

The best antibiotics to treat *Borrelia miyamotoi*?

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In the United States, as many as 15.4% of the blacklegged ticks were found to be infected with *B. miyamotoi*, compared with up to 4% in Europe and Japan, according to Koetsveld from the Center for Experimental and Molecular Medicine, Academic Medical Center, Amsterdam, the Netherlands. [1]

Meanwhile, “Seroprevalence studies in New England suggest that *B. miyamotoi* infection may be as common as anaplasmosis and babesiosis,” write the authors of one study. The researchers randomly tested 250 individuals living in Manitoba, Canada and found that 10% were seropositive for *B. miyamotoi*. [2]

Although *B. miyamotoi* is characterized by relapsing fever, a case series published in the Annals of Internal Medicine reports that only 2 out of 50 patients infected with *B. miyamotoi* actually exhibited a relapsing fever. [3]

“Recurrent fever episodes have only been observed in 10% [of the cases] and spirochetemia is calculated to be low in patients infected with *B. miyamotoi*,” Koetsveld explains in *Antimicrobial Agents Chemotherapy*. [1]

Fever episodes last for three days and are accompanied by flu-like symptoms such as headache, chills, abdominal discomfort, arthralgia and myalgia.

So, how do we treat this difficult to diagnose condition?

Until now, there have been no treatment guidelines for *B. miyamotoi* and regimes have been empirically based on the treatment for Lyme disease. “The antimicrobial susceptibility of *B. miyamotoi* has not yet been elucidated, due to difficulties with cultivation of *B. miyamotoi* spirochetes *in vitro*,” according to Koetsveld.

“In this study we describe, to our knowledge for the first time, *in vitro* susceptibility of *B. miyamotoi* to the most commonly used antibiotics” in the treatment of *B. miyamotoi* and Lyme borreliosis.

The study authors demonstrated that *B. miyamotoi* is susceptible to doxycycline, azithromycin, and ceftriaxone but resistant to amoxicillin *in vitro*. The next step would be to show whether these drugs work in patients.

Note: This article was originally published July 19, 2017. It has been updated with new content.

Related Articles:

[Doctors face challenges in diagnosing *Borrelia miyamotoi*](#)

[Larval ticks may be a threat after all - insights based on study of Borrelia miyamotoi](#)

[Blood smear not reliable in diagnosing Borrelia miyamotoi disease](#)

References:

1. Koetsveld J, Draga ROP, Wagemakers A, et al. In vitro susceptibility of the relapsing fever spirochete *Borrelia miyamotoi* to antimicrobial agents. *Antimicrob Agents Chemother*. 2017.
2. Kadkhoda K, Dumouchel C, Brancato J, Gretchen A, Krause PJ. Human seroprevalence of *Borrelia miyamotoi* in Manitoba, Canada, in 2011-2014: a cross-sectional study. *CMAJ Open*. 2017;5(3):E690-E693.
3. Molloy PJ, Telford Iii SR, Chowdri HR, Lepore TJ, Gugliotta JL, Weeks KE, Hewins ME, Goethert HK, Berardi VP: *Borrelia miyamotoi* Disease in the Northeastern United States: A Case Series. *Ann Intern Med* 2015.

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