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Distributed via Health Alert Network
Thursday, June 10, 2004, 17:35 EDT (5:35 PM EDT)
CDCHAN-00204-2004-06-10-UPD-N

Update on SARS and Avian Influenza A (H5N1)

This update reviews the current situation and the surveillance and diagnostic recommendations for both severe acute respiratory syndrome (SARS) and avian influenza A (H5N1). The updates have been combined because the clinical presentation and travel history of persons with avian influenza A (H5N1) or SARS coronavirus (SARS-CoV) infection may overlap. The recommendations for SARS have been revised downward because the most recent SARS activity in China has been contained. The recommendations for avian influenza A (H5N1) remain at the enhanced level established in February 2004. As detailed in the recommendations below, vigilance in the clinical setting for SARS and avian influenza (H5N1) requires that health-care providers consistently obtain international travel and other exposure risk information for persons who have specified respiratory symptoms.

SEVERE ACUTE RESPIRATORY SYNDROME

Current Situation

During April 22-29, 2004, the Chinese Ministry of Health (MOH) reported a total of nine cases (one fatal) of SARS in China; seven of the patients were from Beijing, and two were from Anhui Province, located in east-central China. Two of the nine patients were graduate students who worked at National Institute of Virology Laboratory (NIVL) in Beijing, which is known to conduct research on SARS-CoV. The NIVL was closed on April 23 and remains closed to date. Possible sources of infection for the two laboratory workers, neither of whom is known to have worked directly with SARS-CoV, are being investigated. Of the seven other SARS cases, two were directly linked to close contact with one of the graduate students who worked at NIVL; these two cases were in the graduate student's mother (who died) and in a nurse who provided care to the graduate student. The remaining five cases were linked to close contact with the nurse.

No further cases of SARS in China or anywhere else in the world have been reported since April 29, 2004. On May 18, the World Health Organization (WHO) [reported on its website](#) that the outbreak in China appears to have been contained, but that laboratory biosafety concerns remain and further investigation is under way. CDC is in close communication with WHO and is working with its other public health partners to reinforce the need for strict adherence to applicable biosafety precautions to reduce the risk of laboratory-related exposures to SARS-CoV.

Recommended U.S. SARS Control Measures

Given that the recent SARS outbreak in China appears to have been contained with relatively limited secondary transmission, CDC is revising previously issued guidance for enhanced surveillance of SARS in travelers to China (http://www.cdc.gov/ncidod/sars/han/han_China042304.htm). In the current setting, surveillance efforts should aim to identify patients who 1) require hospitalization for radiographically confirmed pneumonia or acute

respiratory distress syndrome without identifiable etiology AND 2) have one of the following risk factors in the 10 days before the onset of illness:

- a. Travel to mainland China, Hong Kong, or Taiwan, or close contact with an ill person with a history of recent travel to one of these areas, OR
- b. Employment in an occupation associated with a risk for SARS-CoV exposure (e.g., health-care worker with direct patient contact; worker in a laboratory that contains live SARS-CoV), OR
- c. Part of a cluster of cases of atypical pneumonia without an alternative diagnosis.

When individuals meeting these criteria are identified, appropriate infection control should be instituted, as described in the guidelines at www.cdc.gov/ncidod/sars/absenceofsars.htm. Diagnostic testing should be performed judiciously, and preferably only in consultation with the local or state health department. SARS-CoV testing should be considered if no alternative diagnosis is identified 72 hours after initiation of the clinical evaluation and the patient is thought to be at high risk for SARS-CoV disease (e.g., part of a cluster of unexplained pneumonia cases). Infection control practitioners and other health-care personnel also should be alert for clusters of pneumonia among two or more health-care workers who work in the same facility.

Additional SARS Information

For more information about current U.S. SARS control guidelines, see the CDC document, “ In the Absence of SARS-CoV Transmission Worldwide: Guidance for Surveillance, Clinical and Laboratory Evaluation, and Reporting” at <http://www.cdc.gov/ncidod/sars/absenceofsars.htm>. Additional information about SARS preparedness is available in CDC's document, Public Health Guidance for Community-Level Preparedness and Response to Severe Acute Respiratory Syndrome (SARS) <http://www.cdc.gov/ncidod/sars/sarsprepplan.htm>; general information about SARS is available at <http://www.cdc.gov/ncidod/sars/>.

