

Lyme disease: A Look Beyond Antibiotics

Dietrich K.Klinghardt, MD, PhD

Bellevue WA

aant@neuraltherapy.com

1/7/05 and 1/7/06

425-637-9339

In the last decade the majority of outcome-oriented physicians observed a major shift: we realized that it was neither the lack of vitamins or growth hormone that made our patients ill. We discovered that toxicity and chronic infections were most often at the core of the client's suffering. We watched the discussion, which infection may be the primary one: mycoplasma, stealth viruses, HHV-6, trichomonas, Chlamydia pneumoniae, leptospirosis, mutated strep, or what else?

The new kid on the block is *Borrelia burgdorferi* (Bb) and some of us have looked at it for a long time as possibly being the bug that opens the door for all the other infections to enter the system. Lyme disease has become a buzzword in the alternative medical field. Since none of the recommended treatments are specific to either one of the microbes, we can never assume that we really know what we treated once a patient has recovered.

Microbiologist Gitte Jensen, PhD had shown, that the older we get, the more foreign DNA is attached to our own DNA. Somewhere along the line pathogenic microbes invade the host's DNA and become a permanent part of it. Since we use only 2% of our DNA, it may not be a problem. In fact, it may make us who we finally become. It may also cause a number of symptoms and chronic illness. Genius Guenther Enderlein's discoveries take us off the hook: if one microbe can change into another given the right environment, why bother to find out, who we are infected with? The book "Lab 257" suggests that Bb is an escaped man-made US military bio-warfare organism (just like myoplasma incognitus and HHV 6).

Other authors suggest that different subtypes of *Borrelia*, which cause illness in humans, such as *B. afzelii* and *B. garinii* have probably existed longer than *B. burgdorferi* and occur naturally (1, 2) and have been with us for a long time, maybe centuries or much longer than that.

Neurologist Prof. J. Faust MD, PhD of the Albert-Ludwig University in Freiburg, Germany (3) related many neurological and psychiatric illnesses to

spirochete infections as early as the 1960s. He was so skilled in his clinical knowledge that he could – based on clinical neurological symptoms – accurately predict which valley in the Black Forest the infected patient was from! This clearly was a time before Bb - showing that non-syphilis spirochete infections were around earlier than the famous Bb outbreak in Connecticut in the mid seventies. It also makes a strong statement to the fact how easily these creatures may mutate and adapt to local conditions. It may however validate the findings published in “Lab 257”: Tuebingen, the place where German/US warfare spirochete expert Traub was continuing his spirochete experiments in the early 50s, is situated in the Black Forest also. Were these spirochetes genuine or have they escaped from a university laboratory?

Making the diagnosis

It appears that many patients with MS, ALS, Parkinson’s disease, autism, joint arthritis, chronic fatigue, sarcoidosis and even cancer are infected with *Borrelia burgdorferi*. But is the infection causing the illness or is it an opportunistic infection simply occurring in people weakened by other illnesses.

My experience is based on:

- a) using direct microscopic proof of the presence of *Borrelia burgdorferi* (Bb) and other spirochetes (4, 5)
- b) the information many affected clients have brought to me
- c) my own clinical training and experience (30 years in Medical practice, 15 years Bb cognizant)
- d) ART testing (autonomic response testing), which is the most advanced and scientifically validated method of muscle testing (6)
- e) regular lab parameters affected by Lyme:
 - Abnormal lipid profile (moderate cholesterol elevation with significant LDL elevation)
 - insulin resistance
 - borderline low wbc, normal SED rate and CRP
 - normal thyroid hormone tests but positive Barnes test and excellent response to giving T3
 - type 2 (high cortisol, low DHEA) or type 3 adrenal failure (low cortisol and DHEA)
 - low testosterone and DHEA
 - decreased urine concentration (low specific gravity)

- complex changes in cytokines, interferones, NK cells, white blood cell indicators, etc.

Bb tends to infect the B-lymphocytes and other components of the immune system which are responsible for creating the antibodies, which are then measured by an ELISA test or Western Blot test. Since antibody production is greatly compromised in infected individuals, it makes no sense to use these tests as the gold standard or benchmark for the presence of Bb (7). We also are aware that in endemic areas in the US up to 22% of stinging flies and mosquitoes (2, 8, 9, and 10) are carriers of Bb and co-infections. In South East Germany and Eastern Europe 12 % of mosquitoes have been shown to be infected. Also many spiders, fleas, lice and other stinging insects carry spirochetes and co-infections.

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.

Frequently, if the patient is fortunate enough to see a practitioner who is “Lyme cognizant”, the diagnosis of a 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 sulfhydryl-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. We treat what the symptomatic person is missing (such as enough magnesium in the diet) or has extra (such as mercury) compared to the asymptomatic one.

The group suffering most is newborn babies and young children, who rarely are diagnosed correctly and therefore are not treated appropriately. They often carry the labels ADHD, autistic spectrum disorder (ASD), seizure disorder and others. Detoxifying these kids with transdermal DMPS and treating the chronic infections is often curative.

The 3 Components of Lyme disease

Lyme disease has three components, which should be recognized and addressed with treatment:

Component #1: The presence of spirochete **infection and co-infections**

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”.

For this aspect of treatment we use pulsed electromagnetic fields (KMT-microbial inhibition frequencies), niacin in high doses (12) herbs, minerals, bee venom (6) and - sometimes - ant parasitic medication and antibiotics. *The KMT microcurrent technology is new and revolutionary (17). The instruments are FDA approved for pain control. Designed by Japanese engineers they use four different - but simultaneously applied - high frequency superimposed biological waveforms. The interference pattern is creating thousands of harmonics which are then manipulated into the specific published microbial inhibition frequencies (against Bb, mycoplasma etc.).*

This stealthy microcurrent travels freely through the body reaching every tissue. The instrument measures the skin conductance over a 100 times/second adjusting the amperage constantly (so that the body never creates habituation/resistance against it). The microbes are inhibited in their metabolic and sexual activity and gradually die out or disappear from the body

The instrument looks not much different then a TENS unit and is applied via four electrodes to the skin or used by translating the electric field into a

vector force field using signal enhancer technology. The KMT frequencies are designed to not only interfere with the reproductive mechanism of the microbes and parasites, but also to awaken the immune system, entrain the white cells to recognize the invaders and at the same time help to absorb and shuttle the effective medication to the body compartment, where the infection actually is. Otherwise, most treatment substances given never reach the target in sufficient concentration.

