

Prevalence Rates Sway Rapid Flu Tests' Usefulness

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Rapid influenza antigen detection tests are helpful during the peak of an epidemic but are of limited use when prevalence is less than 10%, Dr. Carlos Grijalva and associates reported.

"Unfortunately, the prevalence of influenza among children presenting with fever or respiratory symptoms is usually not known at the time of testing; therefore it is often difficult to derive appropriate interpretations of rapid-test results," the authors wrote (*Pediatrics* 2007;119:6-11).

Using data collected by the New Vaccine Surveillance Network in three U.S. counties over 4 consecutive years, the investigators compared provider-ordered rapid influenza test results with viral culture and reverse-transcription polymerase chain reaction (RT-PCR) results obtained from children older than 5 years. The children had been hospitalized with respiratory symptoms or fever from October 2000 through September 2004. Outpatient surveillance data, also collected by the network, was used to estimate the weekly prevalence of influenza.

Several types of rapid influenza tests with relatively similar reported sensitivities and specificities, were used, including Directigen A+B, Directigen A, Quick View A/B, and NOW Flu A/B.

Overall, 2,797 children were hospitalized during the 4 consecutive years of inpatient surveillance, and influenza infection was confirmed in 160 (6%). Only 270 of the 2,797 (10%) children had a rapid flu test ordered by the treating physician.

Of 41 children with influenza detected by standard methods, 26 were influenza-positive by a rapid test (sensitivity 63%). Among 229 children who tested negative for influenza by standard methods, 223 had a negative rapid-test result (specificity

97%), Dr. Grijalva of Vanderbilt University, Nashville, Tenn., reported.

Then the investigators used the sensitivity and specificity of rapid tests from the inpatient surveillance and the weekly prevalence of influenza in outpatient settings to determine times when the rapid tests were most predictive of influenza.

At the beginning of the mild 2002-2003 season, when the prevalence of influenza was 5%, the predictive value of the rapid tests was about 50%, meaning

that a positive result was equally likely to represent a true influenza infection or a false-positive result. But, a negative rapid-test result represented a true negative about 98% of the time.

At the peak prevalence of 21% in the 767 children tested in the outpatient setting, the positive predictive value (PPV) was 85%. Throughout the entire season, the PPV of the rapid tests was 70% or greater for only 4 weeks, the authors wrote.

Among 975 children tested during the

moderately severe 2003-2004 season, nearly 97% of positive rapid tests were true positives. In contrast, about 37% of children with a negative rapid-test result were false negatives. During the 7 weeks when the influenza prevalence was 15% or more, the PPV of the rapid tests was 80% or higher.

The study was funded by a Centers for Disease Control and Prevention New Vaccine Surveillance Network cooperative agreement. ■

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Correction Is Issued For Mistake on the Tamiflu Dosing Chart

A pediatric dosing chart for the influenza drug oseltamivir (Tamiflu) sent by Roche Laboratories Inc. to health care providers last November contained an error and should have indicated a standard dosage of once daily—rather than twice daily—for 10 days, according to a letter from the company.

The erroneous chart, titled "Standard Dosage of the Tamiflu Oral Suspension for Prophylaxis of Influenza in Pediatric Patients," had accompanied a November letter announcing reports of self-injury and delirium in patients taking Tamiflu.

The letter from Roche said that none of the Tamiflu on the market contains package inserts with the incorrect dosage chart.

Prescribing information is online at www.rocheusa.com/products/tamiflu/pi.pdf. Questions can be directed to Roche at 800-526-6367.

—John R. Bell