

4 distinct post-treatment Lyme disease syndromes?

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Individuals who suffer from persistent symptoms may be diagnosed with a post-treatment Lyme disease syndrome or ‘chronic Lyme disease.’ Studies estimate that between [34% and 62% of patients](#) continue to have ongoing, chronic symptoms even after standard antibiotic therapy. Many remain ill for months to years. In fact, [according to one study](#), 34% of a population-based, retrospective cohort were still ill an average of 6.2 years after antibiotic treatment.

[Additionally, four clinical trials, sponsored by the National Institutes of Health \(NIH\)](#), demonstrated the potential seriousness of Lyme disease. According to the findings, the quality of life for chronically ill patients “was equivalent to that of patients with congestive heart failure; pain levels were similar to those of post-surgical patients and fatigue was on par with that seen in multiple sclerosis.”

In his editorial, [“Post-treatment Lyme disease syndromes: distinct pathogenesis caused by maladaptive host responses.”](#) Steere concedes that patients can remain seriously ill. “These patients may have severe pain around joints (tender points), headache, brain fog, sleep disorder, and incapacitating fatigue, which have a major impact on the quality of life.”

“Physicians are often in a quandary regarding whether these patients still have active infection or postinfectious phenomena,” he writes.

Unfortunately, Steere dismisses the hypothesis that a persistent and active infection could be causing ongoing illness in patients with ‘chronic Lyme disease’ or post-treatment Lyme disease syndrome, as he claims, there is a “current lack of evidence of persistent infection or antibiotic efficacy in human patients with PTLDS.” (*A statement which I dispute.*)

Instead, he has developed and proposes that patients suffer from various post-infectious syndromes, which include:

Post-infectious Lyme arthritis

“Massive inflammatory, synovial proliferation usually affecting a knee, emerging from Lyme arthritis.”

Pathogenesis: Excessive pro-inflammatory immune response with high IFN- γ levels persistent in the post-infectious period, blocking appropriate wound repair processes.

Post-treatment Lyme disease syndrome

“Pain, neurocognitive, and fatigue symptoms emerging after any LD [Lyme disease] manifestation.”

Pathogenesis: Increased sensory signals during infection do not reset appropriately after infection, [called](#)

[‘central sensitization syndrome.’](#)

Autoimmune joint disease

“Rheumatoid arthritis, psoriatic arthritis, or peripheral spondyloarthropathy emerging after any LD [Lyme disease] manifestation.”

Pathogenesis: Adjuvant effect of infection activating latent autoimmune disease.

Autoimmune neurologic disease

“Chronic idiopathic demyelinating polyneuropathy emerging from Lyme radiculoneuropathy.”

Pathogenesis: Unknown.

Steere points out, that individuals with systemic autoimmune diseases following Lyme disease may [benefit from immunosuppressive](#) or anti-inflammatory therapy.

He concludes, “disabling posttreatment syndromes may still develop, which appear to result primarily from disadvantageous or maladaptive host responses to the infection that persist after spirochetal killing with antibiotics.”

Editor’s note: I do not agree with Dr. Steere’s position. And for transparency purposes, I’m an author of the International Lyme and Associated Diseases Society (ILADS) guidelines, which does not dismiss the persistent infection hypothesis but supports ongoing antimicrobial treatment until Lyme disease symptoms resolve.

Related Articles:

[Case report: Persistent pain and fatigue following treatment for Lyme disease](#)

[Borrelia spirochete are masters at evading the immune system](#)

[Will late stage Lyme disease treatment include azlocillin?](#)

References:

1. Steere AC. Posttreatment Lyme disease syndromes: distinct pathogenesis caused by maladaptive host responses. J Clin Invest. 2020;130(5):2148-2151.

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