

TEACHABLE
MOMENT

LESS IS MORE

Antibiotic Treatment for Chronic Lyme Disease—
Say No to the DRESS

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Story From the Front Lines

A 45-year-old woman presented to the emergency department with 1 week of diffuse pruritic body rash, nausea, and high-grade fever. Her medical history was significant for multiple transient and ill-defined neurologic and gastrointestinal complaints for which she had sought numerous medical opinions without a satisfactory diagnosis. She sought care from a “Lyme-literate doctor,” a term used by certain physicians who prescribe prolonged antibiotic courses to treat chronic Lyme and other tick-borne diseases. Approximately 6 months prior to presentation, that physician diagnosed her with chronic Lyme disease and babesiosis based on results from a Lyme specialty laboratory that used nonvalidated serologic studies. Of note, she reported no preceding rash. Subsequently, she was treated with multiple antibiotic regimens without improvement. During the 3 months prior to admission, she received doxycycline, minocycline, and most recently, trimethoprim-sulfamethoxazole, which she took daily during the 5 weeks before her hospitalization.

On presentation she was febrile to 103° F and had a diffuse erythematous maculopapular exanthem with excoriations. Her laboratory tests were notable for marked eosinophilia (5000/μL) and mixed hepatocellular and cholestatic liver injury (aspartate transaminase 205 U/L, alanine transaminase 581 U/L, alkaline phosphatase 561 U/L, total bilirubin 9.9 mg/dL [to convert to μmol/L, multiply by 17.104]). A thorough autoimmune and infectious workup was unrevealing, and repeated Lyme enzyme immunoassay, babesia antibody testing, and blood smear results were negative.

Her clinical presentation was most consistent with the syndrome of drug reaction with eosinophilia and systemic symptoms (DRESS) (Figure), likely secondary to one of the many antibiotics she had been exposed to. She was treated with escalating doses of steroids up to methylprednisolone 4 mg/kg/d, with subsequent gradual improvement in her rash, eosinophil count, and liver enzymes. She was discharged from the hospital after 2 weeks and undertook a prolonged steroid taper over the course of 6 months. She was referred for cognitive behavioral therapy to address her chronic pain and fatigue.

Teachable Moment

DRESS is a rare and potentially fatal drug reaction. The most common offenders are carbamazepine and allopurinol, but antibiotics have also been implicated, among them sulfamethoxazole, doxycycline, and

minocycline. The syndrome classically presents 2 to 6 weeks after starting the responsible drug with severe rash, internal organ involvement, eosinophilia, fever, and lymphadenopathy. A widespread maculopapular or erythematous rash is nearly always present, and the liver is affected in most cases, though DRESS can also involve the kidneys, heart, muscles, or pancreas. Treatment consists of rapid initiation of high-dose steroids and cessation of the associated drug. Mortality may be as high as 10%. Though DRESS is relatively rare, with an estimated incidence between 1 in 1000 and 1 in 10 000 drug exposures, it is an especially feared adverse effect of antibiotics, and in light of its severity, a key reason to avoid such medications except when clearly indicated.¹

“Chronic Lyme disease” is a term used by a minority of US physicians to refer to *Borrelia burgdorferi* infection that is antibiotic resistant and causes chronic symptoms, such as fatigue and joint or muscle pain. Despite the lack of objective evidence regarding this disease entity, a vocal community of clinicians and patients has for decades fervently advocated its diagnosis and treatment, usually with extended courses of antibiotics.² Many patients are diagnosed with chronic Lyme following years of generalized pain or fatigue for which they have found no adequate remedy from other physicians. Some are diagnosed based on positive results from Lyme specialty laboratories that use unproven tests or liberal interpretation criteria.³ There are a small number of people who develop fatigue and pain following an episode of true Lyme disease, which has been called post-Lyme disease syndrome. However, it has been shown in a number of placebo-controlled studies that antibiotics are not more effective than placebo for these patients.²

There are many factors behind the remarkable staying power of chronic Lyme disease—among them, media coverage that has at times highlighted controversy and anecdote above scientific data and consensus, as well as a historical emphasis on the disease’s myriad rare manifestations.⁴ Perhaps the most important factor is the inadequate recognition of the functional somatic syndromes often mislabeled, and mistreated, as chronic Lyme. Functional somatic syndromes, including fibromyalgia and chronic fatigue syndrome, are notoriously difficult to treat. Some patients respond to psychotherapy, cognitive behavioral therapy, graded exercise regimens, or antidepressants, and clinicians should advocate these safe and evidence-based treatments.⁵

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Figure. Clinical Presentation Consistent With DRESS Syndrome



Both photographs were taken on day 2 of hospitalization. DRESS indicates drug reaction with eosinophilia and systemic symptoms.

This case serves as a reminder that prevention of overuse entails not only the avoidance of inappropriate treatments but also the promotion of appropriate treatments. As long as the needs of pa-

tients with functional somatic syndromes remain unaddressed, some may turn elsewhere for care, and in some cases, pay the consequences of unsafe and unindicated treatments.

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