



Lyme Disease Looking at the Bigger Picture

An Article by the CDC (Center of Disease Control):

The Lyme disease bacterium can infect several parts of the body, producing different symptoms at different times. Not all patients with Lyme disease will have all symptoms, and many of the symptoms can occur with other diseases as well. If you believe you may have Lyme disease, it is important that you consult your health care provider for proper diagnosis.

The first sign of infection is usually a circular rash called erythema migrans or EM. This rash occurs in approximately 70-80% of infected persons and begins at the site of a tick bite after a delay of 3-30 days. A distinctive feature of the rash is that it gradually expands over a period of several days, reaching up to 12 inches (30 cm) across. The center of the rash may clear as it enlarges, resulting in a bull's-eye appearance. It may be warm but is not usually painful. Some patients develop additional EM lesions in other areas of the body after several days. Patients also experience symptoms of fatigue, chills, fever, headache, and muscle and joint aches, and swollen lymph nodes. In some cases, these may be the only symptoms of infection.

Untreated, the infection may spread to other parts of the body within a few days to weeks, producing an array of discrete symptoms. These include loss of muscle tone on one or both sides of the face (called facial or "Bell's palsy"), severe headaches and neck stiffness due to meningitis, shooting pains that may interfere with sleep, heart palpitations and dizziness due to changes in heartbeat, and pain that moves from joint to joint.

After several months, approximately 60% of patients with untreated infection will begin to have intermittent bouts of arthritis, with severe joint pain and swelling. Large joints are most often affected, particularly the knees. In addition, up to 5% of untreated patients may develop chronic neurological complaints months to years after infection. These include shooting pains, numbness or tingling in the hands or feet, and problems with concentration and short term memory.

Most cases of Lyme disease can be cured with antibiotics, especially if treatment is begun early in the course of illness. However, a percentage of patients with Lyme disease have symptoms that last months to years after treatment with antibiotics. These symptoms can include muscle and joint pains, arthritis, cognitive defects, sleep disturbance, or fatigue. The cause of these symptoms is not known. There is some evidence that they result from an autoimmune response, in which a person's immune system continues to respond even after the infection has been cleared.

The following is an article by the NIHA professionals on neurotoxins. This article is interwoven with excerpts of an editorial on Borrelia burgdorferi (Bb/Lyme) by Doctor Dietrich Klinghardt, MD, PhD. We find this information contained in this text of significant importance, as it will explain a multi-therapeutic approach in the treatment regimen of the chronic Lyme patient. The purpose is to illuminate the reader about the complexity of this mystifying condition and why success in treatment is often unsuccessful by merely targeting just one microbe.

NEUROTOXICITY AND CHRONIC INFECTIONS Including Lyme Disease

A Comprehensive Approach that looks beyond Antibiotics *(Note: Doctor Klinghardt's excerpts are printed in italics)*

The purpose of this article is to outline an **Integrative Medical Approach** addressing Lyme disease and other neurotoxic and chronic infections. In order to regain a high level of health and vitality it is necessary to grasp the multi-factorial disease process that is taking place in the bodily systems of affected patients on a daily basis. Out of this comprehension emerges the understanding that a treatment method solely based on attempts to suppress infection cannot suffice and that a multi-therapeutic approach is critical.

Chronic infections are microbial infestation that the immune system cannot control. Stealth or confirmed microbes (bacteria, fungus, virus and/or parasites) can be a major contributing factor in many chronic conditions including: atherosclerosis (heart and blood vessel occlusion), autoimmune diseases, cancer, and chronic fatigue. Chronic infections are often secondary to another diagnosed disease. The underlying issues and strategies for solutions remain the same.

