

Opinion: Neurologic problems in Lyme disease also seen in COVID-19

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In their study, "[Frequent neurologic manifestations and encephalopathy?associated morbidity in Covid?19 patients.](#)" Liotta and colleagues describe neurologic manifestations in 509 patients with confirmed COVID-19.¹ The authors sought to identify the incidence of neurologic complications in COVID-19 patients.

The study found:

- More than 8 out of 10 COVID-19 patients suffered from neurologic complications.
- Nearly 1 out of 3 COVID-19 patients suffered from headaches, encephalopathy, and dizziness, which are also common neurologic symptoms in Lyme disease.
- Other symptoms included myalgia and fatigue, which occurred in 43% of patients at the onset of illness and in 79% of patients during COVID-19 disease.
- COVID-19 patients with encephalopathy were less likely to have a good outcome.
- COVID-19 patients with encephalopathy were hospitalized 3 times longer than COVID-19 patients who did not have encephalopathy.

Author's Note: Encephalopathy typically refers to altered sensorium and central nervous system (CNS) dysfunction. There is no standardized test for encephalopathy. It appears the authors diagnosed their cases of encephalopathy using clinical judgment.

Encephalopathy has been associated with a poor outcome in other diseases. Some patients with Lyme encephalopathy have had a poor outcome. I have found that patients with this condition can be more challenging to treat.

The authors encourage further research and studies of encephalopathy in patients including those with "Covid-19 who complain of protracted inability to concentrate or decreased short-term memory (referred to as 'brain fog')."

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There are several potential causes of encephalopathy in this group of COVID-19 patients, which include: systemic disease and inflammation, coagulopathy, direct neuroinvasion by the virus, endotheliitis, post-infectious autoimmune mechanisms, intensive care unit delirium, sedation and analgesia doses, disruption of sleep/wake cycles, and infectious complications.

But due to limitations from the COVID-19 pandemic, the authors were unable to determine the exact cause of their patients' encephalopathy.

Although I am unable to determine the cause of encephalopathy in Lyme disease patients, I encourage doctors to recognize the condition, so that prompt treatment may occur, improving the chances for a complete recovery.

Screening for encephalopathy

The authors advocate for broader recognition and targeted treatment of encephalopathy. “Broad recognition and screening for encephalopathy as a contributor to disease severity in Covid-19 may have utility in resource allocation and potential to improve patient outcomes,” writes Liotta.

“Prospective cognitive and neurologic-focused evaluations through specialized clinics dedicated to further diagnostic assessment and tailored rehabilitation needs could play a significant role in recovery from this pandemic,” the authors write.

Johnson and colleagues reported [better outcomes in Lyme disease patients](#) who were treated by doctors with expertise in treating Lyme disease.²

Related Articles:

[Six cases of neurological Lyme disease](#)

[Chronic neurological Lyme disease or co-morbid conditions?](#)

[Neurological damage/dysfunction found in early Lyme disease patients](#)

References:

1. Liotta EM, Batra A, Clark JR, et al. Frequent neurologic manifestations and encephalopathy-associated morbidity in Covid-19 patients. *Ann Clin Transl Neurol.* 2020.
2. Johnson L, Shapiro M, Stricker RB, Vendrow J, Haddock J, Needell D. Antibiotic Treatment Response in Chronic Lyme Disease: Why Do Some Patients Improve While Others Do Not? *Healthcare (Basel).* 2020;8(4).

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