



Health News

Man Dies of Brain Inflammation Caused by Deer Tick Virus

By Amanda Gardner
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WEDNESDAY, May 13 (HealthDay News) -- In what scientists say might be the first case of its kind, a new report details the story of a 62-year-old man in New York state who died last year of meningoencephalitis, apparently after being bitten by a deer tick infected with deer tick virus.

"This is the first definitive case describing fatal deer tick virus encephalitis in humans," said Norma P. Tavakoli, lead author of a paper detailing the recent case, which appears in the May 14 issue of the *New England Journal*.

"Deer tick virus encephalitis [inflammation of the brain] is rare, but diagnostic testing is not routinely performed, so there could be cases out there we're actually missing," said Tavakoli, who is a research scientist with the Wadsworth Center, New York State Department of Health in Albany. "Certainly, during early spring to fall in areas where infected ticks have been reported, testing should be done."

"It is quite a rare virus," said Dr. Geoffrey Weinberg, a professor of pediatrics in the division of pediatric infectious diseases at the University of Rochester Medical Center. "I would advise people not to be overly concerned. Ticks are less commonly infected with this than with Lyme disease and, even in Lyme, Conn., a minority of ticks are infected with Lyme disease. Also, the odds are 300-to-one that someone infected with the virus will develop encephalitis. The vast majority have no symptoms at all."

For the average outdoorsman, precautions already recommended to avoid contracting Lyme disease -- also transmitted via deer ticks -- should decrease the odds of getting the deer tick virus as well, according to the study.

"Whether or not this will become a real problem, I don't think anybody knows. Obviously, there is no treatment for the virus so, really, prevention is the only thing you can do," said Dr. Peter Welch, an infectious disease specialist with Northern Westchester Hospital in Mt. Kisco, N.Y. "We should always be cautious to do our best to not be bitten by ticks. Check for ticks when you come out of the woods or anywhere there are ticks. Wear insect repellent which contains DEET."

Wearing light-colored clothing, removing any ticks as soon as they are found and keeping pets free of ticks can also reduce the risk, Tavakoli added.

Deer tick virus is closely related to Powassan virus, which can also cause encephalitis and is also transmitted by way of the deer tick, according to background information in the study. Both are flaviviruses, a group that includes West Nile virus, St. Louis encephalitis virus, dengue and yellow fever viruses, all of which are transmitted by mosquitoes.

Infection with one of these viruses sometimes causes severe illness, some combination of milder symptoms, or no illness at all. Deer ticks also transmit Lyme disease, which is now widespread in the United States.

In the New York case, a 62-year-old man from Putnam County, N.Y., arrived at a local hospital in spring of 2007 complaining of fatigue, fever, rash and muscle weakness.

Doctors first suspected West Nile virus, but analysis of tissue samples eventually came up positive for deer tick virus only.

The patient spent a good deal of time outdoors, owned horses and lived in a county with many reports of Lyme disease, indicating a large tick population. Although the man had not reported any tick bites, the time of the year was right for such an event, and many deer ticks are so small as to remain undetected.

Unfortunately, the man's condition continued to deteriorate, life support was withdrawn, and the man, who also had leukemia and therefore possibly a weakened immune system, died 17 days after he fell ill.

In general, Welch said, encephalitis cases of any sort are few, and labs are not usually able to identify the source, unless it is the herpes simplex virus.

"Since no one has been testing, we really don't know the incidence of deer tick virus, but it can't be very high, because we don't have many cases of encephalitis," he said. "What happens in the future will depend on how many ticks get infected, how easy it is to transmit to people and what percent of people infected get severe disease. It could be that people with normal immune systems are relatively resistant."

More information

Visit the [U.S. Centers for Disease Control and Prevention](#) for more on tick-borne encephalitis.

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