The Immune System

It is not the “catching of the germ”, that determines the magnitude of symptoms; but a **fertile terrain or the internal milieu** that allows **germs to flourish!**

Hence, one person appears healthy and strong after exposure to a pathogen, whereas another experiences a vast amount of often crippling symptoms. All chronic infections point towards **IMMUNE DEFICIENCY!**

Dietrich Klinghardt:

“We have recognized that today many Americans are carriers of the (Lyme) infection. Most infected people are symptomatic, but the severity and type of the symptoms varies greatly. The microbes often invade tissues that had been injured: your chronic neck pain

or sciatica really may be a Bb infection. The same may be true for your chronic TMJ problem, your adrenal fatigue, your thyroid dysfunction, your GERD and many other seemingly unrelated symptoms. Many Bb symptoms are mistaken for problems of natural or premature aging.”

“The pattern of co-infections and the other preexisting conditions such as mercury toxicity determine the symptom-picture but not the severity. The severity of symptoms correlates most closely with the overall summation or body burden of coexisting conditions and with the genetically determined ability to excrete neurotoxins... The severity of symptoms is not related to the number of spirochetes in the system but rather to the individual’s immune responses.”

Neurotoxins

It is important to understand that it is the **neurotoxin**, which is the breakdown product of the Lyme Spirochete (or any other pathogenic microbe) that is responsible for the destructive effects within the immune and neurological systems.

The symptoms of chronic infection result from a state of **neurotoxin overwhelm**.

The symptoms and effects on the body are similar for all neurotoxins, regardless of their source. In other words Lyme disease and mercury toxicity have a similar effect on physiological systems.

Neurotoxins also have a **synergistic effect** on each other. The combined effect of neurotoxins is significantly more harmful. In other words mercury toxicity drastically multiplies the symptoms of Lyme disease.

Chronic infections cannot take hold without immune deficiency. Mercury toxicity is by far the #1 crippler of an immune and neurological system. Mercury is usually the enabler of the chronic Lyme patient.

It should now have become apparent, that, when dealing with the condition of any chronic infection, it is necessary to address and detoxify all primary neurotoxins.

These include:

- Neurotoxins form chronic infections like Lyme, Babesia, Bartonella or other lyme co-infections.
- Heavy metals, especially mercury, but also lead, cadmium, tin, nickel and aluminum,
- Molds from external environment sources and internal fungus (Candida).
- Neurotoxins form chronic infections in dead teeth, root canals, jaw bone-cavitations; other pockets of harbored chronic infections i.e. tonsils, bowel
- Toxic chemicals from the environment

Dietrich Klinghardt:

In the presence of spirochete infection the co-infections are bacterial, viral, fungal and parasitic. Since the spirochetes paralyze multiple aspects of the immune system, the organism is without defenses against many microbes. Many - if not most - of the co-

infections are really a consequence of the spirochete infection and not truly a simultaneously occurring “co-infection”.

*“Most of these are **neurotoxins**, some appear to be carcinogenic as well, others block the T3 receptor on the cell wall, etc. Decreased hormonal output of the gonads and adrenals is a commonly observed toxin mediated problem in Lyme patients. Central inhibition of the pineal gland, hypothalamus and pituitary gland is almost always an issue that has to be resolved somewhat independently from treating the infection. Furthermore, biotoxins (neurotoxins) from the infectious agents have a synergistic effect with (neurotoxic) heavy metals, xenobiotics and thioethers from cavitations and NICO lesions in the jaw and from root filled teeth.”*

The presence of spirochete infection and co-infections (Dietrich Klinghardt):

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The Bowel Connection

The bowel is the largest immune organ, and the most important barrier to the outside toxic world entering the body. It also along with the liver is the most important portal to remove Lyme and other neurotoxins from the body. A dysfunctional bowel perpetuates all immune diseases and chronic infections, for it is in the bowel that most chronic infections reside. Chronic infections always equals **chronic inflammation and an altered milieu in the bowel**. Immune modulation including all detoxification and allergy treatment is not possible without radical bowel therapeutics:

- **Remove** yeast, parasites, virus, disbiotic bacteria, allergens
- **Replace** digestive enzymes
- **Restore** friendly bacteria, beneficial ph
- **Regenerate/Repair** bowel mucosa

Acidosis

For optimal performance of all bodily systems including the immune system a narrowly tailored ph is necessary. Poor diet, toxicity, allergies, chronic infections, and all types of stress create acidity. Bacteria, viruses, fungi, mycoplasma, and parasites thrive in an acidic environment. Therefore the aim is to create a more alkaline internal milieu.

