**NEW SPECIES OF BACTERIA DISCOVERED CAUSES LYME DISEASE**

A new species of bacteria, *Borrelia Mayonii*, has recently been discovered in the upper Midwest portion of the country by members of the Centers for Disease Control and Prevention (CDC) and the Mayo Clinic. Previously, it was believed that the only bacteria capable of causing lyme disease in North America was *B. bugdorferi*. However, that belief soon changed when the lab results of six newly infected individuals came back with unusual results. After additional DNA testing, it was found that the culprit behind the infections was *B. Mayonii*, a closely related species to *B. bugdorferi*. The genetic similarities between the two bacteria may explain why they are both able infect individuals in similar ways.

An individual can be infected with Lyme disease when a tick is left to feed for a prolonged amount of time. As the tick feeds, bacteria are transferred from the tick to the host. Knowing this, it should come as no surprise to hear that the amount of bacteria transferred to the host increases as the tick feeds for a longer and longer amount of time. Most infections occur by ticks in their nymphal stage because of their incredibly reduced size when compared to a fully grown tick. Fully grown ticks are much easier to spot and can be taken care of quickly, reducing the amount of bacteria able to enter the human host. Nymphal ticks, on the other hand, are much harder to spot and can feed for days, allowing a plentiful amount of bacteria to infect the host. Individuals infected with *B. Bugdorferi* experience fever, headache, neck pain, and the iconic "bulls-eye" rash at the site of infection; all of this followed by possible loss of muscular contractions in the face, heart palpitations, and arthritis a few weeks after infection. Those infected with *B. mayonii* have the unfortunate luck of also experiencing nausea, vomiting, and a diffuse rash, rather than a bulls-eye rash, during the early stages of infection.

As of now, *B. mayonii* has only been found in the upper Midwest portion of the country, localized to Minnesota, Wisconsin, and North Dakota. 25,000 additional blood tests were taken throughout the country in regions where Lyme disease is known to be present. Of the 25,000 blood tests taken, only the newly infected 6 were shown to have positive results for *B. mayonii*. However, this does not mean that *B. mayonii* is limited to the upper Midwest forever. All it takes is a stroke of favorable conditions and *B. mayonii* could very easily be on its way to the Northeast and Mid-Atlantic region where Lyme disease is already common.

Thankfully, current tests and treatments for the new Lyme strain effectively combat against infection. The six individuals infected with *B. Mayonni* tested positive with Lyme disease using test kits typically associated with infection by *B. burgdorferi*. From there, polymerase chain reaction (PCR) tests were done to specifically identify the new bacterial species as the cause of infection. The newly infected patients were prescribed a round of antibiotics and should be up to health in one to four weeks. However, the best way to combat against Lyme disease is to simply never get it by taking preventative measures, such the use of insect repellent, avoiding areas with tall grass, and washing and inspecting the entire body for ticks when returning from the outdoors.

**REFERENCES**

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