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Seasonal Influenza A (H3N2) Virus Infections

Summary

Influenza A (H3N2) virus infections have been recently detected in people in a number of states across the U.S., including two small localized outbreaks. Sporadic cases of influenza and localized summer outbreaks from seasonal influenza viruses are detected each summer. Clinicians are reminded to consider influenza as a possible diagnosis when evaluating patients with acute respiratory illnesses, including pneumonia, even during the summer months. Treatment decisions should not be made on the basis of a negative rapid influenza diagnostic test result since the test has only moderate sensitivity. False positive results also can occur, particularly at times when overall influenza prevalence is low. For patients for whom laboratory confirmation is desired, or to confirm initial influenza cases in a community in which cases have been tested by rapid influenza diagnostic tests, it is recommended that reverse transcriptase -polymerase chain reaction (RT-PCR), and/or viral culture is utilized. Clinicians should use empirical treatment with influenza antiviral medications for persons hospitalized with suspected influenza, and for suspected influenza infection of any severity in high-risk individuals, regardless of influenza immunization status. Early initiation of treatment provides more optimal clinical responses, although treatment of moderate, severe, or progressive disease begun after 48 hours of symptoms can still provide benefit.

Background

During late June and July, 2010, the number of seasonal influenza A (H3) viruses reported to CDC increased slightly compared with previous months. In the first part of July, two small RT-PCR-confirmed outbreaks were detected in two non-bordering eastern counties in Iowa. The first included four of 13 members of a college sports team who became ill. Three of the four tested positive for influenza A by rapid tests and two of the three were further tested and found to be positive for influenza A (H3) by RTPCR. The second outbreak involved nine of 12 children in a child care setting and one parent reporting influenza-like illness; two were rapid test positive for influenza A and one was PCR positive for influenza A (H3). Specimens and isolates have been sent to CDC for further characterization. None of the patients had a history of recent travel and no epidemiological links were identified between the two outbreaks.

Between June 20 and July 23, 2010, CDC also received additional influenza A (H3) positive specimens from 11 other states along with a smaller number of sporadic samples positive for 2009 H1N1 influenza A and B viruses. Localized summer outbreaks in the United States from seasonal influenza viruses and sporadic cases of influenza are detected each summer.

Antigenic characterization of the influenza A (H3) viruses received at CDC are pending. However, based on hemagglutinin gene sequencing data from four viruses isolated from July specimens, these viruses are expected to be antigenically similar to A/Perth/16/2009-like H3N2 viruses. An A/Perth/16/2009-like H3N2 virus is included in the 2010-11 seasonal influenza vaccine. Perth-like H3N2 viruses were first identified in early 2009, but have not yet circulated widely in the United States. Past influenza vaccines did not contain this strain, so vaccination with last year's seasonal vaccine would not be expected to provide substantial protection against this H3N2 Perth-like strain.

Recommendations

Health care providers are reminded to consider influenza as a possible diagnosis when evaluating patients with acute respiratory illnesses, including pneumonia, even during the summer months. The

neuraminidase inhibitors oseltamivir (Tamiflu®) and zanamivir (Relenza®) are currently recommended for use against circulating influenza viruses. The adamantanes (amantadine and rimantadine) are not recommended because of high levels of resistance to these drugs among recently circulating influenza A (H3) and 2009 H1N1 pandemic viruses.

Clinical judgment is an important factor in treatment decisions for patients presenting with influenza-like illness. Prompt empiric antiviral treatment with influenza antiviral medications is recommended while results of definitive diagnostic tests are pending, or if diagnostic testing is not possible, for patients with clinically suspected influenza illness who have:

- Illness requiring hospitalization,
- Progressive, severe, or complicated illness, regardless of previous health status, and/or
- Patients at increased risk for severe disease.

Persons at high risk of influenza complications include people aged 65 years and older, young children, pregnant women, people with long-term health conditions like asthma, diabetes, neurologic and neurodevelopmental disorders, heart disease, and people with immunosuppressive conditions or medications.

Antiviral treatment, when clinically indicated, should **not be delayed pending definitive laboratory confirmation of influenza**. Influenza antiviral medications are most effective when initiated within the first 2 days of illness, but these medications may also provide benefits for severely ill patients when initiated even after 2 days. Point of care rapid tests capable of detecting influenza A and B virus infections are available, but health care providers and public health personnel should be aware that rapid influenza diagnostic tests have limited sensitivity and false negative results are common. Thus, negative results from rapid influenza diagnostic test should not be used to guide decisions regarding treating patients with influenza antiviral medications. In addition, false positive tests can occur and are more likely when influenza is rare in the community. When laboratory confirmation is desired, testing by RT-PCR and/or viral culture is recommended.

Providers are asked to report unusual increases in febrile respiratory disease outbreaks to their local and state health departments and to confirm positive rapid test results with PCR or culture when community circulation of influenza viruses is low.

For More Information

[In Missouri, questions should be directed to the local public health agency, or to the Missouri Department of Health and Senior Services' Bureau of Communicable Disease Control and Prevention at 573/751-6113. Specific questions on laboratory testing should be directed to the Missouri State Public Health Laboratory at 573/751-3334.]

More information on influenza prevention, diagnosis and treatment can be found at www.cdc.gov/flu. Beginning this influenza season, the Advisory Committee on Immunization Practices (ACIP) recommends influenza vaccination of all persons 6 months of age and older. These updated recommendations can be found at <http://www.cdc.gov/mmwr/pdf/rr/rr59e0729.pdf>.

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