Component #2: the illness producing effect of microbial exo- and endotoxins and toxins produced by the host in response to microbial trigger

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 from the infectious agents have a synergistic effect with heavy metals, xenobiotics and thioethers from cavitations and NICO lesions in the jaw and from root filled teeth. My published neurotoxin elimination protocol can be downloaded for free (6).

We use toxin binding agents such as fiber rich ground up raw vegetables, chlorella (14), cholestyramine (13), beta-Sitosterol, propolis powder, apple pectin and Mucuna bean powder (14). A solid heavy metal detoxification program should be used simultaneously with the first phases of the Lyme treatment. Safe toxic metal elimination is an art unto itself. However, the information is widely available now (15).

The more difficult objective is to choose agents and methods to trigger the release of neurotoxins from their respective binding sites. Only then can they be transported to the liver, processed and enter the small intestine from where they can be carried out by the binding agents.

The toxins occupying the T3 receptor are competitively displaced by oral T3 - cycled with the Wilson protocol (*available at most compounding pharmacies*). The toxins blocking the cortisol receptor are mobilized with the herb forskolin. CGF chlorella - a sophisticated mix of chlorella and chlorella growth factor (14) - and cilantro given together with a non-irradiated Mucuna bean powder mobilize most everything else. I also use

alternate day dosing of an energetically enhanced phospholipid/EDTA/Alpha-Lipoic acid mix (“PhosphoLipid Exchange”) which is currently the most tolerated and effective form of phospholipids for the Lyme patient (14).

The KMT microcurrent frequencies dramatically increase the speed of toxin mobilization and access body compartments the biochemical compounds cannot (17). Psychotherapeutic intervention (15) to uncover and treat old trauma is most profoundly effective in triggering a neurotoxin release when none of the other methods appear to work anymore. After each APN session we pre-medicate the patient with CGF-chlorella. Sometimes the extraction of a devitalized tooth or the injection of one of the facial/cervical ganglia with glutathione or another detox agent can trigger a major neurotoxin release (16). Lymph drainage in combination with colon hydrotherapy accesses toxins stored in the lymphatic body-compartment. German practitioners have pioneered the combination of oral cilantro and the “Toxaway” microcurrent footbath.

Component #3: The **immune reactions** provoked by the presence of both toxins and microbes (there are three sub-possibilities, which have to be recognized and addressed)

The immune reactions are largely depending on host factors, such as genetics, prior illnesses, mental-emotional baggage, early childhood traumatization, current exposure to electromagnetic fields (sleeping location, use of cell phones, poor wiring in car or home, etc), food allergies and diet, socio-economic background, marital stress etc. A multitude of biochemical serum markers is used today to determine the status of the infection (see below). A subset of NK killer cells, CD 57+ is emerging as a valid marker for activity of the illness (lower counts indicate worsening).

1: Anergy - the absence of reaction due to the successful evasion of the host-defenses. One of the more known mechanisms the microbes use to create anergy is hyper coagulation. The microbes tend to live in the endothelium, where the food is most abundant. They trigger the host’s coagulation mechanism to lay down a layer of fibrin on top of them to evade recognition by the immune system, etc. For this aspect we use three techniques:

- a) the KMT-microcurrent technology and homeopathics to wake up and entrain the immune system

- b) Rechtsregulat (“right rotatory fluid”) which is an enzyme rich extract of fermented fruits and vegetables (14). It has outperformed the s.c. injection of heparin in our own trials and frequently leads to rapid subjective improvement. Lumbrokinase is far more effective than Nattokinase. Both appear weak when compared to Rechtsregulat. We also work on recognizing and eliminating those factors that block the client’s system (geopathic stress, EM stress, food allergies, emotional factors, interference fields such as scars and disturbed ganglia and we substitute vitamins and minerals based on ART testing).
- c) the Enderlein remedies (especially the haptens) from Pleomorphic-Sanum

2: Allergy - appropriate or exaggerated immune reactions (both cellular TH1-reaction and TH2-cytokine activation). In Lyme disease often (not always) TH-1 is overly active early in the illness and can easily be downregulated by fluconazole, later TH2 becomes overly active. Nothing works better than the APN-desensitization procedure (15): while the patient is exposed to the allergen (we use a glass-carrier fixated culture of the offending microbes) the ANS is kept in a state of equilibrium, using tapping of acupuncture-points, hypnotherapeutic trauma-recall and intervention techniques and our proprietary psycho kinesiology (muscle-biofeedback psychotherapy).

A very effective and yet simple technique to re-regulate TH1 and TH2 back is auto-urine therapy. The patient’s urine concentrates the antigens (disposed cell walls and cell fragments of offending microbes which the immune system has successfully eliminated). By passing the client’s urine through a micro pore filter and injecting it i.m., the lymphocytes on patrol in the connective tissue are brought in contact with the antigen and quickly mount a specific and appropriate immune response. We use 2 ml of filtered urine once weekly for 12 weeks. All other similar approaches (autohemotherapy, homeopathic autosodes, manipulating the immune system with supplements) are far less effective.

3: Autoimmunity – the toxins and microbes often act as haptens – marking the cell, cell wall or tissue in which they are hiding as foreign and therefore for destruction . This happens especially against a back drop of pre existing heavy metal toxicity, which has to be addressed aggressively and prior to treating the microbes themselves. We use the MELISA test (memory lymphocyte immune-stimulation assay) to establish which

metals the patient is reactive to. The same lab in Bremen, Germany also offers the most sensitive Bb test.

The KMT microcurrent technology is very effective in recognition entrainment, helping the immune cells to mount a specific and targeted attack on the invaders, sparing the body's own tissues. It breaks through one of the prime mechanisms the offending germs are using: molecular mimicry (the pathogens present antigens on their surface that are indistinguishable from a normal body tissue).

The technique also breaks another trick the spirochetes have developed: the molecular interaction that occurs between a specific Lyme virulence factor (OspE) and a host protein fH (factor H). Some surface antigens in the spirochete are identical to myelin. This explains why anti-myelin antibodies are often present.

