

## **A Multi-Layered Approach to Lyme Disease, Isaac Eliaz, MD, MS, LAc**

Lyme disease can be a very serious and debilitating condition, caused by infection of the tick-borne bacterial spirochete, *Borrelia burgdorferi*. Diagnosis is usually confirmed in the presence of clinical symptoms together with laboratory data indicating *Borrelia b.* antigens, using enzyme-linked immunoassay (EIA), immunofluorescent assay (IFA), and Western immunoblot of *Borrelia* proteins. Even with these tests, confirming a diagnosis can be difficult, and more detailed assays are currently in development. Classic symptoms of Lyme disease include the doughnut shaped rash following a tick bite; fever; joint and muscle pain; neuropathy; flu-like symptoms; chronic fatigue and others.<sup>1,2</sup>

When treating this disease, it's important to address multiple aspects of Lyme pathogenesis. Critical strategies involve:

- Attacking the spirochetes and co-infections
- Moderating the inflammatory/immune responses to spirochete neurotoxins (these responses are often what cause Lyme's debilitating complications)
- Addressing the underlying conditions that lead a person to develop Lyme disease – specifically through anti-inflammatory dietary and lifestyle modifications

### **Detoxification Therapies**

Many of the symptoms of Lyme disease can actually be caused by mold and other neurotoxins, which trigger an immune response, even if the spirochete is no longer present. Therefore, detoxification of heavy metals, pesticides and especially mold, is one very important element of Lyme treatment. This is particularly critical for people with a predisposition to Lyme disease. This predisposition is caused by genetic HLA (Human Leukocyte Antigen) immune system features which trigger an escalated reaction to neurotoxins and prevent the body from eliminating these antigens.<sup>3</sup> I find that homeopathy and homeotoxicology can be very effective in addressing HLA predisposition, by balancing the immune responses and supporting detoxification.

### **Antimicrobial, Anti-inflammatory, Immune Boosting Therapies**

The use of specific anti-microbial nutrients, botanicals and antioxidants help reduce infection while also moderating immune and inflammation responses. Garlic and its active derivative, allicin, is a widely used botanical for addressing these areas of Lyme treatment,<sup>4</sup> and one which I have seen results with clinically. Curcumin, cat's claw, astragalus, boswellia, beta glucans, capsaicin, prickly ash bark and others can also be useful.<sup>5</sup> A combination of artemisinin, whole herb *Artemisia annua*, and *Artemisia annua* 10:1 extract is also a useful remedy that can be more effective and better tolerated than single ingredient artemisinin, a commonly used therapy in Lyme disease.

I also recommend IV glutathione with phosphatidylcholine (PC), as part of a modified Lipid Replacement Therapy for Lyme and other neurological diseases.<sup>1</sup> PC is used intravenously first, to dislodge toxins from the membranes of cells and nervous system, followed by glutathione which flushes toxins and increases antioxidant activity. Vitamin C IVs are also very important for addressing infection,

inflammation and immune response. Other IV treatments can be used to provide oxidative, anti-inflammatory, antiseptic, detoxification and immune support.

One approach that is widely used in Germany, is long-term hyperthermia/heat therapy to boost immune response.<sup>2</sup> Another promising treatment is the use of therapeutic apheresis, which filters out pro-inflammatory compounds from the circulation. Together with other therapies which enhance and modulate the innate immune responses, such as mistletoe therapy and BCG vaccines (Bacille Calmett-Guerin vaccine for tuberculosis), these methods can be helpful for addressing both chronic and acute Lyme disease and co-infections.

For an in-depth discussion of integrative Lyme disease treatment, watch the free educational webinar *Innovative Approaches to Lyme Disease*, [here](#).

#### References

1. Nicolson, G.L. Diagnosis and Therapy of Chronic Systemic Co-infections in Lyme Disease and Other Tick-Borne Infectious Diseases. *Townsend Letter for Doctors and Patients* 2007;285:93-100
2. Winston, RH. Tick-Borne Diseases Their Effective Treatment, Including the Use of Botanical and Complementary Therapies. *Medical Herbalism* 2006;15(1):1-9
3. Shoemaker, RC. (2005) *Mold Warriors: Fighting America's Hidden Health Threat*. Louisville, Kentucky: Gateway Press.
4. Duke, J. Herbs with Anti-Lyme Potential. *Townsend Letter for Doctors and Patients* 2007;285:114-128
5. Vojdani, A., et al. Novel Diagnosis of Lyme Disease: Potential for CAM Intervention. *Evid Based Complement Alternat Med*. 2009; 6(3):283-295.