Disseminated Lyme disease more likely in those with weakened immune system

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https://danielcameronmd.com/impaired-immunity-increases-risk-of-disseminated-lyme-disease/

The small study examined the risk of developing disseminated Lyme disease for people with weakened immune systems. Researchers enrolled 7 patients with an EM (erythema migrans) rash who were diagnosed with Lyme disease. All of the patients were receiving Rituximab for another underlying medical condition. Out of the 7 patients, 4 were also being treated with additional immunosuppressant drugs (e.g., corticosteroids, methotrexate, and bortezomid).

“Rituximab is the anti-CD20 monoclonal antibody that influences B cells and consequently impairs secretion of antibodies, antigen presentation, and secretion of cytokines,” writes Maraspin and colleagues.

Rituximab is used for non-Hodgkin lymphoma, rheumatoid arthritis, chronic lymphocytic leukemia, and granulomatosis with polyangiitis (Wegener granulomatosis).

Signs of disseminated Lyme disease

According to the authors, 43% of the patients treated with Rituximab showed unusually high signs of disseminated Lyme disease, compared to 8% of immunocompetent individuals.

The isolation rates of *Borrelia* from the blood before antibiotic treatment were also unusually high (40%) when compared with immunocompetent patients (<2%).

"Impaired immunity might be an explanation for the complicated course of LB (signs of disseminated LB or unfavorable outcome after antibiotic treatment) present in 57% of our patients, but rarely seen in immunocompetent adult patients with EM, of whom only about 8% have disseminated disease and approximately 10% have treatment failure, most often the presence of LB-associated symptoms," the authors write.

In their study, 3 of the patients with multiple EM rashes were treated with intravenous antibiotics. The remaining individuals received oral antibiotics.

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One patient, a 65-year-old woman, failed initial treatment. “Her skin lesion persisted for >2 months after the start of treatment with doxycycline,” explains Maraspin. “However, it disappeared after retreatment with amoxicillin and the subsequent clinical course was uneventful.”

At their 1-year follow-up, none of the patients had any objective (or physical) signs of Lyme disease. However, the authors did not mention the presence of other symptoms, such as fatigue, pain, and cognitive problems.

Retreatment for immunocompromised patients

Meanwhile, a study by Maraspin and colleagues reports that 25% of Lyme disease patients who had received immunosuppressive drugs, such as adalimumab, infliximab, etanercept, golimumab, failed treatment for Lyme disease. Three of the four patients required retreatment.

Patients with weakened immune systems were also more likely (18.8%) to develop signs of disseminated Lyme disease when compared to Lyme disease patients who were immunocompetent.

Editors note: The increased chance of disseminated Lyme disease in patients with impaired immunity needs further study. I would also address the risk of treatment failures on other outcomes including fatigue, pain, and cognitive problems.

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References:

1. Maraspin, V., et al. (2019). "Erythema Migrans: Course and Outcome in Patients Treated With Rituximab." Open Forum Infect Dis 6(7): ofz292.

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