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What is La Crosse Encephalitis (LACV)?

La Crosse encephalitis is a disease caused by a virus that infected mosquitoes spread when they bite people. This virus is part of a group of viruses that can lead to swelling of the brain, known as encephalitis. Most cases of La Crosse encephalitis happen in the upper Midwest, mid-Atlantic, and southeastern parts of the United States. On average, about 30 to 90 neuroinvasive cases of LACV disease are reported each year in the U.S.

Who gets LACV?

Anyone can get infected with LACV if they are bitten by a mosquito that carries the virus. However, infected humans usually don't make enough of the virus in their blood to pass it on to other mosquitoes. This means that humans are not part of the virus's main cycle and are considered "dead-end" hosts. While anyone can get sick from LACV, kids under the age of 16 are more likely to get really sick with serious brain problems than older people.

How is LACV spread?

LACV, or La Crosse encephalitis virus, is mainly spread by the bite of an infected treehole mosquito. When these mosquitoes bite small animals like chipmunks and squirrels, they can pass the virus to them. LACV can also be carried by other types of mosquitoes, like the Asian bush mosquito, Asian tiger mosquito and inland floodwater mosquito.

It's important to know that LACV cannot be spread from one person to another. The mosquitoes that carry LACV are aggressive and like to bite during the day, especially in wooded areas. They lay their eggs in places where water collects, like tree holes, but they can also use things like old tires, buckets, and empty wading pools.

The female treehole mosquitoes can pass LACV to their eggs, and the virus can survive the winter in these dormant eggs. When spring comes, the eggs hatch into infected mosquitoes that can start the cycle all over again.

What are the symptoms of LACV infection?

Most persons infected with LACV have no apparent illness. In those who become ill, initial symptoms include fever, headache, nausea, vomiting, and tiredness. Severe disease involving encephalitis occurs most commonly in children under age 16 and is often accompanied by seizures. Coma and paralysis occur in some cases and long-term learning disabilities may occur in children who survive a severe illness.

How soon after exposure do symptoms appear?

It takes 5-15 days after the bite of an infected mosquito to develop symptoms of LACV disease.

How is LACV diagnosed?

Diagnosis is based on tests of blood or spinal fluid. These tests typically look for antibodies that the body makes against the viral infection.

What is the treatment for LACV?

There is no vaccine or medicine to prevent La Crosse encephalitis (LACV) disease. Antibiotics don't work against viruses, and no antiviral drugs have been found. For serious illnesses caused by LACV, treatment usually involves supportive care. This means patients might need to go to the hospital, get help with breathing, receive fluids through an IV, and take steps to avoid other infections.

How can LACV be prevented?

Prevention of mosquito bites is the best protection against LACV:

- Use insect repellent containing DEET, picaridin, IR3535 or oil of lemon eucalyptus on exposed skin and/or clothing. The repellent/insecticide permethrin can be used on clothing to protect through several washes. Always follow the directions on the package.
- Wear long sleeves and pants when weather permits.
- Have secure, intact screens on windows and doors to keep mosquitoes out.
- Eliminate mosquito breeding sites around the home by emptying standing water from flowerpots, buckets, barrels, and other containers. Drill holes in tire swings so water drains out. Empty children's wading pools and store on their side after use.
- LACV can survive the winter in mosquito eggs, which will hatch into infected mosquitoes when spring arrives. To help lower the number of these mosquitoes, you can clean up places where they might breed, such as old tires or buckets. The *Aedes* mosquitoes that spread LACV also lay their eggs in tree holes. To reduce the number of mosquitoes, you can fill tree holes in your yard with sand.

How can I get more information about LACV?

- If you have concerns about LACV, contact your healthcare provider.
- Call your local health department. You can find your local health department at vdh.virginia.gov/health-department-locator/.
- Visit the CDC page on La Crosse Encephalitis at cdc.gov/la-crosse-encephalitis/about/index.html for more information.

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