

Rapid H1N1 Test May Be Useful in Younger Kids

BY HEIDI SPLETE

The overall sensitivity of a rapid influenza diagnostic test to the 2009 influenza A(H1N1) virus in children aged 0-17 years was 62%, and the specificity was 99%, based on data from a prospective study of 820 children.

In addition, rapid influenza diagnostic testing (RIDT) was more sensitive in children aged 5 years and younger than in those older than 5 years, and test sensitivity was higher in patients who were tested within 2 days of the onset of flulike symptoms, compared with those tested more than 2 days after symptom onset.

Previous studies have shown that RIDT identifies the H1N1 virus, but data on the effectiveness of RIDT at detecting the H1N1 virus in clinical specimens, especially in a pediatric population, are limited, said Dr. Michael Hawkes of the University of Toronto.

To determine the diagnostic accuracy of RIDT for H1N1 influenza, Dr. Hawkes and his colleagues enrolled 651 children from an emergency department and 169 from a pediatric clinic who presented with influenzalike illness over two flu seasons, including 194 from 2008-2009 and 626 from 2008-2009. A total of 107 specimens collected between May 22 and July 25, 2009, were positive for the 2009 H1N1 virus, based on reverse-transcription polymerase chain reaction testing (RT-PCR). Another 110 specimens were positive for seasonal influenza A and 77 specimens were positive for seasonal influenza B. Specimens were obtained via nasolabial swabs.

The researchers compared the performance of RIDT and direct fluorescent antibody testing (DFA) against RT-PCR as a reference standard to identify the H1N1 virus.

Overall, the RIDT sensitivity of 62% was significantly less than the DFA sensitivity of 83%, but the specificity of RIDT and DFA were similar (99% vs. 96%). The overall diagnostic accuracies of RIDT and DFA, compared with RT-PCR, were 76% and 88%, (Pediatrics 2010 Feb. 15 [doi:10.1542/peds.2009-2669]).

However, RIDT sensitivity was significantly higher for detecting the H1N1 virus in children aged 5 years and younger than in those older than 5 years (71% vs. 61%). In addition, RIDT was significantly more sensitive to H1N1 in patients who were tested within 2 days of presenting with flulike symptoms, compared with those who were tested more than 2 days after the onset of symptoms (70% vs. 50%). Similarly, RIDT was significantly more sensitive to both influenza A and influenza B in children aged 5 years and younger, versus those older than 5 years, and in children who were tested within 2 days of symptom onset, versus those who were tested more than 2 days after symptom onset.

The findings may not be generalizable to children with preexisting medical conditions. But the results suggest that RIDT might be useful in identifying the

VITALS

Major Finding: The sensitivity of RIDT for H1N1 influenza in children was 62%.

Data Source: A prospective study of 820 children aged 0-17 years.

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H1N1 virus in young children (who are more likely to develop complications from the flu) and in children who present within 2 days (when they are most likely to benefit from antiviral therapy), the researchers noted.

"Our findings support a recent Centers for Disease Control and Prevention interim guidance statement that, when influenza

viruses are circulating in a community, a positive RIDT result indicates that influenza infection is likely present; however, a negative test does not rule out infection," the researchers said. Additional studies are needed to examine the cost effectiveness and clinical usefulness of RIDT in light of the 2009 H1N1 pandemic, they added. ■



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