The novice in the field tends to treat component #1 only. We have only rarely observed lasting improvement when course after course of antibiotics was given. Because of the defense mechanisms inherent in the Bb and co-infections, current wisdom suggests that 18 months of antibiotics would be curative in many cases (25). We have observed severe, lasting and unacceptable side effects from this approach (such as tinnitus, kidney failure, intractable immune system breakdown and others).

By using the synergistic effect between treatment-modalities which simultaneously address the three issues outlined above, lasting improvements are the norm rather than the exception. By using the synergy principle and abandoning the arrogant idea of being able to eradicate all of the microbes in the system "for good", chronic Lyme patients can often live a normal healthy life again. The use of herbs alone or in combination with antibiotics has emerged as the most important core strategy.

The Mineral Issue

To feed, fuel and perk up the cells of the immune system (especially NK cells and macrophages) numerous interventions have been attempted, mostly based on orthomolecular and herbal medicine principles. We found that amongst those approaches, abundant mineral substitution based on the red cell mineral analysis is most rewarding. Rarely should medical drugs be used.

Amazingly, the most depleted minerals in our Lyme patients are often copper, magnesium, manganese (in Lyme) and iron (in Babesiosis). Bb and Bartonella need magnesium to duplicate and deplete the host's body rapidly. Copper and iron have all but disappeared from most of our supplements based on faulty interpretation of hair analysis. The immune system uses those two metals in the process of phagocytosis. They are the main constituent of the enzymes (or "bullets") the immune cells use in the battle against the invaders.

Oxidized used-up iron and copper get displaced into the extracellular compartment and body fluids and appears in the hair and skin, as the body's most efficient way of excreting toxins without hurting the kidneys. This has led to the dangerous and in its consequence catastrophic assumption, that these metals are the enemy and need to be restricted. It is true, that oxidized metals pose a danger and have to be reduced (=substitution of electrons) or eliminated. However, when copper and iron are needed and substituted appropriately, major improvements have been observed. Appropriate antioxidant treatment can reduce these metals. Homeopathic copper and iron will lead to beneficial redistribution of these metals and makes them bio-available again.

Lithium-orotate or aspartate in low doses (15 mg/day) has been shown to protect CNS structures from neurotoxin damage. Patients almost always benefit clinically from frequent treatment with parenteral magnesium. It is most meaningfully given in a modified Meyer's cocktail. We also use a 5:2 ratio of folic acid (not folinic) and hydroxycobolamine (not methyl- or cyano-) sublingually several times/day. In addition methyl-cobolamine is given i.m. twice weekly and is important in the methylation/restoration of reduced glutathione. Hydroxy-B12 protects the brain from nitric oxide induced damage.

Many Lyme patients suffer from Pyrroluria, a metabolic illness where abnormal porphyrins carry out significant amounts of needed zinc and vitamin B6. Diagnosis is made with the appropriate test at the Pfeiffer institute in Chicago. Even though it is assumed that this illness is hereditary I have my doubts, since most Lyme sufferers have a degree of it. I suspect that the appearance of kryptopyrroles in the urine is induced by the illness. However, I am careful with excessive substitution of zinc. Zinc has a synergistic effect with mercury in the brain and also promotes the growth of the herpes viruses.

If clients show abnormal high losses of sex steroid hormones in the urine, the patient may be cobalt deficient. The urine hormone test and cobalt drops are available at the *Tahoma Clinic* Renton, WA. For a while selenium should be given in high doses to suppress viral replication and render bioavailable mercury non-reactive.

The element most critical in the Lyme patient however is iodine. A two inch square of Lugol's iodine is painted on the patient's skin and should remain visible for 24 hours. The sooner it is absorbed the more deficient the patient. An oral form of Lugol's is available under the name *Iodoral (Optimox, Torrance, Ca)*.

Filling up the body's mineral reserves has always been the most essential part of our heavy metal detox program. It is also the most essential part of our Lyme treatment.

Sequencing

There is an inherent order in which the microbes should be treated. If the order is correct, gentle methods work. Treatment should always combine electromagnetic interventions, using specific microbial inhibition frequencies (KMT technology) with the appropriate herb, antibiotic or other antimicrobial strategy. It should also always be combined with a toxin elimination program, good psychotherapy and general life style hygiene.

The Lyme ABC

A. We start with **deworming** our clients. We often use a simple yet aggressive seasalt/Vit C protocol (19) which has an independent effect against the spirochetes also. The high salt concentration kills large parasites by osmotically induced dehydration (osmotic shock). High salt levels also increase the enzyme elastase which has a strong antimicrobial/anti-spirochete effect (4).

Protocol: 1.5 grams of sea salt per 20 lbs of body weight in 4 divided doses per day for 3 weeks. With each dose also give 1-4 gms of Vit C (dose has to be just below bowel tolerance). Three 3-6-week cycles with a 2 week break in-between. The blood pressure should be monitored and not elevate outside acceptable levels. Five percent of the population are salt sensitive and react

with a significantly increased blood pressure. In the off weeks we give ½ tsp of sea salt in a glass of water first thing in the morning.

Sometimes we enhance the program by using the “Arise-and-Shine” herbal program. Often I will add in a course of Albendazole (same family as metronidazole), Biltricide or ALinia in high doses and parasitic CDs for entrainment of the immune system. The frequencies of the CDs were developed by German physicists by taping the sounds of microbes in their respective live activity in an underground lab which was soundproof and electromagnetically completely shielded (6).

B. The next step is the treatment of **giardia, entamoeba histolytica and trichomonas**, which most often are overlooked. Lab detection of large parasites in most US labs is hopeless. Amoeba and giardia trophozoites can only be detected in a fresh stool for about 20 minutes. None of the labs available to us comply with this necessity. The detection rate is so substandard that only ART testing, a therapeutic trial or abdominal palpation by an experienced practitioner is capable of establishing the diagnosis.

Protocol: organic freeze dried garlic (14) treats all of the above astoundingly successfully. Sometimes we add Tinidazole 500 mg bid for 10 days always followed by long term garlic therapy (three caps tid after meals).

C. Next we attend to the chronic **strep infections**, which often coexist with the herpes viruses. No other treatment has been as successful as Pleo Not (penicillium notatum) from Pleomorphic-Sanum followed by a six month course of Pleo Sancom (antidotes for aspergillus niger and mucor racemosus).

