

# Naturopathic Perspective on the Assessment and Treatment of Lyme-Associated Autism

by Nicola McFadzean, ND

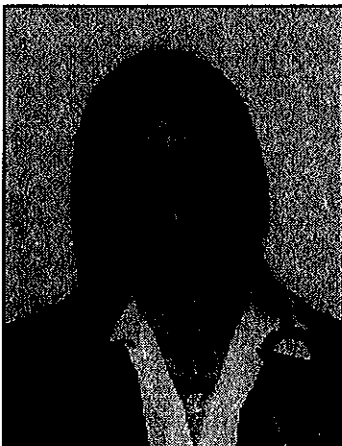
Autistic-spectrum disorders (ASD) affect one in 160 children in the United States and up to one in 80 in certain states.<sup>1</sup> Both complex and multi-factorial, the myth of ASD as a genetic disorder with no effective treatment or cure is being debunked by the biomedical community, which is using special diets, nutritional supplementation, and detoxification therapies to treat the underlying biochemical imbalances that perpetuate the behaviors of ASD children.

Part of the investigation involves an examination of the role of infectious agents in ASD. Certainly

viruses such as human herpes virus 6, Epstein-Barr virus, and rubella have been discussed.<sup>2-4</sup> More recently, *Borrelia burgdorferi*, the spirochete bacteria responsible for Lyme disease, has come under more careful examination as a contributing factor in autism. *Borrelia burgdorferi* (Bb) is primarily a tick-borne agent, although there is evidence of transmission via mosquitoes, fleas, and lice.<sup>5,6</sup> Originating in the town of Old Lyme, Connecticut, Lyme disease is no longer the domain of New England, with increasing numbers of cases reported across the US.<sup>7</sup>

Epidemiological studies investigating the link between Lyme disease and autism are underway.<sup>8,9</sup> There is strong anecdotal evidence that some connection exists, based on interviews with several doctors who practice biomedical approaches to autism. Such doctors – doctors who belong to Defeat Autism Now (DAN!), a domain of the Autism Research Institute – who have tested for Lyme disease nationwide, report 50-90% of children test positive. Clearly, further studies are needed to gain more objective and substantiated data; however, at face value, rates look frighteningly high.

The challenges facing assessment and treatment of Lyme disease and autism are significant. Laboratory testing for Lyme disease produces many false-negatives, mostly due to the ability of the *Borrelia* spirochete to disable the immune system, dampening the antibody reactions that are measured on testing. A newer IFA assay run by IGeneX is proving a high level of sensitivity, with specificity of 80%. Coupled with IgG and IgM Western Blots and a PCR, IGeneX provides a comprehensive panel that assists with the diagnosis of Lyme.



**Dr. Nicola McFadzean** received her Doctorate of Naturopathic Medicine from Bastyr University in Seattle, Washington, having completed her Bachelor in Health Sciences (Naturopathy) in her native country of Australia. For the past three years, she has been in private practice in San Diego and Temecula, California, specializing in autistic-spectrum disorders and Lyme disease. She hosts her own radio show on Autism One Internet radio and has developed a preconception program to help parents with autistic children improve their own health and prevent autism in future children. She is also on the physician advisory board for the Lyme-Induced Autism Foundation. More information on Dr. McFadzean can be found at [www.drnicola.com](http://www.drnicola.com).

The bigger question is how to treat a child who has tested positive for Lyme disease. At the time of writing, there is contention between two groups of physicians who work with Lyme disease in general. The Infectious Disease Society of America (IDSA) recently published guidelines stating that short courses of antibiotic therapy (three to four weeks) are sufficient even for chronic Lyme disease; while the International Lyme and Associated Disease Society (ILADS) claims that, in some individuals, longer-term use of antibiotics is warranted. Lyme disease treatment has become a highly politicized arena.

Debates over these protocols relate to the Lyme population in general, not specifically to pediatrics and certainly not to autistic children. The biomedical community involved in autism treatment recognizes that frequent courses of antibiotics in early childhood are a potential contributing factor to autism, giving rise to the preponderance of yeast overgrowth seen in the intestinal tracts of many ASD kids. Within this context, it is almost impossible to conceive of treating autistic children infected with *Borrelia burgdorferi* with antibiotics in any capacity. The need arises to find effective treatments that do not further tax the already fragile systems of autistic children, but instead build them up and strengthen their immune capabilities.

