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CDC investigating 109 pediatric hepatitis cases; link to adenovirus unclear

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Health officials are investigating 109 cases of children with acute hepatitis of unknown cause in 25 states and territories since October 2021, including five who have died. While more than half had a confirmed adenovirus infection, it is unclear whether the virus is the cause.

The hepatitis cases have sparked alarm in the U.S. and abroad. Unlike in the United Kingdom, the documented U.S. case counts are not above what's expected, according to Centers for Disease Control and Prevention (CDC) Deputy Director for Infectious Diseases Jay C. Butler, M.D., FAAP, who called it "an evolving situation."

"At this point in time, we have not documented an overall increase in the number of pediatric hepatitis cases," he said. "But let me be very clear, that's not to say it's not occurring. We are doing what we can to be able to really pursue that question."

In April, the CDC issued a health advisory regarding nine pediatric hepatitis cases of unknown etiology in Alabama from October 2021 through February 2022. None had documentation of a previous COVID-19 infection or COVID-19 vaccine. All were positive for adenovirus.

As the CDC began looking for more pediatric hepatitis cases with unknown cause, the number under investigation nationwide rose to 109. Of those, more than 90% have been hospitalized, and 14% have received liver transplants, according to Dr. Butler. The majority have fully recovered, but five children have died.

Pediatric hepatitis cases of unknown cause have been reported in Alabama, Arizona, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Louisiana, Michigan, Minnesota, Missouri, North Carolina, North Dakota, Nebraska, New York, Ohio, Pennsylvania, Puerto Rico, Tennessee, Texas, Washington and Wisconsin.

More than half the cases have been among children with an adenovirus infection, most commonly adenovirus type 41, which tends to cause gastrointestinal illness but has not been linked to hepatitis in otherwise healthy children. The CDC is looking into whether the virus caused hepatitis as well as other possibilities like an immune reaction to adenovirus, an environmental exposure, medications, other infections including SARS-CoV-2 or the result of expanded surveillance.

“We really are casting a broad net and keeping an open mind in terms of whether the adenovirus data may reflect an innocent bystander or whether there maybe cofactors that are making the adenovirus infections manifest in a way that has not been commonly seen before,” Dr. Butler said.

The CDC is asking clinicians to consider adenovirus testing in children with hepatitis of unknown etiology. Nucleic acid amplification testing is preferred and can be performed on respiratory specimens, stool or rectal swabs, or blood. Clinicians should notify the CDC or state public health authorities of children under 10 years with elevated aspartate aminotransferase or alanine aminotransferase over 500 units per liter who have an unknown etiology for their hepatitis, with or without adenovirus testing results, independent of the results, since Oct. 1, 2021. Contact the CDC at ncirddvdgast@cdc.gov.

Parents and caregivers should watch their children for symptoms of hepatitis, including vomiting, dark urine, light-colored stool and yellowing of the skin, and contact their health care provider with concerns. Families can help protect children from infections by staying up to date on vaccines, washing their hands, avoiding people who are sick and covering coughs and sneezes.

Resources

- CDC health advisory on acute hepatitis and adenovirus testing
- Information from *Red Book Online* about hepatitis cases that may be linked to adenoviral infection
- Information for parents from HealthyChildren.org on adenovirus infections

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