We always look at the tonsils: if they are scarred with crypts, or lymph tissue has regrown since the tonsillectomy (“tonsillar tags”), surgical intervention is needed. Otherwise these patients (which are most of them) never get well. We recommend a procedure developed by Dr. Sergej Dorochoy, MD, PhD called “regenerative cryotherapy” (20). It involves freezing the surfaces of all lymphatic tissue of the head/neck region which creates a barrage of growth factor and cytokine responses, which often lead to dramatic improvements in our Lyme patients.

Lymph drainage using the KMT technology has been superb in speeding the healing of the sinus/head/neck/region.

D. The next step is the treatment of **Babesia**. There are now at least 17 subtypes of this intracellular Malaria-like organism. Eye, brain and dental symptoms are most often caused by this mean microbe.

Protocol: Frequency #2 in the KMT 23 TENS unit inhibits the metabolic activity of Babesia and is used 3 times weekly.

I also use PC-Noni extract and Artemisinin: see the protocol below. Watch iron levels! Artemisinin provokes the intestinal wall to secrete an enzyme which destroys the medication before it can be absorbed. This process builds up over 3 weeks. After a one week pause the enzyme has disappeared and takes another 3 weeks to reemerge. Grapefruit juice prevents formation of this enzyme.

Alternatives are the Swiss Malaria drug Riamet (1 course) which is very well tolerated but only seems to work short term, and Mepron, which is forbiddingly expensive

E. The next step is to start the client on a systemic **antiviral treatment**. I use the ayurvedic herb cocktail - Indian Gooseberry, Chebulic and Beleric myrobalan (14), which has given the most profound and lasting effect on the viruses of the herpes family, which flourish in the immune suppressed Lyme patient. I also use liquid olive leaf, which shows some effect. The Japanese mushroom extracts have also been helpful. I also like the North American product "Pro Boost" (thymus extract) to help awaken the cellular immune system. As long as clients use bee venom therapy, the symptoms of herpes viral infections (seizures, brain fog, emotional ups and downs, chronic pain syndromes especially "discogenic" back pain and sciatica, fatigue) disappear.

Virox and other chaparral- derivatives have been disappointing. The insomnia of Lyme disease is often herpes viral in nature (EBV, VZ or HSV 1, HSV II). As a diagnostic trial I often use 1000 mg of the medical antiviral drug Valtrex at bedtime. If there is a dramatic improvement, herbal antiviral treatment has to be considered for a long time.

We have designed an antiviral program for the KMT instruments (frequency #4) and an anti viral CD, which is played through a walk man or regular sound system at low volume 3 times/week. This has been extremely

effective. Zinc fosters the growth of HSV I and II, copper and selenium inhibit it.

F. I simultaneously address the **fungal/yeast** component which is most often present, especially if clients had prior antibiotic treatment. Fungi and viruses seem to support each other in yet unknown ways. I use both the antifungal CD and the KMT TENS-frequencies in program #4 which contains all known anti-yeast and anti-mold frequencies (6).

With ART technology we could show that the most successful and well tolerated antifungal is either fluconazole (100 mg twice daily) which also has an anti Bb effect and seems to downregulate TH-1, the drug amphotericin B (250 mg bid) or the combination of organic freeze dried garlic (14) and oil of oregano. Substitution with microbes is important. We use “Matrix Microbes” (14) which contains over 80 lesser known beneficial microbes. Every patient is also on a more traditional acidophilus/bifidus/FOS product.

Eating a low carbohydrate diet is often a must. We monitor the fasting insulin level. If it is low, we are ok. If it is high, we restrict the carbohydrates. Do not restrict the carbohydrates if it is not necessary. We have seen dangerous mistakes in this field. In general, bacterial infections benefit from the acidic environment created by a high protein diet. Molds and fungi benefit from a high carb environment. Metabolic typing is a safeguard, but time consuming to do at home, especially if you are very ill. I use the “diet therapy software” (21) for a rapid and profound diet evaluation and recommendation. Most successful is the ART food sensitivity test for every single item in the client’s diet (6). It may take 15 minutes, is more sensitive than the ELISA, MELISA and other lab tests - and it does not incur lab fees (6). The rotation diet by Sally Rockwell prevents relapses.

G. Mycoplasma responds well to enzymes, when it is treated in sequence with the other microbes as outlined here. The most effective strategy is the German product Rechtsregulat (14). This simple drink has been extremely effective in eradicating mycoplasma and other cell wall deficient microbes. It also has a heparin like anti-fibrin effect that surpasses injected heparin by far. It has just like heparin, a strong biological effect against Babesia as well.

Dosage: 1 tbs/2 times per day in a glass of water. The KMT program #4 is designed for treatment of mycoplasma (6).

H. The spirochetes and their close relatives (**Bartonella, Babesia, Rickettsia, Ehrlichiosis, and Brucella abortis**) are best treated last - with antimicrobial herbs or antibiotics. Many herbs have enormous potential in the treatment of chronic Lyme disease (see below).

Frequency #1 in the KMT TENS unit inhibits the microbial growth of spirochetes and Bartonella, # 2 is a series of anti-Babesia frequencies. This modulated microcurrent simultaneously activates specific immune responses and aids the uptake of antimicrobial herbs.

Injected bee venom has long been my favorite during this phase of the treatment (22, 23). The peptide mellitin has strong antibiotic activity against all spirochetes (24). Bee venom also contains nerve growth factor, the very substance needed for healing, when everything else has been attended to.

For the psychiatric presentations of Lyme disease I use large doses of Niacin. (Niacinamide and no-flush Niacin do not work.) 3-6 gms in 3-4 divided doses often show amazing results. It appears that Niacin has tremendous antibiotic potential against all types of Borrelia (12). I suspect that our mentor and genius in orthomolecular psychiatry, Abraham Hoffer, MD discovered a treatment for Bb long before Lyme-disease was known.

The current antibiotic protocols are discussed and listed elsewhere (10).

