

Prevalence of *Borrelia* infections and Powassan virus in Maine

Monday, June 10, 2019

<http://danielcameronmd.com/prevalence-borrelia-infections-powassan-virus-maine/>

While the *Powassan virus* is considered rare, it can be dangerous and is fatal in 10% of the cases. In 2013, [a Maine woman died from the disease](#) and as of 2017, 10 residents had been infected.

An increase in cases of *Powassan* is particularly alarming, given that there is no medication to treat this infection, yet it can cause [long-term neurologic problems](#). The virus can also be transmitted in as little as 15 minutes.

Survey finds *B. miyamotoi* under-diagnosed in Maine, while Powassan virus causes concern.

Now, a survey by Smith and colleagues examines the prevalence of *B. burgdorferi* (the causative agent of Lyme disease), *B. miyamotoi*, and the *Powassan virus* (POWV) among residents living in Maine. [1]

Using a tick identification database, the authors surveyed 230 individuals who had been bitten by *Ixodes scapularis* (deer ticks) or *Ixodes cookei* (woodchuck or groundhog) ticks between 2009 – 20013. Nearly all of the residents (99%) had been bitten by *I. scapularis* ticks.

Testing revealed:

- 13.9% of the people were positive for *B. burgdorferi*;
- 2.6% were positive for *B. miyamotoi*;
- 0.9% of the subjects were positive for *B. burgdorferi* and *B. miyamotoi*;
- 0.4% were positive for the *Powassan encephalitis virus*.

“Among residents of southern Maine with a history of *I. scapularis* tick bites,” [the authors write](#), “the percentage who were seropositive for *B. burgdorferi* was 5 times greater than that for *B. miyamotoi* (13.9% vs. 2.6%) and 35 times greater than the percentage of deer ticks infected with POWV (0.4%).”

Although the number of *I. scapularis* ticks in Maine infected with the *Powassan virus* is low, frequent exposure to tick bites and the speed of transmission of the virus raises concerns, the authors write.

Out of all the *Borrelia* spp. infections (n=1,854) reported in Maine in 2017, only 6 cases were attributed to *B. miyamotoi*. The majority were diagnosed as Lyme disease.

“On the basis of a seroprevalence of 2% in this study and that *B. miyamotoi* might be transmitted by all tick stages, we believe that this disease [*B. miyamotoi*] is underdiagnosed in Maine.”

Author’s Note: It is encouraging that researchers are learning more about emerging infections, including the Powassan virus. But it is also important for clinicians to not overlook treatable tick-borne diseases when assessing a patient.

[\(An adolescent from Poughkeepsie, NY, who had been diagnosed with Powassan virus and later died, was discovered post-mortem to have had Lyme carditis, a treatable tick-borne illness.\)](#)

Related Articles:

[The best antibiotics to treat Borrelia miyamotoi?](#)

[Study finds tiny larval ticks can transmit Borrelia miyamotoi](#)

[Powassan virus infection causes polio-like illness](#)

References:

1. Smith RP Jr, Elias SP, Cavanaugh CE, et al. Seroprevalence of Borrelia burgdorferi, B. miyamotoi, and Powassan Virus in Residents Bitten by Ixodes Ticks, Maine, USA. Emerg Infect Dis. 2019;25(4):804–807. doi:10.3201/eid2504.180202

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