

Are Lyme disease patients at greater risk for developing severe COVID-19?

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<https://danielcameronmd.com/lyme-disease-patients-risk-severe-covid-19/>

A new study looks at the risk of severe COVID-19 in patients with a history of exposure to Lyme disease. In their study [“Correlation between COVID-19 severity and previous exposure of patients to *Borrelia spp.*”](#) Szewczyk¹ and Brownska et al.² examined 3 groups of patients: those with severe COVID-19 (hospitalized), asymptomatic to mild COVID-19 (home treated or not aware of being infected), and those not infected with SARS-CoV-2.

The authors identified individuals with Lyme disease using a 19 antigen test.

“The testing revealed that all patients hospitalized due to COVID-19 disease were positive for *Borrelia burgdorferi*-specific IgG (31 out of 31).”

The study found:

- Patients with severe COVID-19: 31 positive for Bb (out of 31)
- Patients with mild/asymptomatic COVID-19: 19 positive Bb (out of 28)
- Participants never infected with SARS-CoV-2: 8 positive cases (out of 28)

The incidence of positive tests was lower for individuals who were not hospitalized for COVID-19.

“Increased levels of *Borrelia*-specific IgGs strongly correlated with COVID-19 severity and risk of hospitalization. This suggests that a history of tick bites and related infections may contribute to the risks in COVID-19.”

“Previous exposure to *Borrelia*,” the authors point out, “renders patients more prone to severe COVID-19 in case of SARS-CoV-2 infection.”

The authors also reported that hospitalized patients were more likely to be positive for Anaplasmosis.

This finding led the authors to note, “This further supports the suggestion that increased risks in COVID-19 are linked to a history of ticks bites and related infections.”

The authors discussed the problems with diagnostic tests and stressed that any correlation between Lyme disease and COVID-19 does not necessarily indicate causation.

The authors suggest:

- “... prolonged Lyme disease might affect the immune system, decreasing its efficacy in antiviral responses in the viral infection.”

- “... co-stimulation from both *B. burgdorferi* and SARS-CoV-2 may result in even more pronounced excessive inflammatory response and a higher risk of severe COVID-19.”
- “Screening for antibodies targeting *Borrelia* may contribute to accurately assessing the odds of hospitalization for SARS-CoV-2 infected patients.”

Editor's Note: These results should be investigated using other diagnostic laboratory tests.

Related Articles:

[COVID-19: When Lyme disease and tick-borne illnesses may not be considered](#)

[Podcast: No Lyme disease evaluation as part of post-COVID assessment?](#)

[Experiences of individuals with a history of Lyme disease who contracted COVID-19](#)

References:

1. Ng, W.H., et al., Comorbidities in SARS-CoV-2 Patients: a Systematic Review and Meta-Analysis. *mBio*, 2021. 12(1).
2. Szewczyk-Dabrowska, A., et al., Correlation between COVID-19 severity and previous exposure of patients to *Borrelia* spp. *Sci Rep*, 2022. 12(1): p. 15944.

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