Oxidative Damage

Chronic infection and inflammation produces huge amounts of harmful free radicals, which overwhelm the patient’s anti-oxidative functional reserves; this worsens the immune response and damages all cellular structures, increasing aging and degeneration.

Mineralization:

Chronic infection patients are often mineral deficient. The immune system uses copper and iron in the process of phagocytosis. These minerals are often dumped in the hair – giving the false impression that there is too much in the body. In addition, then minerals are oxidized because of an acidic environment they become bio-unavailable. Magnesium, manganese, iodine, lithium, cobalt (B12) and selenium are particularly important but the other minerals must be checked and supplemented. Cellular mineralization and filling up the mineral reserves is a slow but very important part of heavy metal detox and health rehabilitation. It is accomplished through nutrient dense foods, supplementation, mineral drops in water and IV infusions.

Metabolic Gland Dysfunction

Chronic infections usually provoke a metabolic gland dys-function – adrenal and/ or thyroid glands. Patients with chronic infections have an excessive burden on their stress and metabolic system, which often become fatigued or shut down as a protective mechanism. The body cannot handle the neurotoxin overload and the other bodily dys-functions. The body has its priorities and survival is the most important. When the internal stress and dys-function becomes too great, the body's metabolic system puts the “breaks on”, and reduces its expenditure of energy. Thus chronic fatigue usually accompanies chronic infections.

Generalized Dys-autonomia,

Generalized Dys-autonomia is a dysfunction of the Autonomic Nervous System (ANS) and is always present in chronic infections. It is also referred to as dysregulation.

The cells and tissues (groups of cells) require systems to organize and **regulate** their individual and collective actions. This is the function of autonomic nervous system. The body reacts to signals and many types of stimuli, some biochemical and physical in nature, but some are electrical, magnetic, light (laser) and frequency. Therapeutics that treat dys-autonomia or the body's regulation system are **energetic** in nature, signaling the cells, structures and biochemical reactions of the physical body. **The body heals or repairs itself due to the proper harmonious signals delivered to the immune, circulatory, detoxification, digestive, hormonal and all the other systems of the body.** Regulation therapies give information for the body to function properly.

The Lyme infection is particularly skillful in reducing the neuro-immune response in the Matrix or extra-cellular spaces. This is the area where the ANS has its most profound effect. Therefore chronic Lyme treatment and neurotoxic detox should always include Regulation therapeutics and entrainment of the neuro-immune system to attack.

Cellular Mal-Nutrition

Nutritional uptake is greatly compromised in patients with chronic infections. This is due to unhealthy bowel, acidosis, oxidation, dys-oxygenation (pathogens and abnormal cells thrive in low oxygen environments), and coagulopathy, which reduce the transportation and uptake of nutrients as well as the function of enzyme systems, and poor dietary habits. Targeted nutritional support is essential.

Allergy/ Hypersensitivity Component

All chronic infections have an allergic/ hypersensitive component, which is an adaptive, survival mechanism. Many chronic infections will promote autoimmunity, where the body's immune system attacks the cells in which the intracellular stealth infections reside.

Treatment involves the neurological re-programming, immunological desensitization and cleaning up your environment of mold and other contaminants and chemicals.

