

Small fiber neuropathy in Lyme disease and COVID-19

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Small fiber neuropathy with autonomic and sensory dysfunction has been described in Lyme disease patients. In fact, a small study suggests that [SFN may be a viable biomarker](#) of post-treatment Lyme disease syndrome, particularly for patients whose main symptoms involve sensory issues.²

In their article, [“Resolution of Pain in the Absence of Nerve Regeneration in Small Fiber Neuropathy Following Treatment of Lyme Disease.”](#) the authors describe the case of an 83-year-old woman with a 4-year history of diffuse burning pain in her face, arms, and legs, and muscle spasms in the legs.³

Lyme disease causes small fiber neuropathy in an elderly woman. Complete resolution of symptoms after antibiotic treatment.

Lyme disease testing was positive. “She was then treated with a 40-day course of oral antibiotics for Lyme disease with complete resolution of her neuropathic symptoms.”

“Painful small fiber neuropathy may be a manifestation of Lyme disease,” the authors suggest.

“Antibiotic treatment of Lyme disease can result in resolution of the neuropathic pain symptoms.”

Small fiber neuropathy and COVID-19

Now, small fiber neuropathy is being recognized in patients with COVID-19.

Investigators describe the clinical presentation of [SFN associated with COVID-19 in two patients.](#)⁴

Patient 1

A 52-year-old man, who contracted SARS-CoV-2, developed moderate respiratory problems (shortness of breath and productive cough).

“About 3 weeks later, he began to experience burning pain in the feet that spread up to the knees that was associated with imbalance and falls,” the authors explain.

“The pain would wake him at night, impacted his functional capacity, and was associated with allodynia.” (*Note: Allodynia is the experience of pain from stimuli that typically is not painful, for example, light touch.*)

He was diagnosed with small fiber neuropathy based on symptoms and test results.

The patient’s symptoms were “most compatible with a small fiber-predominant sensory neuropathy unmasked by COVID-19 infection.”

His neuropathic symptoms improved with gabapentin, and a topical lidocaine cream improved his neuropathic symptoms.

Patient 2

A 67-year-old woman with a 10-year history of mild acral tingling and burning pain had been diagnosed with small fiber neuropathy associated with psoriatic arthritis, based upon biopsy results.

Her symptoms had been stable for 10 years until she contracted SARS-CoV-2 and developed severe burning pain in her hands and feet.

“She presented 6 months later with persistent symptoms and occasional orthostasis.”

Her examination and test results supported a diagnosis of small fiber neuropathy.

“This is an example of a chronic pre-morbid sensory and small fiber-predominant autonomic neuropathy exacerbated by COVID-19 infection,” the authors write.

This study was observational and “cannot draw reliable conclusions regarding causative relationships or underlying mechanisms.”

Related Articles:

[Autonomic dysfunction, small fiber neuropathy and Lyme disease](#)

[Femoral neuropathy and Lyme disease](#)

[Chronic inflammatory demyelinating polyneuropathy resolved with antibiotics](#)

References:

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4. Shouman K, Vanichkachorn G, Cheshire WP, et al. Autonomic dysfunction following COVID-19 infection: an early experience. Clin Auton Res. Apr 16 2021;doi:10.1007/s10286-021-00803-8

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