

High fever and evidence of a virus? Caution, it still may be Kawasaki disease

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Clinicians should take caution when diagnosing a child who has a high fever and whose tests show evidence of adenovirus, and not assume the virus is responsible for Kawasaki-like symptoms. According to a new study from Nationwide Children's Hospital appearing in *Clinical Infectious Diseases*, adenovirus detection is not uncommon among children with Kawasaki disease.

Kawasaki disease is a rare but serious condition in children that involves inflammation of the blood vessels, specifically the heart vessels that supply the [heart tissue](#) or coronary arteries. It is the most common cause of pediatric acquired heart disease in the developed world. Children with Kawasaki disease or illness caused by adenoviruses often first present with a high and persistent fever. Early diagnosis for Kawasaki disease before the tenth day of fever is essential to prevent sequelae in the heart.

"Kawasaki disease and acute adenoviral infection can present with many of the same clinical characteristics," says Preeti Jaggi, MD, member of the Section of Infectious Diseases at Nationwide Children's and lead study author. "Given the similarities, human adenovirus infection is one of the most frequent conditions included on the differential diagnosis when considering Kawasaki disease." However, few data are available regarding the differences in frequency, [viral load](#) and types of detectable human adenovirus in Kawasaki disease patients and in children who have adenovirus disease that mimicks Kawasaki disease.

The study aimed to determine whether there are differences in the

amount of human adenovirus in the upper airway in children with human adenovirus infection versus those diagnosed with Kawasaki disease. Dr. Jaggi and her team compared Kawasaki disease patients who were positive for human adenovirus infection with other patients diagnosed with human [adenovirus infection](#) during a two year period at Nationwide Children's. Among 77 Kawasaki disease patients, nearly 13 percent had human adenovirus detected.

"Evidence suggests that human adenovirus strains can persist in pediatric adenoids and tonsils and are capable of low level shedding. PCR analysis can detect non-replicating virus," says Dr. Jaggi, also assistant professor of Clinical Pediatrics at The Ohio State University College of Medicine. "This may explain why PCR, but not viral culture, could detect human adenovirus in these Kawasaki disease patients."

The findings indicate that detection of human adenovirus in a patient with suspected Kawasaki disease should be interpreted with caution. "Detection of human adenovirus in these patients is fairly common and does not exclude the diagnosis of Kawasaki disease," says Dr. Jaggi.

According to Dr. Jaggi, quantitative PCR, culture and human adenovirus typing methods may help distinguish human adenovirus disease mimicking Kawasaki disease from [Kawasaki disease](#) with accompanying human adenovirus detection.

Provided by Nationwide Children's Hospital

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