespread use."

The tuberculin skin test remains the recommended TB assay in the 2010 Red Book, Dr. Bradley said, despite its having some limitations.

The immune competence of the child can impact the sensitivity, for example.

In addition, tuberculin skin tests are difficult to place intradermally, and if they are not intradermal, physicians cannot interpret them, he said. "Uncooperative, screaming children are challenges [also]. Two- and three-year-olds can be contortionists." ■

Disclosures: *Dr. Bradley said that he had no relevant financial conflicts*