AVIAN INFLUENZA A (H5N1)

Current Situation

Since January 2004, a total of 34 confirmed human cases of avian influenza A (H5N1) virus infections have been reported in Vietnam (22 cases, 15 deaths) and Thailand (12 cases, 8 deaths). The last case officially reported by Vietnam occurred in February 2004. One additional case was described in several media reports in mid-March in southern Vietnam http://www.who.int/csr/don/2004_03_22a/en/. All persons with confirmed H5N1 influenza had severe illness and were hospitalized with pneumonia; most cases occurred in children and young adults who had direct close contact with live, sick, or dead poultry. There currently is no evidence of efficient human-to-human transmission of avian influenza A (H5N1) viruses. These cases were associated with widespread H5N1 poultry outbreaks that occurred at commercial and small backyard poultry farms. Since December 2003, eight countries have reported H5N1 outbreaks among poultry. Outbreaks in South Korea and Japan were limited to commercial farms and have been adequately contained; however, outbreaks in Vietnam, Thailand, Indonesia, Cambodia, Laos, and China have been more extensive and the degree to which they have been controlled remains uncertain. On the basis of current information, human infection with avian influenza A (H5N1) viruses remains a public health risk in these countries.

Enhanced U.S. Surveillance, Diagnostic Evaluation, and Infection Control Precautions for Avian Influenza A (H5N1)

CDC recommends maintaining the enhanced surveillance efforts by state and local health departments, hospitals, and clinicians to identify patients at increased risk for avian influenza A (H5N1) that were issued by CDC on February 3, 2004 <http://www.cdc.gov/flu/han020302.htm>. Guidelines for enhanced surveillance are:

Testing for avian influenza A (H5N1) is indicated for hospitalized patients with:

- a. Radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established, AND
- b. History of travel within 10 days of symptom onset to a country with documented H5N1 avian influenza in poultry and/or humans (for a listing of H5N1-affected countries, see the OIE Web site at http://www.oie.int/eng/en_index.htm and the WHO Web site at <http://www.who.int/en/>).

Testing for avian influenza A (H5N1) should be considered on a case-by-case basis in consultation with state and local health departments for hospitalized or ambulatory patients with:

- a. Documented temperature of $>38^{\circ}\text{C}$ ($>100.4^{\circ}\text{F}$), AND
- b. One or more of the following: cough, sore throat, shortness of breath, AND
- b. History of contact with poultry (e.g., visited a poultry farm, a household raising poultry, or a bird market) or a known or suspected human case of influenza A (H5N1) in an H5N1-affected country within 10 days of symptom onset.

Infection control precautions for H5N1 remain unchanged from the CDC interim recommendations published on February 3, 2004 <http://www.cdc.gov/flu/han020302.htm>. These recommendations are further described in the CDC guidance document, "Interim Recommendations for Infection Control in Health-Care Facilities Caring for Patients with Known or Suspected Avian Influenza" <http://www.cdc.gov/flu/avian/professional/infect-control.htm>.

Additional Avian Influenza A (H5N1) Information

- For information about reported outbreaks of avian influenza A (H5N1) among poultry, see the web site of the World Organization of Animal Health (OIE) at http://www.oie.int/eng/AVIAN_INFLUENZA/home.htm.
- For information about human H5N1 cases, see the WHO web site <http://www.who.int/en/>
- For clinical information about human H5N1 cases, see:
 - CDC. Cases of influenza A (H5N1) – Thailand, 2004. MMWR 2004;53:100-103 <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5305a2.htm>.
 - Hien TT, Liem AT, Dung NT, et al. Avian influenza A (H5N1) in 10 patients in Vietnam. New England Journal of Medicine 2004;350:1179-1188.

For general information about influenza, see the CDC Web site at www.cdc.gov/flu.

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national and international organizations.

DEPARTMENT OF HEALTH AND HUMAN SERVICES