Noxious Energies:

Electro-smog is noxious energies from cell phones, cordless phones, wi-fi computer networks, cell phone towers beaming, electrical wires and power lines, microwave radiation (cell phones) and other electro-magnetic devices. Electromagnetic radiation is considered synergistic and causal with chronic infections because microbes in electro-smog fields greatly potentiate their production of more toxic microbes and endotoxins. Noxious energies need to be evaluated and remedied. The bedroom is the most critical place to reduce these harmful influences especially during sleep when the immune system is most active and the body is in repair mode.

Dietrich Klinghardt on diagnosing Lyme disease:

Making the history of a tick bite a condition for a physician to be willing to even consider the possibility of a Bb infection seems cynical and cruel. To use conventional diagnostic tests such as the Western Blot, one has to think in paradoxes: the patient has to be treated with an effective treatment modality first before the patient recovers enough to produce the antibodies, which then are looked for in the test. A positive Western Blot proves that the treatment given worked to some degree. A negative Western Blot does not and cannot prove the absence of the infection.

Having taken another route altogether, we have recognized that today many if not most Americans are carriers of the infection. Most infected people are symptomatic, but the severity and type of the symptoms varies greatly. The microbes often invade tissues that had been injured: your chronic neck pain or sciatica really may be a Bb infection. The same may be true for your chronic TMJ problem, your adrenal fatigue, your thyroid dysfunction, your GERD and many other seemingly unrelated symptoms. Many Bb symptoms are mistaken for problems of natural or premature aging.

In most places the diagnosis of an active Bb infection is made only if the symptoms are severe, persistent, obvious, and many non-specific and fruitless avenues of treatment have been exhausted. Acute new "typical" cases of Bb infection are rare in my practice. Symptoms tend to get stranger and more obscure every year.

The diagnosis of supposedly fresh case of symptomatic Lyme disease is made when a significant tissue toxin level has been reached (threshold phenomenon) or when a new co-infection has occurred recently. The symptoms can mimic any other existing medical, psychological or psychiatric condition. The list of significant co-infections is limited: roundworms, tapeworms, threadworms, toxoplasmosis, giardia and amoebas, clostridia, the herpes virus family, parvovirus B 19, active measles (in the small intestine), leptospirosis, chronic strep infections and their mutations, Babesia, Brucella, Ehrlichiosis, Bartonella, mycoplasma, Rickettsia, Bartonella and a few others. Molds and fungi are always part of the picture.

The pattern of co-infections and the other preexisting conditions such as mercury toxicity determine the symptom-picture but not the severity. The severity of symptoms correlates most closely with the overall summation or body burden of coexisting conditions and with the genetically determined ability to excrete neurotoxins. The genes coding for the glutathione S-transferase and for the different alleles of apolipoprotein E (E2, E3 and E4) play a major role. E2 can carry twice as much sulphydryl affinitive toxins, (such as mercury and lead) out of the cell as the E3 subtype, E4 carries out none. Trouble in the methylation, acetylation and sulfation pathways is also common. Other factors, such as diet and food allergies, past toxic and electromagnetic exposures, emotional factors and unhealed ancestral trauma, scar interference fields and occlusal jaw and bite problems are also important (6). The severity of symptoms is not related to the number of spirochetes in the system but rather to the individual's immune responses.

Taken all of the above into account, we do not distinguish between people who have the Bb infection and those who don't. We distinguish between people who have Lyme disease and those who don't.

- a) Patients who are infected with any type of Borrelia and are symptomatic have "Lyme" disease*
- b) Healthy people who are not symptomatic often already have a spirochete infection as well. They may or may not be disasters waiting to happen. But they do not (yet) have Lyme "disease". Most often several of the "co-infections" are already present prior to the infection with Bb or other spirochetes. In treatment we focus on exploring the difference between symptomatic and asymptomatic carriers.*

Brief introduction to the "cast of characters" often associated with Lyme disease:

Borrelia: One of eight genera of spirochetes. Hundreds of species in these eight genera. "Borrelia" is the genus, "Burgdorferi" the species. Other famous spirochetes: *treponema pallidum* (syphilis), *leptospira* (leptospirosis from animal feces contaminated drinking water, common in Maui, New Mexico, etc). Bb sensu lato includes *B. Afzelii*, *B. garinii*, *B. lonstari*, *B. andersonii* and many others. Bb sensu stricto refers only to Bb, but includes many species that cause identical symptoms. In Europe, five strains of Bb sensu lato, in Japan 61 strains.

