News

Severe Respiratory Illness Associated With a Novel Coronavirus

(MMWR 62:194, 2013)—As of 7 March 2013, a total of 14 confirmed cases of novel coronavirus infection have been reported to the World Health Organization, with 8 deaths. Illness onsets have occurred from April 2012 through February 2013. To date, no cases have been reported in the United States.

Three of the confirmed cases of novel coronavirus infection were identified in the United Kingdom (UK) as part of a cluster within one family. The index patient in the cluster, a man aged 60 years with a history of recent travel to Pakistan and Saudi Arabia, developed respiratory illness on 24 January 2013, before returning to the UK on January 28. He was hospitalized on January 31 with severe lower respiratory tract disease and has been receiving intensive care. Respiratory specimens from this patient taken on February 1 tested positive for influenza A (H1N1) virus and for novel coronavirus infection. The second patient was an adult male household member with an underlying medical condition who became ill on February 6, after contact with the index patient, and received intensive treatment but died with severe respiratory disease. This patient’s underlying illness might have made him more susceptible to severe respiratory infection. The third patient is an adult female who developed a respiratory illness on February 5, following contact with the index patient after he was hospitalized. She did not require hospitalization and had recovered by February 19. Only the index patient had traveled recently outside the UK. Based on their ongoing investigation of this cluster of illnesses, the UK Health Protection Agency has concluded that person-to-person transmission likely occurred in the UK within this family.

This recent cluster provides the first clear evidence of human-to-human transmission of this novel coronavirus, coinfection of this novel coronavirus with another pathogen (influenza A), and a case of mild illness associated with this novel coronavirus infection. In light of these developments, updated guidance has been posted on the Centers for Disease Control and Prevention’s coronavirus website (http://www.cdc.gov/coronavirus/ncov).

Editorial comment. This report is a follow-up to a news article published in Clinical Infectious Diseases 2 issues ago. In fact, as of 27 March 2013, there have been 17 cases with 11 deaths. There are 3 probable clusters involving person-to-person spread, as previously reported. However, the cluster in the UK is the most clear-cut, as the only possible source for the 2 secondary cases was the index case. The other 2 clusters occurred in countries where the disease is occurring.

FDA Drug Safety Communication: Azithromycin (Zithromax or Zmax) and the Risk of Potentially Fatal Heart Rhythms

(Food and Drug Administration, 12 March 2013)—The US Food and Drug Administration (FDA) is warning the public that azithromycin (Zithromax or Zmax) can cause abnormal changes in the electrical activity of the heart that may lead to a potentially fatal irregular heart rhythm. Patients at particular risk for developing this condition include those with known risk factors such as existing QT interval prolongation, low blood levels of potassium or magnesium, a slower than normal heart rate, or the use of certain drugs to treat abnormal heart rhythms, or arrhythmias. This communication is a result of our review of a study by medical researchers as well as another study by a manufacturer of the drug that assessed the potential for azithromycin to cause abnormal changes in the electrical activity of the heart.

The azithromycin drug labels have been updated to strengthen the Warnings and Precautions section with information related to the risk of QT interval prolongation and torsades de pointes, a specific, rare heart rhythm abnormality. Information has also been added regarding the results of a clinical QT study, which showed that azithromycin can prolong the QT interval.

Healthcare professionals should consider the risk of fatal heart rhythms with azithromycin when considering treatment options for patients who are already at risk for cardiovascular events. The FDA notes that the potential risk of QT prolongation with azithromycin should be placed in appropriate context when choosing an antibacterial drug. Alternative drugs in the macrolide class, or nonmacrolides such as the fluoroquinolones, also have the potential for QT prolongation or other significant side effects that should be considered when choosing an antibacterial drug.

The FDA released a statement on 17 May 2012 about a New England Journal of Medicine study that compared the risks of cardiovascular death in patients treated with the antibacterial drugs azithromycin, amoxicillin, ciprofloxacin (Cipro), and levofloxacin (Levaquin), or no antibacterial drug. The study reported an increase in cardiovascular deaths, and...
in the risk of death from any cause, in persons treated with a 5-day course of azithromycin (Zithromax) compared to persons treated with amoxicillin, ciprofloxacin, or no drug. The risks of cardiovascular death associated with levofloxacin treatment were similar to those associated with azithromycin treatment.