Often patients develop sarcoidosis, which is rarely recognized (11). The Lyme infected lymph nodes produce abnormal amounts of 1.25 di-hydroxy vitamin D. The client often develops marked osteoporosis (most often in the spine) along with other more typical Lyme symptoms. The blood test (1.25 di-OH vit D) will usually reveal the pathology (levels over 45), necessitating therapy with the Trevor Marshall protocol (18). It uses antibiotics together with the angiotensin II receptor blocker olmesartan –medoxomil. By adding the KMT lymph drainage technology twice/week results are often rapid and miraculous. We hope to find alternatives to the antibiotic regimen in the near future.

When the sequence outlined here is observed, few people have severe Herxheimer reactions, which are the rule in other approaches.

Outlook

Most clients will need some support for several years, before they have found and adapted to a new life style in which the symptoms are absent. Lyme disease is marked by cyclic rhythms and unexpected returns of the symptom from time to time. Once a patient has figured out what works for him or her best, most of my patients learn how to manage the illness with very little help - on their own, living normal healthy lives worth living.

In the course of conquering the illness there has been a lot of personal growth and a lot of learning. Many treatment modalities have been surprisingly ineffective: ozone, hyperbaric oxygen, ICHT (intracellular hyperthermia). Some treatments have been unexpectedly effective: dental splints, color therapy, Tomatis therapy and neuro sensory stimulation, elevating the body temperature with T3 supplementation, regular bee venom injections, tonsillectomies and cryotherapy and many others.

After 15 years of dealing consciously with this illness, Lyme disease is still a mystery to me. Currently its impact outweighs other important issues like heavy metal toxicity, unresolved psychological issues and nutritional deficiencies.

There has been much speculation, why Lyme disease seems to be increasingly common. The book "Lab 257" is an investigative report on the issues involved. The insects which are the vectors for these microbes thrive in warmer climates. I have no doubt, that to a large degree the greenhouse effect is responsible and will be confronting us with the onslaught of more and more aggressive microbes. The partial pressure of oxygen on the earth at sea level has decreased from 30% 150 years ago to 19% today. The oxygen producing algae in the oceans are dying.

The response of the public health system so far has been denial and anger towards those who try to uncover the puzzle and help the afflicted patients. This will certainly change in the near future. I expect that by the time the institutions discover Lyme disease as a far more important factor in chronic illness than is currently acknowledged, we will be confronted with new, far more dangerous microbes. Antibiotics have disappointed in the treatment of Lyme disease as a single modality. Antibiotics alone will not help us to cope with the coming plagues.

All of us as practitioners have to start looking beyond antibiotics for help and for hope. The microbes have always been with us. They are not the enemy. It is us who have altered the environment so severely and in a way which facilitates the growth of lower evolved species like cell wall deficient microbes and viruses - and ends the life for many more evolved species. Extinction may be forever.

Lyme disease is a messenger. If we don't change, we may be on the endangered species list someday not too far from now.

Helpful References

1. *Borrelia burgdorferi* group: in-vitro antibiotic sensitivity: Orv Hetil, 2002 May 26; 143(21): 1195-8 (article in Hungarian), JP Henneberg, U Neubert –department of dermatology, Ludwig-Maximillian University, Munich, Germany
2. Erythema chronicum migrans (Afzelii) associated with mosquito bite: *acta Derm Venereol* (Stockholm) 46, 473-476
3. Personal experience while doing a residency rotation in neurology at the Albert Ludwig-University, Freiburg, Germany under Prof.Faust (1976)
4. www.BradfordResearchInst.org
5. www.Bowen.org
6. www.neuraltherapy.com
7. www.vcu.edu/ *Journal of Immunology* Dec 2004
8. The etiologic agent of Lyme disease in deer flies, horse flies and mosquitoes, *J Infect Dis* 154 (1986), 355-358, LA Magnarelli, JF Anderson, AG Barbour
9. *Klinik der Lyme-Borreliose*: Hans Huber Verlag, Bern, CH (2002). 39-40, Norbert Satz
10. www.Lymenet.org
11. *Borrelia Burgdorferi* infection may be the cause of sarcoidosis, Hua B, Li QD: *Chin Med J (Engl)* 1992 Jul; 105(7): 560-3
12. www.vorsoft.com/medical/niacin/index.htm
13. www.chronicneurotoxins.com
14. www.biopureUS.com also: biopure@aol.com
15. www.neuraltherapy.com applied neurobiology (APN) manual/video
16. www.neuraltherapy.com neuraltherapy papers
17. www.neuraltherapy.com Klinghardt Matrix Therapy (KMT)
18. marshallprotocoll@yahoogroups.com
19. www.lymephotos.com

20. www.kryopraxis.com
21. nurse@andreannaughan.com
22. Bee Venom Therapy for Chronic Pain: D Klinghardt, J. of Neurol and Orthop. Med and Surg., Vol. 11, Issue 9, Oct 1990, pp. 195-197
23. The Treatment of Lyme Disease with Bee Venom: D Klinghardt, M.D., Ph.D., 1999
24. Bee Stings as Lyme Inhibitor: L. L. Lubke and C. F. Garon, J. Clin. Infect. Diseases, July 1997, 25 Suppl. 1, pp. 48-51
25. Lyme disease, potential plague of the 21st century: R Bradford and H Allen, Townsend Letter for Doctors and Patients, Jan 2005, 70-79

Brief introduction to the cast of characters:

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* (*leptospira* 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 plasmids 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 very common.

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 demyelination. 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, bi-phasic 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 Sensitivity;
 - 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 antigen-different subspecies. Most common: B.microti, WA-1 strain in Western States and B. divergens and others in Europe

Diagnosis: best is long term observation of blood under darkfield microscope. Babesia tends to leave dying cells while under darkfield observation.

- Vertigo
- headache fatigue
- dental problems: accelerated tooth decay and cavitation formation
- TMJ 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.

Therapy: think Mepron or Noni, Artemisinin and Oxo

Bartonella

B. henselae is the most commonly found intra-cellular co-infection today found in rbc's, endothelial 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 troops' 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

Therapy: think Zithro, Doxy and Rifampin together or: Polygonum and Stephania root

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
- Lymphopenia and thrombocytopenia
- Hyponatremia
- Mental confusion
- Skin rashes, genital and oral ulcers
- Severe pain syndromes
- Nausea and vomiting (acute flare-ups)

Therapy: think astragalus (elevates interferon gamma) and colchicine (read papers by Michael Rask – not to be used during dental surgery or pregnancy)

General Guidelines for the Biological Treatment of Lyme Disease

Bee Venom Therapy

The most influential pioneer of this work was the beekeeper Charles Mraz from Middlebury, Vermont to whom I owe my health and understanding.

