

## Can Lyme disease trigger an autoimmune disease?

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<https://danielcameronmd.com/can-lyme-disease-trigger-an-autoimmune-disease/>

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In 1989, Cimmino and Trevisan found that “Lyme disease and adult-onset Still's disease share several clinical characteristics.” [1] AOSD is a “systemic inflammatory disease with a triad of high fever, salmon-coloured nodular rash and arthritis and/or arthralgia,” [writes Ocon in the \*British Medical Journal\*](#). [2] Meanwhile, Lyme disease (LD) can also present with fevers, atypical rashes and arthritis and/or arthralgias.

Still's disease and LD were first recognized in children. Still's disease was initially considered a severe version of juvenile idiopathic arthritis (JIA), while Lyme disease was first diagnosed as juvenile rheumatoid arthritis (JRA).

The exact cause of AOSD is still unknown but researchers believe it is due to a hyperstimulated immune system response.

Ocon and colleagues describe the case of a 61-year-old Caucasian man with a history of a tick bite, erythema migrans rash, intermittent spiking fevers, night sweats, and generalized malaise.

The man was diagnosed clinically with Lyme disease and received two 10-day courses of doxycycline. He continued to suffer from fevers, chest pressure, a dry cough and non-specific malaise and arthralgia.

He was subsequently diagnosed with Still's disease after meeting the criteria with a fever greater than 102.2°F for at least 1 week; a characteristic rash; a white cell count of at least 10,000; lymphadenopathy, and elevated liver transaminases.

He was treated successfully with intravenous steroids and anakinra, a humanised interleukin-1 receptor antagonist which is used to modulate the immune system.

“While Lyme may masquerade as AOSD, no previous reports described AOSD following Lyme disease,” writes Ocon. “We believe that the immunological response to Lyme disease may have triggered AOSD via a hyperactivated immune system.”

The case raises several unanswered questions:

- 1) Would the 62-year-old man's AOSD have been prevented by another antibiotic schedule?
- 2) Would additional antibiotic therapy have reduced the need for anakinra?

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[Could Lyme disease be another infection associated with the onset of Guillain-Barre Syndrome?](#)

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**References:**

1. Cimmino MA, Trevisan G. Lyme arthritis presenting as adult-onset Still's disease. Clin Exp Rheumatol. 1989;7(3):305-308.
2. Ocon AJ, et al. BMJ Case Rep 2018. doi:10.1136/bcr-2018-225517.

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