Rabies Death Following Organ Transplant

(Prepared by editor, 15 March 2013)—A man recently died of rabies in Maryland 1.5 years after receiving a kidney transplant. He was 1 of 4 organ recipients who had received organs from the same donor, who died in Florida in 2011. The donor’s organs, including the kidneys, heart, and liver, were transplanted into other recipients in Florida, Georgia, Illinois, and Maryland. The donor, who had encephalitis, was not suspected of having rabies. After the diagnosis of rabies was made in the recipient, the donor’s death was investigated and found to be caused by rabies.

All organ donors in the United States are tested to see if they have an infection that would preclude transplantation. Tests are conducted for viral diseases such as hepatitis and human immunodeficiency virus. Rabies had not been suspected as the cause of death, and according to the Centers for Disease Control and Prevention, if rabies is not suspected, testing for rabies is not routinely performed.

The other 3 organ recipients are receiving rabies vaccine. The virus is believed to be a raccoon strain, and the exposure of the donor probably occurred in North Carolina before he moved to Florida.

The incubation period was a year and a half in this patient. The incubation period for rabies is typically 1–3 months, but may vary from <1 week to >1 year. Transmission of rabies through organ or tissue transplant is extremely rare. Four people in Texas died in 2004 and 3 died in Germany in 2005 from rabies. In each cluster, rabies was contracted from a single donor’s tissue. There have been at least 8 cases worldwide acquired from corneal transplants.

Outbreak of Shigella sonnei Infection With Decreased Susceptibility to Azithromycin—Los Angeles, California, 2012

(MMWR 62:171, 2013)—In May 2012, an outbreak of shigellosis associated with a private bridge club was investigated. This investigation documented the first known transmission of Shigella sonnei with decreased susceptibility to azithromycin in the United States.

Cases were defined as an illness clinically compatible with shigellosis in a patient or S. sonnei isolated from stool of a person with an epidemiologic link to the bridge club during 22–26 May 2012. Stool specimens were collected from workers who handled food and from workers and members with diarrhea. Thirty-nine cases were identified among club members with diarrhea and 4 among club workers; of the 4 workers, 2, including one who handled food, reported no symptoms. The average age of affected persons was 75.3 years (range, 54–98 years); 55% were female. Among those with symptoms, the duration of illness averaged 5.9 days (range, 1–14 days). Common symptoms included diarrhea in 95% of patients, abdominal cramps in 70%, and fever in 56%. Thirty-one (72%) persons sought medical care, and 10 (23%) were hospitalized. No specific exposures implicated a source for the outbreak.

Among the 43 cases, 14 were culture-confirmed; 10 isolates underwent pulsed-field gel electrophoresis, yielding indistinguishable patterns. Four isolates submitted to the Centers for Disease Control and Prevention’s National Antimicrobial Resistance Monitoring System (NARMS) displayed resistance to streptomycin, sulfisoxazole, tetracycline, and trimethoprim-sulfamethoxazole. Unlike most Shigella isolates tested by NARMS, these isolates also showed elevated azithromycin minimum inhibitory concentrations (MICs) of >16 µg/mL and harbored a plasmid-encoded macrolide resistance gene, mphA.

Although sporadic cases of shigellosis caused by Shigella strains with increased azithromycin MICs have occurred, this is the first outbreak documented in the United States and might indicate the increasing circulation of such strains. Illnesses in this outbreak have tended to be severe; however, the affected population was much older than the general US population. Although azithromycin currently is recommended for the treatment of infections caused by multidrug-resistant Shigella, options for alternative treatment among children with such infections primarily include parenteral antimicrobial medications.

Guidelines for azithromycin susceptibility testing and criteria for the interpretation of MICs for Shigella species have not been published

Editorial comment. There are 2 interesting aspects of this report that were not discussed. First, the susceptibility to ciprofloxacin was not specifically mentioned, and this agent is more commonly used in adults than azithromycin. I assume the Shigella were susceptible. Also, this outbreak demonstrates the extreme infectivity of Shigella, as it occurred in a group of adults and not in a preschool. As few as from 1 to 10 Shigella can cause disease, and these numbers can easily be transmitted by a handshake or by sharing peanuts; the elderly are even more susceptible because of the increased incidence of achlorhydria.

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