The pain relieving effect of bee venom in the treatment of clinical conditions similar to Lyme disease has been established a long time ago. Bee venom contains a number of potent peptides which are responsible for its healing effect ("Bee Venom Therapy for Chronic Pain, Dietrich Klinghardt, J. of Neurol and Orthop. Med and Surg., Vol. 11, Issue 9, Oct 1990, pp. 195-197).

Recent research proved that one of the peptides in bee venom, melittin, has a strong inhibitory effect on the Lyme spirochete at very low doses ("Bee Stings as Lyme Inhibitor" by L. L. Lubke and C. F. Garon, J. Clin. Infect. Diseases, July 1997, 25 Suppl. 1, pp. 48-51). When the spirochete is inhibited it does not multiply and is vulnerable to the host's own immune system and to medication.

The dosage and frequency of treatment is determined by the patient's clinical response. Patients with Babesia or Mycoplasma infections require higher dosages than those with only *B. burgdorferi* infections.

Different bee venoms are on the market. I use the product VeneX, which comes in two different strengths: VeneX-10 and VeneX-20 (Table 1.). VeneX-20 is twice as concentrated as VeneX-10. VeneX-10 contains 1.0 mg of bee venom per 1.0 ml. A 0.1 ml of this solution delivers approximately the same amount of bee venom as a natural bee sting. The venom is harvested and purified by Michael Simics who is worldwide considered the genius and master of this process, in which the bees are not harmed. VeneX Forte has added homeopathic dilutions of bee venom which has been most helpful in preventing allergic reactions.

The content of melittin in bee venom is dependent on where it is collected on the hive; the season and the pollen source the bees have access to at the time. Generally between one third and one half of the venom is melittin. Because of these variables the symptoms seen on administration of the venom can also vary. Bee venom is used for desensitization and is approved with the FDA for this purpose. There is an official monograph in the

Homeopathic Pharmacopoea of the United States (HPUS), also recognized by the FDA.

Product	Vial Size	DVSE* /	DVSE* /	DVSE* /	DVSE* /
VeneX-	9.0	90	10	1	0.5
VeneX-	12.5	250	20	2	1
* Dried Venom Sac Equivalent (DVSE): 0.1 mg bee venom					

Table 1. Comparison of Venom Solutions.

The average maintenance dosage is 1.0 ml of VeneX-10 (or 0.5 ml of VeneX-20) mixed with 2.0 ml preservative free buffered procaine (available from ApotheCure in Dallas, TX) injected subcutaneously, given between one and three times weekly for 6-12 months. Even though much of the venom's effect is systemic, independent of the location where it is given, additional benefits are observed by injecting the venom in specific target areas.

These areas include:

1. All tender areas in the body, transition areas in the body, where soft tissue meets bone, the occipital nuchal line, above and below the zygoma, around the mastoid and jaw bone, the para-sternal area, the spinous processes of the vertebrae;
2. The kidney and adrenal area (often palpation reveals significantly tender areas); tends to lessen allergic reactions, if treatment is started in this area for first few sessions
3. The thymus (upper end of the sternum);
4. Painful joints (in the most tender areas);
5. Acupuncture points (Bladder 23 for stimulating the adrenals, Gallbladder 1 to improve Lyme related problems with vision, Bladder 10 and Gallbladder 20 to stimulate melittin uptake into the brainstem (cranial nerve problems), Kidney 3 to improve Lyme related kidney dysfunction, etc.);

6. Neural therapy points: over the mastoid to improve Lyme related hearing and balance problems
7. Over the vagus nerve: to treat Lyme related dental and jaw problems (infected jaw bone, cavitations, Lyme related chronic pulpitis/sensitive teeth);
8. Frankenhauser points: to treat Lyme related bladder problems, pelvic/prostate/sexual dysfunction.

Procedure:

Distribute the 2.5 -3.0 ml bee venom and procaine mix over 10 areas, using 0.25 ml to 0.3 ml per injection. The injection is given with a 30 g ½” needle. The needle is advanced just deep enough for the needle tip to barely reach beyond the sensory skin nerves. Procaine does not lessen the bee venom effect as some practitioners falsely assume. However, lidocaine and marcaine disturb the sensitive peptides in bee venom. Bee venom should be kept in the fridge most the time but not frozen and protected from uv-rays and electromagnetic fields (like very living substance should).

If it burns, the needle is not deep enough. If it never burns, most likely the injections are given too deep, where the medication will be quickly flushed away by the blood stream and lymphatics, without having the much-desired local effect. For a ½”long needle this means that the needle is inserted into the skin less than half way.

These injections should be painless and well tolerated. There is a welling up, itchiness and aching after 10 minutes or so, which becomes less with an increasing number of treatments. The discomfort may increase during the first four or five treatments and then lessen over time. The initial response determines the treatment frequency. The first injection often triggers an increase in well-being and a decrease of pain levels after a few hours; sometimes as late as 24 hours after the injection.

It may take several weeks of treatment before the first positive results are observed. The initial improvement may last between 12 hours and several days. This determines if the patient needs to be treated once a day or as little as once/week. If the improvement is less than desired a higher dose of bee venom may be needed.

I start with a low initial dose of 0.1 ml VeneX-10 or 0.05 ml VeneX-20 to ride out the often strong initial reactions. Over the next treatments I increase the dose, depending on the response, rather rapidly to the full treatment dose (Table 2. and Table 3.). It is wise to wait with injecting around the head until the patient no longer has strong local reactions (redness, swelling).

For the first 4-6 months the injections have to be given every other day, after that time, when the client and symptoms are stabilized, twice weekly until the patient is lastingly stable and well. Bee venom has a positive synergistic effect with most herbs but seems weakened by the concomitant use of antibiotics. I stop bee venom during courses of antibiotics but resume immediately afterwards.

