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CDC HEALTH ADVISORY

Distributed via the CDC Health Alert Network
July 12, 2022, 1:15 PM ET
CDCHAN-00469

Recent Reports of Human Parechovirus (PeV) in the United States—2022

Summary
The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Advisory to inform clinicians and public health departments that parechovirus (PeV) is currently circulating in the United States. Since May 2022, CDC has received reports from healthcare providers in multiple states of PeV infections in neonates and young infants. Parechoviruses are a group of viruses known to cause a spectrum of disease in humans. Clinicians are encouraged to include PeV in the differential diagnoses of infants presenting with fever, sepsis-like syndrome, or neurologic illness (seizures, meningitis) without another known cause and to test for PeV in children with signs and symptoms compatible with PeV infection (see below). Commercial laboratory assays, multiplex platforms for meningitis and encephalitis, and testing through state public health laboratories (SPHLs) are available to test cerebrospinal fluid (CSF) for PeV to confirm a diagnosis. CDC laboratory support is also available for testing and typing patient specimens.

To date, all PeV positive specimens tested and typed at CDC were type PeV-A3. Because there is presently no systematic surveillance for PeVs in the United States, it is not clear how the number of PeV cases reported in 2022 compares to previous seasons. PeV laboratory testing has become more widely available in recent years, and it is possible that increased testing has led to a higher number of PeV diagnoses compared with previous years.

Background
Human parechoviruses (PeVs), members of the *Picornaviridae* family, are common childhood pathogens associated with various clinical manifestations, ranging from asymptomatic or mild symptoms to severe illness. PeV share the same taxonomic family with enteroviruses. There are four species, of which only PeV-A is known to cause disease in humans. PeV-A has multiple types; PeV-A3 is most often associated with severe disease. Symptoms such as upper respiratory tract infection, fever, and rash are common in children between 6 months and 5 years, with most children having been infected by the time they start kindergarten. However, in infants less than 3 months, severe illness can occur, including sepsis-like illness, seizures, and meningitis or meningoencephalitis, particularly in infants younger than 1 month. Upon examination, the spinal fluid in infants with PeV often has few to no white blood cells. Long-term neurodevelopmental outcomes can occur, although this is rare. There is no specific treatment for PeV infection (1). However, diagnosing PeV in infants might change management strategies and provide important health information for families.

Both symptomatic and asymptomatic infected individuals can transmit PeV via the fecal-oral and respiratory routes. Shedding from the upper respiratory tract can occur for 1-3 weeks and from gastrointestinal tract for as long as 6 months after infection. The incubation period is unknown. PeVs are widespread and circulate worldwide. Some types show a clear seasonality of later summer and fall, similar to enteroviruses. PeV-A3 has been seen to demonstrate a cyclical pattern with peaks occurring biennially (2-4).

Recommendations for Clinicians

- Be aware that PeVs circulate in the summer and fall. In the absence of an identified pathogen, consider PeV infection in a neonate or infant presenting with fever, sepsis-like syndrome, or signs of neurologic involvement.
- Become familiar with specimen collection, storage, and shipping procedures. Testing for PeV is available at commercial clinical laboratories and SPHLs, and hospitals may use multiplex meningitis and encephalitis panels for CSF testing that include PeV. Testing and typing for PeV are also available at CDC when other options are unavailable; clinicians should still work with their state public health department to send specimens to CDC. Please contact PicornaLab@cdc.gov before submitting specimens. Accepted specimens include CSF, throat or nasopharyngeal swabs, blood, and stool.
- Consider cohorting an infant hospitalized with detected PeV infection with other affected infant(s) to avoid healthcare-associated transmission in nurseries or neonatal intensive care units.
- Use Contact, Droplet, and Standard Precautions. In most clinical situations, alcohol-based hand sanitizer (ABHS) is preferred for cleaning hands with an alcohol content of at least 60%. However, soap and water is the preferred method after patient care involving diapering or toileting, before eating or feeding, and if hands are visibly soiled (e.g., dirt, blood, body fluids). Although non-enveloped viruses may be less susceptible to alcohol than enveloped viruses, ABHS offers benefits in skin tolerance, compliance, and overall effectiveness, especially when combined with glove use. See Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings –Recommendations of the HICPAC for more information.
- Consult the state health department with questions about PeV.

Recommendations for Public Health Departments and Public Health Jurisdictions

- Be aware of circulating PeV and be prepared to receive inquiries about cases from healthcare providers in your jurisdiction.
- Upload reports of specimens that test positive for PeV to the National Enterovirus Surveillance System (NESS) to improve surveillance for this pathogen.
- Direct specimen testing questions to CDC at PicornaLab@cdc.gov.

For More Information

- Non-polio Enterovirus
- Laboratory Testing for Non-polio Enterovirus
- Specimen Collection, Storage, and Shipment
- National Enterovirus Surveillance System (NESS) | CDC

References

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