



## Lyme Disease the Cause of 1/3 of Psychiatric Disorders?

Edited from: What Psychiatrists Should Know about Lyme Disease, ILADS

**I**N A PUBLISHED STUDY (Hajek et al, *Am J Psychiatry* 2002;159:297-301), one-third of psychiatric inpatients showed signs of an infection with the Lyme spirochete, *Borrelia burgdorferi*. It has been found that that even severe neuropsychiatric behavioral symptoms in this population can often be reversed or ameliorated when a multi-system treatment program targeting Lyme disease is used.

Patients with late-stage Lyme disease may present with a variety of neurological and psychiatric problems, ranging from mild to severe. These include:

- Cognitive losses including:
- Memory impairment or loss (“brain fog”)
- Dyslexia and word-finding problems
- Visual/spatial processing impairment (trouble finding things, getting lost)
- Slowed processing of information
- Psychosis
- Seizures
- Violent behavior, irritability
- Rage attacks/impulse dyscontrol
- Anxiety
- Depression
- Panic attacks
- Rapid mood swings that may mimic bipolarity (mania/depression)
- Obsessive compulsive disorder (OCD)
- Sleep Disorders
- Attention deficit/hyperactivity disorder
- (ADD/ADHD)-like syndrome
- Autism-like syndrome

At any time, patients infected with *Borrelia* may also exhibit cognitive symptoms such as memory and concentration impairments and word-finding difficulties,

ADD/ADHD-like symptoms, learning disabilities, OCD, crying spells, rages, depression, bipolar disorder, panic and anxiety disorders and psychoses - all may be caused or exacerbated by Lyme disease. Disorders of the nervous system have been found in 15–40% of late-stage (tertiary) Lyme patients (Caliendo et al, *Psychosomatics* 1995;36:69-74). When Lyme disease affects the brain, it is often referred to as Lyme neuroborreliosis or Lyme encephalopathy. Unfortunately, only a small percentage of these patients will be properly diagnosed as having Lyme disease and most continue to have relatively unsuccessful treatment with psychiatric medications.

Neuroborreliosis can mimic virtually any type of encephalopathy or psychiatric disorder and is often compared to neurosyphilis. Both are caused by spirochetes, are multi-systemic, and can affect a patient neurologically, producing cognitive dysfunction and organic psychiatric illness. Such symptoms may be dormant, only surfacing years later.

Dr. Brian Fallon, director of the Lyme Disease Research Program at Columbia University and principal investigator of the NIH-funded study of brain imaging and persistent Lyme disease, cites five questions that imply warning signs of possible Lyme encephalopathy:

1. Are there markers of non-psychiatric disease such as erythema migrans rash, arthralgias or arthritis, myalgias, severe headaches, sound or light sensitivity, paresthesias, diffuse fasciculations, cardiac conduction defects, word-finding problems, short-term memory loss, tremors, cranial neuropathies, and/or radicular or shooting pain?

2. Is this psychiatric disorder atypical or unusual? For example, does a panic attack last longer than the expected 1/2 hour? Or

is it a first ever panic attack at age 50?

3. Is there poor or paradoxical response or excessive side effect sensitivity to medications that are expected to be helpful for particular psychiatric symptoms?

4. Is this new-onset disease without psychological precipitants such as new stressors or secondary gain?

5. Is there an absence of a personal history or family history of major psychiatric disturbances?

Negative answers to these questions do not rule out the presence of Lyme disease. But a “yes” to most of the questions, especially in a patient with an out-of-doors lifestyle or a pet, demands further clinical assessment. Dr. Fallon recommends Western blot serologic studies (IGENEX), lumbar puncture, neuropsychological testing, brain MRI and SPECT (single photon emission computerized tomography) scans.

Because blood tests at the top three general medical laboratories in the nation fail to detect a majority or large percent of Lyme antibodies, ILADS recommends use of laboratories that specialize in Lyme and other tick-borne illnesses. Blood tests should not be used to rule out Lyme disease when there is a strong clinical presentation because of the high incidence of false negative results.

### What should a psychiatrist or treating physician do?

Patients with a psychiatric disorder should be screened for symptoms related to Lyme, especially those with complicated or atypical presentations. Be suspicious of Lyme if a patient mentions cognitive changes, extreme fatigue, weight changes, headaches, fibromyalgia, a history of “mono,” “spider bites,” multiple sclerosis, explosive rages or

sudden mood swings. Consider Lyme disease in children with behavioral changes, fatigue, school phobias, academic problems, learning disabilities, headaches, sore throats, GI complaints and/or migrating pains. In teens, Lyme disease may be complicated by drug abuse.

The Lyme spirochete is slow growing and can be difficult to treat, so the patient should be treated with multi-system treatments that include appropriate antibiotics for at least two to four weeks beyond symptom resolution. Most individuals with Lyme disease respond to multi-system treatments, but the treatment course is highly patient specific.

Some of the common symptoms of late-stage (tertiary) Lyme disease and other tick-borne co-infections:

- Profound fatigue
- Chills, sweats and skin flushes
- Night sweats
- Migrating arthralgias
- Muscle pains/twitching
- Sleep disturbances
- Severe headaches
- Shifting neurologic pains
- Tremors, shakiness
- Numbness, tingling sensations and pain often shifting and unusual in type
- Cranial nerve disturbance (Facial numbness, pain, tingling, paralysis, optic neuritis, trouble swallowing, distortion of smell or taste)
- Losses in fields of attention/executive functions such as inability to maintain divided or sustained attention and memory
- Impaired memory functions (lost items, missed appointments, retold stories)
- Language difficulties (halting speech, disrupted participation in conversation)
- Impaired visual/spatial Processing (Inability to find things, tendency to get lost, disorganization, difficulty reading, especially for enjoyment)

- Impaired abstract reasoning (Poor problem-solving/decision-making)
- Slowed processing speed (Familiar tasks take longer, can't follow conversations well).

Most or all of these impairments, if caused by neuroborreliosis, may improve with proper antibiotics combined with other appropriate multi-system treatments.