The Herbs

Always take the herbs together with **Matrix Electrolyte** or ME (BioPure) for better absorption and transport of the active ingredients through the matrix to the cell membrane. ME also activates all functions of the ANS and improves trans-cell-membrane communication. **Freeze dried garlic** has a profound stabilizing effect in most symptomatic patients. It should either be taken immediately after meals on a full stomach (2-3 cap 3-4 times/day) or 2 caps should be dissolved in 1-2oz of water and taken away from meals.

1. BioPure PC Samento

(pentacyclic TOA-reduced energetically modified, ethically wild-crafted Amazon Cat's Claw):

In my work this product has shown the most consistent action against *Borrelia*, *Bartonella*, Ehrlichiosis, *Rickettsia*, mycoplasma and other co-infections. Herxheimer reactions are expected and may occur at any stage of the treatment (on the first day of use or after many months) and repeatedly. During the "Herxes" I recommend colon hydrotherapy, KMT lymphatic drainage, raw food diet, moderate exercise, drinking more water than usual, a massage and a nurturing environment.

Dosage: start with 4 drops twice daily (or 8 dr/day). Wait one week before increasing. If condition worsens, reduce dose. Sometimes patients initially tolerate only 1 drop/day (rare). Final dose: 2 dropperful/day

Contraindication: organ transplant immunotherapy. Don't use if trying to become pregnant. May interfere with blood thinning treatment

2. PC-Noni

(a concentrated energy-enhanced extract of Noni where the ingredients are made bio-available with a unique proprietary process)

It is in our experience the most reliable remedy to treat and eliminate intracellular microbes over time. This process is slow (months) and very rewarding. Several German practitioners have found this amazing property mostly with darkfield microscopy. I am not aware of unbiased published studies to confirm this. However, it is consistent with our ART findings and clinical observation.

Dosage: start with 6 drops twice daily and increase to a total of 3 dropper full/day for 1 year.

I suggest the each person makes a 1 liter glass bottle of filtered water in the morning and add the herbs for the day one by one into the bottle. Since PC Samento and PC Noni are also carriers for sophisticated anti-Lyme frequencies, the bottle should be succussed 50 times after introducing PC Samento and again after introducing PC Noni. If other herbs are added to the bottle both should be added last. The content should then be taken throughout the day and used up by bedtime. It is best to take our herbs away from food. PC Samento has to be activated by acid. Either add the daily dose of Rechtsregulat (acidic ph) into the bottle or take on empty stomach, when stomach-ph is low.

3. Artemisinin

has disappointed in our experience in the treatment of Babesia, unless given in very high doses: 1200-1500 mg/day given 3 days in a row, repeat after a 2 week break. This is the way the drug is used in China for treatment of Malaria. After the initial 2 courses a 2-3 day course should be given once/month

Contraindication: early pregnancy

The expanded herbal Lyme PDR

4. *Andrographis paniculata*:

Science:

- rapid excretion via kidneys
- **anti-spirochetal**
- crosses blood brain barrier

- protects heart muscle
- anti-inflammatory
- calming
- potent modulating effect on mast cell and neutrophil activity: turns off inappropriate mast-cell allergic reactions in tissue
- enhances liver function
- significant **protective** effects against inflammation-mediated **neurodegeneration** of brain, spinal chord and CSF

Other published positive effects:

- filaria
- leptospirosis
- malaria (suggesting strong effect against Babesia)
- decreases heart muscle damage after MI
- Hepatitis A and B
- tuberculosis
- tonsillitis
- pneumonia
- snake bites
- e.coli
- **herpes viruses**
- mumps
- **periodontal bacteria** (gum disease)
- AIDS
- cancers: prostate breast colon anal stomach skin melanoma leukemia

Dosage: 400 mg capsules standardized to 10% andrographolides

Start with 1 cap 4 times/day. Slowly increase to 3 caps 4 times/day. Stay on this dose till Lyme sx significantly decreased, then slowly decrease dose.

Stop during severe Herxheimer reactions. 1 year

Contraindications: andrographis lowers progesterone (natural contraceptive), pregnancy, acute gallbladder disease

5. *Polygonum cuspidatum* (Japanese Knotweed)

Peer review literature/Science

Effective against:

- Leptospirosis
- *Treponema denticola* (spirochets in oral flora)

- Bartonella (Buhner)
- Many gram neg and gram pos bacteria
- Anti-viral
- Hepatitis B (and C?)

Other published positive effects:

- Crosses blood brain barrier: anti-inflammatory, antimicrobial, protects against microbial endotoxins
- High content of resveratrol increases microcirculation (vasodilation and inhibits platelet aggregation: pos effect on eye, heart, skin (ideal synergist)
- Lowers cholesterol and lipids
- Increases wound healing
- Angiogenesis modulator
- Ischemic heart disease
- Potent antioxidant
- Inhibits lipoxigenase (anti-inflammatory)
- Inhibition prostaglandin E
- Inhibits nuclear factor kappa B (NF kB) which upregulated in Lyme causing a cascade of immune mediated cellular responses
- Leukemia
- Stimulates fibroblasts (proliferative effect)
- Rheumatoid arthritis
- Psoriasis
- Increases bone mass
- Anti-aging
- Reduces auto-immunity
- Strongly neuroprotective
- Effects against: ALS, Alzheimer, Parkinson MS cerebral ischemia
- Stimulates microcirculation in brain

Dosage: Whole herb (Hu Zhang) standardized to 8% total resveratrols and 10 mg resveratrol. Source Naturals 500 mg tablet.