To date, there are several pioneers in the area of natural treatments for Lyme disease, and it is inevitable that their protocols will be drawn upon for guiding the treatment of Lyme disease in autistic children. Among them are the Chinese medicine protocols of Dr. Qingcai Zhang<sup>10</sup> and the more Western herbal approach of Harold Buhner.<sup>11</sup> The Lyme-Induced Autism Foundation<sup>12</sup> held their first think tank in February 2007 in San Diego, California, bringing together experts in the fields of Lyme disease and ASD to collaborate and further develop safe and effective treatments for individuals with both diagnoses.

The approach to Lyme/autism treatment must be three-tiered: first, to support the immune

system of the individual or "host" to strengthen their capacity to fight foreign invaders; second, to allow antimicrobials to reduce the infectious load on the system; and third, to address comorbid factors such as toxicity, nutrient imbalance, digestive dysfunction, and enzymatic defects such as poor methylation.

The DAN! approach to autism treatment already takes many of these factors into account.

Immune support takes the form of both dietary intervention, such as reducing food allergens and refined sugar consumption, and specific supplementations such as monolaurin, olive leaf, and transfer factor, to name just a few. Antimicrobials in autism treatment must be expanded to incorporate the *Borrelia* species. Current treatments center largely around yeast control,

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using medications such as Diflucan and Nystatin as well as many effective natural treatments, among them, oregano oil, caprylic acid, pau d'arco, and garlic. Many children on the autistic spectrum have bacterial imbalance in their gut also, requiring treatment targeting Klebsiella,

well to the anti-bacterial herbs used for the Borrelia species.

Lyme disease and autism share many of the underlying systemic imbalances that arise from infectious or toxic assault on the body. Many patients with either diagnosis show high levels

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Pseudomonas, Citrobacter, or Clostridia. Again, berberine, olive leaf, pau d'arco, caprylic acid, garlic, and oregano can be used quite effectively. Probiotics are a large part of treatment, to recolonize the gut with healthy flora and prevent the predominance of unhealthy microbes.

With Borrelia infection layered on top of other yeast and bacterial infections, more aggressive herbal treatment must be initiated. Cat's Claw, Andrographis, Polygonum (Japanese Knotweed), allicillin (the extract from garlic), and Coptis can be used as anti-Borrelia treatments. Along with Borrelia, we often see co-infections of Babesia, Bartonella, and Erlichia. Each co-infection must be addressed for comprehensive treatment. Babesia, a parasite, can often be successfully treated with Artemesinin, an extract from Artemesia or wormwood. The other co-infections respond reasonably

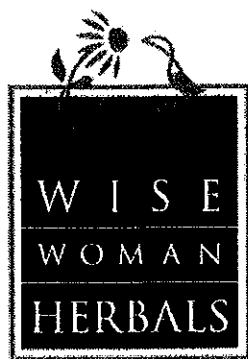
of toxic metals such as lead and mercury. Elevated mold antibodies are common, as well as methylation defects that can be effectively balanced with methylcobalamin therapy administered nasally or intramuscularly. Along with the dysbiosis that is so common, food allergies, gluten intolerance, and dietary peptide reactions also adversely affect the gut. Dietary modifications are often necessary to remove stressors that can worsen symptoms and have behavioral ramifications.

A diagnosis of Lyme disease can be significant for an individual on the autistic spectrum. Even if antibiotics are not the treatment of choice, the infectious component must be addressed to optimize the total treatment regimen. Lyme disease may be one piece of an already complex puzzle. It is impossible to say at this time how significant of a piece it is - whether it may be a primary

causative factor or simply another layer of infection in a body with an immune system already compromised by heavy viral, bacterial, fungal, and toxic loads. Regardless, families with dual-diagnoses are coming out of the woodwork. Mothers with fibromyalgia are testing positive for Lyme, as are their autistic-spectrum children, indicating placental transfer of the infection. Further treatment regimens must be developed to address the totality of causative factors, including Borrelia and its co-infections. This is a potentially groundbreaking area in the future biomedical treatment of autistic-spectrum disorders.

## Notes

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