

U.S. boy's death highlights rare mosquito-borne infection

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Researchers identify lethal strain of La Crosse virus in Tennessee patient.

(HealthDay)—The death from encephalitis of a 6-year-old Tennessee boy has led researchers to a better understanding of the mosquito-borne virus that killed the child.

La Crosse virus, transmitted by the bite of an infected mosquito, often causes no symptoms. But severe cases may involve encephalitis, a type of brain inflammation usually triggered by infection.

"When [the La Crosse virus] does cause disease, it can cause fatal illness or make children very sick," said Amy Lambert, a research microbiologist with the U.S. Centers for Disease Control and Prevention.

"The disease is almost exclusively among children," added Lambert, lead researcher of the new paper published in the May issue of the journal *Emerging Infectious Diseases*.

In this case, the 6-year-old Union County boy was hospitalized in July 2012 after suffering two seizures and other symptoms associated with viral encephalitis. His condition deteriorated rapidly, and he was dead within five days.

Illness from La Crosse virus, which was identified in 1963 in La Crosse, Wis., is uncommon. Cases each year in the United States number just 80 to 100, Lambert said.

Still, these infections have increased in parts of the southeastern United States, including eastern Tennessee, where the boy was living, the CDC pointed out.

"Historically, the known center of La Crosse virus activity was in the Midwest and Atlantic states," the researcher said.

Possible reasons for the increase in infections in the Southeast include more of the virus-carrying mosquitoes—known as *Aedes triseriatus*—or a new more potent strain of La Crosse virus in this area, Lambert said.

After an autopsy, researchers compared the strain of virus that killed the boy with strains of virus collected from mosquitoes in woods near his home. They also compared these strains to samples collected from mosquitoes in different areas of the country over more than 40 years.

The fatal strain in the Union County, Tenn., case was the same strain seen in other cases of La Crosse infection, Lambert said.

"This strain of La Crosse is the only known strain in the entire history of human cases that has been associated with severe human illness and fatal outcomes," she said. "Further, that was the strain that was present in mosquitoes native to the U.S., not to mosquitoes recently introduced to the country."

Dr. Marc Siegel, a professor of medicine at NYU Langone Medical Center in New York City, said the study has merit.

"La Crosse virus will remain relatively uncommon, reliant as it is on mosquito transmission," he said.

Where this study shows a big advance is in understanding the genetic structure of the subtype of the virus that leads to more severe illness, he said.

"This can have big implications in tracking deadly [strains](#) and figuring out where the biggest emphasis on prevention and destruction of mosquito eggs should go," Siegel said.

Symptoms of La Crosse [virus](#) infection include fever, headache, nausea, vomiting and fatigue. Although seizures during the illness are common, most patients recover completely, according to the CDC. Less than 1 percent of cases result in death.

Lambert said *Aedes triseriatus* mosquitoes live in wooded areas, making their home in tree holes. The best way to protect yourself from a bite when outdoors is to use insect repellent and wear pants and a long-sleeved shirt, she said.

More information: For more about La Crosse virus, visit the [U.S. Centers for Disease Control and Prevention](#).

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