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Polio-Like syndrome—Enterovirus D68

Researchers at the University of California San Francisco reported genetic analyses of the Enterovirus D68 strains (EV68) recovered from children stricken with a type of sudden-onset partial paralysis, called acute flaccid myelitis. Examining the nucleic acid sequences of the viruses that affected 25 children—9 from Colorado and 16 from California-- investigators discovered that this strain, called B1, has mutations very similar to those found in Poliovirus and Enterovirus D70, agents known to damage neurologic tissue. EV 68 strain B1 emerged four years ago and in 2014 was recognized as the predominant strain causing an outbreak of EV68 infection.

As this strain was virtually always recovered from respiratory secretion, the mechanism for infecting and destroying spinal tissues is elusive. Then the B1 strain was recovered from blood of one patient, seemingly providing an avenue for virus to gain access to neural tissue. Dr. Charles Chiu, a UC-SF researcher, commented that neurological symptoms may be the result of an aberrant immune response to recent EV-D68 infection and not because the virus directly invades neurons. "I don't think we've answered it one way or another," Chiu said. He said more urgent investigation of the virus is needed. "None of the children with acute flaccid myelitis have fully recovered," he said.

With the start of enterovirus season in a few months – it tends to peak in late summer and early fall -- researchers say they cannot predict whether the B1 strain of enterovirus D68 will make a comeback. ProMed Digest 30 March 2015. The SLO Public Health Laboratory is performing a reverse-transcription PCR assay to detect Enteroviruses.

Ciprofloxacin-Resistant Shigella sonnei Outbreak

In December 2014, PulseNet—the national molecular subtyping network of federal, state and local public health laboratories for foodborne disease—detected a multi-state cluster of of ***Shigella sonnei*** infection with an unusual pulsed-field gel electrophoretic (PFGE) pattern. Culture isolates were determined by the CDC laboratories to be resistant to ciprofloxacin—the recommended antibiotic for shigellosis treatment.

CDC, state and local public health investigators studied 157 cases from 32 states, and found that approximately half were associated with international travel. Most cases were reported for Massachusetts (45 cases), California (25 cases), and Pennsylvania (18 cases). More than half of all patients with a verifiable travel history, reported travel during the incubation period for shigella, with destinations of the Dominican Republic, Haiti, India, Morocco and other locations in Asia and Europe.

Shigella causes an estimated half-million cases of diarrheal disease in the US annually, and is easily transmitted person to person by direct contact, and through contaminated food and recreational water. Travelers need to be aware of the risks of acquiring multidrug-resistant pathogens, the need to wash hands, and to adhere to food and water precautions while travelling abroad. (MMWR April 3, 2015.)