Also be aware that microbes constantly exchange via plamids DNA with each other and we found Bb microbes with properties usually only found in Babesia or mycoplasma, etc. There are no fixed boundaries between many of these microbes.

6 MAJOR SITES OF INFECTION:

1. Large joints (*Bb sensu stricto*) and connective tissue:

Onset 4.3 months after insect bite, often self limited (4 years).

Flare-ups during Herxheimer reactions are very common.

- Suppressive therapies to control the Lyme and other pathogens have to be applied. These include antibiotics, anti-fungals, anti-worms and an aggressive herbal program.

Bb has recently been found by us as one of the causes of spinal osteoporosis, disc degeneration and many other “orthopedic” problems.

2. Skin and connective tissue (*B. afzelii*):

- *Acrodermatitis chronica atrophicans*
- *General collagen breakdown (premature aging)*
- *Collagen diseases*

3. CNS (*B.garinii*), PHS and ANS: after insect bite it only takes a few hours before spirochetes are found in CNS even though it takes on average 2 years before symptoms are established. Most common symptom: brain fog and short-term memory loss. Later stages demyelization. Severe early changes in SPECT scan (functional), MRI changes much later (physical)

CNS Problems:

- ***Physical:*** epileptic seizures, insomnia, tremor, ataxia, movement disorders (torticollis, etc.)
- ***Emotional:*** irritability (key symptom in children), depression, biphasic behavior (manic depression), bouts of anger, listlessness;
- ***Mental:*** confusion, difficulty thinking, poor short term memory, increasingly messy household and desk, difficulty finding the right word, feeling of information overload;
- ***Mixed pictures:***
 - Can resemble or imitate any known psychiatric illness.
 - Chronic Fatigue (more severe in the early afternoon);
 - Lack of endurance;
 - Non-healing infections in the jaw bone,
 - Devitalized teeth,
 - Dental pain;
 - Fibromyalgia;
 - Multiple Chemical Sensitivities;
 - Loss of zest for life,
 - Sensitivity to electric appliances.

- **Peripheral Nervous System problems:**

- *Paraesthesia*
- *Burning*
- *Vibration*
- *Numbness*
- *Shooting pains*

- **Cranial Nerve Problems:**

- *Facial nerve: Bell's palsy (60 % are caused by Lyme disease, 30 % by one of six common viruses from the herpes family, such as EBV, Herpes simplex type I, type II, type 6 etc);*
- *Trigeminal nerve: sense of vibration in the face, TMJ and facial pain, headache, tension and cramps in the face/skull/jaw;*
- *Ears (VII, VIII): tinnitus, vertigo, and hypersensitivity to noise;*
- *Eyes (II, III, IV, VI): decreasing and changing eye sight (fluctuates during the day), light sensitivity, floaters;*
- *Vagus (X), Glossopharyngeal nerve (IX) and Hypoglossus (XII): difficulty swallowing, faulty swallowing, reflux, hiatus hernia, heart palpitations, supraventricular arrhythmias.*

4. Heart:

Lyme carditis is difficult to diagnose with current methods (PET scan positive early on) and has multiple symptoms from arrhythmia to angina. Has to be taken serious with first symptoms.