Use 3-4 caps 3-4 times/day. Work up slowly to this dose

Contraindications: Pregnancy, Consider carefully when giving with blood thinners (synergistic effect)

Overdose: GI-symptoms

6. Smilax glabra (Sarsaparilla)

Peer review literature/Science:

effective against:

- Leptospirosis
- Treponema pallidum (syphilis)
- liver flukes (clonorchis sinensis)
- trypanosome
- shigella and salmonella (common in chronic Lyme)
- leprosy and TB
- fungal skin infections

Other published results:

- Lyme endotoxin binding
- Lessens Herxheimer reactions
- Improvement in **mental and psychological** parameters in chronic syphilis
- Modulates immune responses
- **Arthritis** anti-inflammatory
- **Psoriasis** and eczema
- Neuroprotective (crosses blood brain barrier)
- Reduces skin breakdown
- Pain relief
- Improves liver function
- Lessens **fatigue**
- Increases libido
- Asthma, hay fever, rhinitis
- **Cervical spondylosis** (Lyme related disc degeneration and facet joint arthritis)
- Chronic liver disease (dramatic) including Hepatitis C
- Reversal of cognitive impairment
- Autoimmune dysregulation
- Protects from anti-androgenic substances in Lyme (ie gossypol)

Dosage: 425-500 mg caps 1-3 caps 3-4 times/day. Increase slowly to full dosage, stay on it for 2 months, then slowly reduce to maintenance dose of 1 caps 3 times/day. At least 1 year

Contraindications: Increased digitalis and Bismuth absorption (careful with Am. Biologicals Lyme protocol), increased elimination of hypnotic drugs

7. **Stephania Root (Stephania tetrandra and S.cepharantha)**

Peer review literature/Science:

effective against:

- Potent anti-inflammatory
- Alopecia
- Radiation injury (leukemia)
- Asthma
- Induces IL-1 beta, IL-alpha, TNF-a, IL-6, IL-8 (especially in CNS and joints)
- Reduces NF-kappa B and IL-6 during neuroborreliosis
- Modulates HLA-DR expression (Lyme arthritis connected to CD3 generated HLA-DR alleles)
- Treatment of silicosis (also breast implant immune complications)
- Protects endothelium from endotoxin damage
- Reduces vascular permeability
- Bell's palsy
- Free radical scavenger
- Inhibits toxic glutamate levels in brain
- Ca-channel blocker
- Asthma and heart disease
- Retinopathy (modulates formation of new blood vessels and improvement of vision)
- Malaria (and Babesia)
- Inhibits cancer cell proliferation
- Anti-fibrotic/anti-scar formation
- Blocks abnormal histamine release/stabilizes mast cells

Dosage: 1:5 tincture of both forms of Stepania, ½-1 tsp t.i.d.

Contraindication: use judgement when using together with Ca-channel blockers. Constipation. May potentiate the effect of other drugs.

8. **Other important herbs:**

Teasel Root: give high doses over 3 months (1-2 tsp 3-4 times/day)

- Has been shown first by German ethno-botanist Stoerl to be highly effective against Bb.
- Good for **arthritis** and Lyme related insomnia

Turmeric, nettle and devils claw also good for Lyme-arthritis

Poke Root and Red Root for lymphatic drainage

Colchicum autumnale: effective against Ehrlichiosis. Best used iv (Eli Lilly). Give 1 amp (=1 mg) twice weekly for 6 weeks. Has to be given strictly i.v. with 25 g butterfly, otherwise causes severe long lasting burn. Alternative: oral tincture: 15 -20 drops daily for 7 days. Repeat after 2 week pause. 4-6 courses

Astragalus: potent anti-viral. Good synergistic effects with the other herbs. Elevates interferon gamma which is depressed in Ehrlichiosis, MS and many of the more severe Lyme related illnesses

Practical Considerations and Recipes:

Neuroborreliosis:

- read and understand the “Klinghardt Neurotoxin Elimination Protocol”
- bee venom therapy is superior
- most patients have a degree of kryptopyrroluria (excretion of abnormal hemoglobin breakdown products) which leads to a loss of excessive amounts of zinc, B6, and Omega 6 fatty acids. It is recognized by either ART testing or by finding a low or low normal alkaline phosphatase (below 50). Replace zinc, copper, Magnesium, B6 (I ask the client to increase the amount until he/she has vivid dreams regularly) Niacin (work up to 3000 mg/day) and Udo’s oil.
- Do not give zinc without copper in Lyme!
- Use KMT to vagus, sphenopalatine ganglion and superior cervical ganglion. Always use Rechtsregulat to reach microcirculation.
- Always use BioPure “Phospholipid Exchange”.
- In Bell’s palsy use Stephania root. 1 tsp t.i.d.
- At least 2/3rds of clients with Bb also have a Babesia co-infection which has to be treated early.
- Use polygonum, smilax and andrographis early on
- Use neural therapy, especially in the ganglia together with glutathione or DMPS

Considerations in connective tissue/lyme arthritis:

- Bee venom therapy is most effective in the long run

- antioxidants (especially polygonum/resveratrol), cetyl-meristoleate, intra-articular ozone injections)
- para-joint neural therapy
- APN desensitization
- L-carnosine and growth hormone for premature tissue aging (collagen breakdown).
- KMT therapy directly to involved joint
- Consider high dose enzyme therapy
- Use Stephania root ½ tsp t.i.d.

Ocular borreliosis:

- Bee venom therapy very effective (sting Gb-1 and SI-3 regularly)
- high doses B2 (700-1000 mg/day) for a few months
- eyebright tincture 2 dropperfull 2-3 times/day
- ginkgo extract
- KMT microcurrent directly to the eye
- Manual lymph/fluid drainage to eye (Klinghardt method)
- Use Stephania root 1 tsp t.i.d. and Polygonum! Valuable especially for macular degeneration

Lyme carditis:

- Systemic bee venom therapy 3 times/week for 3 months, then 2 times/week till resolved (years)
- always use antibiotics early on in high doses
- Use KMT over stellate ganglia and right vagus
- APN desensitization
- Use neural therapy over the heart with Enderlein remedies (Pleo SanBruc, San Strep, Nig and Muc, Lat)
- Always use “Phospholipid Exchange” from BioPure
- Turn off excessive immune activity with auto-urine therapy
- Use the herbs: andrographis, polygonum and hawthorne.

Ehrlichiosis:

- include Colchicine injections (or Colchicum drops) and astragalus

Bartonella:

- include Polygonum/ Resveratrol

References in: “Healing Lyme – Natural Healing and Prevention of Lyme Borreliosis and its Co-Infections” Stephen Buhner Raven Press 2005

Treatment should always keep in mind that our immune-system is in a never- ending training and adaptation program. We are evolving. The same is true for the microbes. We are seeking a peaceful inner state - in which microbes are welcome as long as they contribute to the greater whole.

We do not yet understand Lyme disease in this way, but our unconscious and our immune-system does. Plant adaptogens have far greater potential in helping us in this necessary process of evolution than any man-made chemical compound. Plant medicines are intelligent, human medications are usually quite dumb. Antibiotics have their place, but it is limited.