Borrelia miyamotoi detected in Canada

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http://danielcameronmd.com/borrelia-miyamotoi-cases-detected-in-canada/

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To determine the prevalence of the disease, specifically in Manitoba, Canada, Kadkhoda and his team tested randomly selected blood samples from 250 individuals living in that area, who had suspected or confirmed Lyme disease. Samples had been submitted to the Cadham Provincial Laboratory in Manitoba between 2011 and 2014.

The authors found that 10% of the 250 participants were seropositive for *B. miyamotoi*. That is significantly higher than the 3.9% incidence observed in a group of healthy individuals living in a Lyme disease-endemic area of the northeastern U.S., says Kadkhoda.

However, “The greater *B. miyamotoi* seroprevalence in our sample of Canadian participants,” he says “may be attributed, at least in part, to the fact that they had had recent tick exposure (as evidenced by a suspected or confirmed Lyme disease illness) whereas the American participants were healthy.”

Study participants who were positive for *B. burgdorferi* were more likely to also be infected with *B. miyamotoi*.

The researchers also found that the individuals who tested positive for *B. burgdorferi* were more likely to also be infected with *B. miyamotoi*. “Participants who were seropositive for *B. burgdorferi* were significantly more likely to be *B. miyamotoi* seropositive than those who were *B. burgdorferi* seronegative (20.3% v. 6.6%, respectively, Fisher exact analysis, odds ratio 3.6, 95% CI 1.5–8.5),” according to Kadkhoda.

Kadkhoda and colleagues urge clinicians in this region to be aware that a “febrile illness without an erythema migrans rash (and especially a recurrent febrile illness) in late spring, summer or early autumn may be due to *B. miyamotoi*.

The team cites several lines of evidence highlighting the importance of recognizing *B. miyamotoi* in Canada.

• “Seroprevalence studies in New England suggest that *B. miyamotoi* infection may be as common as anaplasmosis and babesiosis.”

• “*B. miyamotoi* has been found in *I. scapularis* ticks in all Canadian provinces except Newfoundland and Labrador.”

• “Human cases are likely to be found wherever Lyme disease is endemic.”
• “*B. miyamotoi* may cause serious complications, including meningoencephalitis in immunocompromised hosts.”

• “A quarter of the cases in 1 large *B. miyamotoi* case series were admitted to the hospital.”

• “Several studies suggest that *B. miyamotoi* may be transmitted through blood transfusion, consistent with the high levels of spirochetemia that occur with *Borrelia* species that cause relapsing fever.”

**Testing for *B. miyamotoi***

*B. miyamotoi* can be diagnosed by identifying spirochetes on blood smear or *B. miyamotoi* PCR, or a 4-fold rise in *B. miyamotoi* antibody in acute and convalescent sera, Kadkhoda says. In this study, “Sera that tested positive by *B. miyamotoi* ELISA were then tested by glycerophosphodiester phosphodiesterase (GlpQ) Western blot.”

Unfortunately, serological testing for *B. miyamotoi* is not available in Canada or elsewhere. “We hope that our report will accelerate the availability of such testing,” states Kadkhoda. “Polymerase chain reaction testing for *B. miyamotoi,*” he notes, “is available at the National Microbiology Laboratory.”

The authors did not design their study to address treatments or outcomes but do point out that “Patients infected with *B. miyamotoi* should be treated in the same manner as patients with Lyme disease.”

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**References:**