

TerranearPMC Safety Share

Week of October 27, 2014 – Enterovirus

Not that long ago, on September 25, the virus known as Enterovirus D-68 claimed its first fatality. It was a 4-year-old boy from New Jersey. His name was Eli Waller and he showed no outward signs of the disease. On September 24, he stayed home with a case of pink eye: a condition which examiners are saying was unrelated to the virus (it should be mentioned that there are many medical professionals that believe this condition is, indeed, a condition directly related to many types of enterovirus strains). However, during the early morning hours of the following day, young Eli developed respiratory illness that has since been diagnosed as Enterovirus D-68, which resulted in his passing during his sleep. Since his untimely death, Enterovirus D-68 has claimed the life of another young person and the concerns of the possible devastations that this disease may cause appears to be growing as flu season rapidly approaches.

According the Centers for Disease Control and Prevention (CDC) there are more than 100 types of enteroviruses causing about 10 to 15 million infections in the United States each year. They are carried in the intestinal tract and often spread to other parts of the body. The season often hits its peak in September, as summer ends and fall begins.

As of October 6, 2014 the virus has sickened more than 500 people in the US-almost all of them children, and the number of cases is growing as health professionals scramble to get this disease under control. So far, ten states have contacted the CDC for help investigating clusters of the virus that's being blamed for the illness.

Enterovirus D-68, or EV-D68, first was identified in California in 1962. It is one of several strains within the enterovirus genus. Compared with other enteroviruses, over the past 40 years, EV-D68 has been rarely reported in the U.S. Most people who get infected are infants, children and teens. EV-D68 usually causes mild to severe respiratory illness; however, the full spectrum of EV-D68 illness is not well-defined. Most start with common cold symptoms of runny nose and cough. Some, but not all, may also have fever. For more severe cases, difficulty breathing, wheezing or problems catching your breath may occur.

Enteroviruses affect millions of people worldwide each year, and are often found in the respiratory secretions (e.g., saliva, sputum, or nasal mucus) and stool of an infected person. Historically, poliomyelitis (aka polio) was the most significant disease caused by an enterovirus. There are 64 non-polio enteroviruses that can cause disease in humans, with about eight of them spread through the fecal-oral route. Infection can result in a wide variety of symptoms ranging from mild respiratory illness (common cold), hand, foot and mouth disease, acute hemorrhagic conjunctivitis (type of pink eye), aseptic meningitis (inflamed lining of the brain), myocarditis (infection and inflammation of the heart), severe neonatal sepsis-like disease, and acute flaccid paralysis (weakness or paralysis and reduced muscle tone).

Health officials are stressing to the public that enteroviruses *usually* aren't deadly and emphasize that all affected persons are going to get better, even though certain segments of the population, such as children with asthma will experience a greater level of severity. As the Missouri Department of Health and Senior Services (one of the states that has experienced a high incidents



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of the recent EV-D68 cases) has stated that many of the EV-D68 infections will be mild and self-limited, requiring only symptomatic treatment. Meanwhile the virus has sent more than 30 children a day to a Kansas City, Missouri, hospital.

Some cases could, in theory, contribute to death, but none of the Missouri cases have resulted in a fatality while data is not available for overall morbidity and mortality from the virus in the United States.

Treatment for enteroviral infection is mainly supportive. In cases of pleurodynia (severe pain in respiratory lining), treatment consists of analgesics and other painkillers to relieve the severe pain that occurs in patients with the disease; in some severe cases, opiates may be needed. Treatment for aseptic meningitis caused by enteroviruses is also mainly symptomatic. In patients with enteroviral carditis, treatment consists of the prevention and treatment of complications, such as arrhythmias, pericardial effusion, and cardiac failure. Other treatments that have been investigated for enteroviral carditis include intravenous immunoglobulin.

Like other enteroviruses, the respiratory illness appears to spread through close contact with infected people. That makes children more susceptible as they are in close contact with each other due to school and playtime activities. There's not a great deal you can do, health officials say, beyond taking commonsense steps to reduce the risk. While there is no vaccine for EV-D68, preventative measures can be practiced. Here are a few things that everyone should do to prevent the spread of EV-D68 as well as other diseases that are transmitted through close contact.

- Wash your hands with soap and water for 20 seconds -- particularly after going to the bathroom and changing diapers.
- Clean and disinfect surfaces that are regularly touched by different people, such as toys and doorknobs.
- Cover your mouth when you cough. Lately people have been using the inside of their elbow to perform this task as the latest instructions from health organizations have been promoting this technique, but observations indicate that most people who attempt to suppress their cough in this manner do not use this method effectively. This method was developed as many people were using their hands to suppress coughs, which, if not washed would help spread germs and disease.
- Avoid shaking hands, kissing, hugging and sharing cups or eating utensils with people who are sick. And stay home if you feel unwell.

I hated every minute of training, but I said, 'Don't quit. Suffer now and live the rest of your life as a champion.'

Muhammad Ali