5. Kidney/bladder:

The highest concentration of tissue spirochetes has been found in kidney and bladder. Symptoms often include:

- *Interstitial cystitis*
- *Prostatitis (Babesia often also involved)*
- *Sexual dysfunction*
- *Loss of libido*
- *Pelvic pain*
- *Menstrual disorders*
- *Filtration problems in the kidney (low specific weight of urine)*
- *Urethritis after intercourse (the spirochetes are attracted during intercourse to the urethra and cause acute inflammation).*

6. Immune system infection (white blood cells, thymus, brain, lymphnodes, adrenals, etc)

- *Non-healing infections in the jaw bone (also Babesia, Bartonella)*
- *Devitalized teeth*
- *Dental pain*
- *Immune system failure: with all known secondary illnesses such as herpes virus infection, intestinal parasites, malaise: hair loss*

Babesia:

Intra-cellular Malaria like protozoal organism. Infects red cells. 2/3rds of Lyme clients also have Babesia, which is hard to diagnose: over 17 different subspecies. Most common: B.micoti, WA-1 strain in Western States and B. divergens and others in Europe

Symptoms:

- *Vertigo*
- *Headache, fatigue,*
- *Dental problems: accelerated tooth decay and cavitation formation*
- *TJM problems*
- *Eye problems (floaters and blurry vision)*
- *Weight loss and abdominal problems (GERD)*
- *Fibromyalgia*
- *Shortness of breath*
- *Malaise*
- *Drenching night sweats and fever/ chills during Herxheimer reactions*

Bartonella:

B henselae is the most commonly found intracellular co-infection today found in RBC's, endothelia cells, bone marrow and macrophages. 70% of the cats in Italy are infected with it (cat scratch disease), cat-to human transfer is common. B. Quintana brought down Napoleon's troops in Russia, the true cause for his defeat. The microbes are found today in his troupe's teeth in the mass graves. Other types are found on a regular basis.

Symptoms:

- *swollen lymph glands*
- *endocarditis*
- *Hepatitis*
- *Neovascularization*
- *Fatigue,*
- *Low grade fever*
- *Jaw bone cavitations,*
- *devitalized teeth*
- *often co-infection in ALS*
- *Fibromyalgia and joint pain*

Ehrlichiosis

Human granulocytic Ehrlichiosis (HGE) is caused by Anaplasma phagocytophila.

Human monocytic Ehrlichiosis (HME) is caused by Ehrlichia chaffeensis. Often found in clients that have contact with horses and farm animals.

Symptoms:

- *fever (only after initial infection)*
- *myalgia and arthralgia*
- *headache*
- *lycopenia and thrombocytopenia*
- *hyponatremia*
- *Mental confusion*
- *Skin rashes, genital and oral ulcers*
- *Severe pain syndromes*
- *Nausea and vomiting (acute flare-ups)*

Treatment Strategy:

In summary, the following components should be recognized and addressed with treatment:

- Suppressive therapies to control the Lyme and other pathogens have to be applied. These include antibiotics, anti-fungal, anti-worm and a comprehensive herbal and supplemental program.
- Profound detoxification of all neurotoxins – Lyme and other biotoxins, heavy metals, and toxic chemicals from the bowel and other organs of excretion, extra cellular spaces of the body and eventually the cells.
- Restoration of the Bowel from its chronically inflamed state where Lyme and other pathogens flourish. The liver – bowel in this condition is incapable of removing neurotoxins from the body because the liver detox mechanism has been dismantled.
- The immune system needs to be restored, through detoxification of the suppressive neurotoxins, and rebuilding the bodily stores of healthy “good stuff”, first by eating healthy and then supplementing the required vitamins, minerals amino acids, essential fatty acids, hormones, neurotransmitters and therapeutic foods, as chronic Lyme usually includes mal-nutrition at the cellular level.
- Hormone and neurotransmitter imbalances needs to be addressed
- All the contributing factors to dys-autonomia need to be dealt with and regulation therapy (restoring the body’s self healing signaling system) must be a part of the strategy.
- Safe home free of mold, chemicals and electro-smog need to be established.

For further information, please consult with one of our practitioners.

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