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## The Treatment of Lyme Disease with Bee Venom

by Dietrich K. Klinghardt, M.D., Ph.D.

### Introduction

Lyme disease has become, after AIDS, probably the fastest spreading infectious disease. "Classical" Lyme disease is a bacterial infection caused by a spirochete, *Borrelia burgdorferi*, which is passed to the patient by a tick bite. Since several other infections that cause similar symptoms can be transmitted by the same tick bite, and other infectious agents not transmitted by a tick can cause similar symptoms, the term "New Lyme Disease" is used by most holistic physicians. Lyme disease is not only a frequent underlying causal factor in chronic human illness, but also extremely common in pets, especially in dogs and horses.

The following microorganisms have to be considered when making the diagnosis of "New Lyme Disease."

1. *Borrelia burgdorferi*;
2. *Babesia microti* (a protozoan intracellular invader);
3. Ehrlichiosis;
4. *Mycoplasma pneumoniae* (associated with MS, ALS, Chronic Fatigue and Fibromyalgia);
5. *Chlamydia pneumoniae*;
6. *Bartonella henselae*;
7. *Rickettsia rickettsiae*.

The following symptoms can be caused by Lyme disease:

1. Chronic Fatigue (more severe in the early afternoon);
2. Lack of endurance;
3. Non-healing infections in the jaw bone, devitalized teeth, dental pain;
4. Fibromyalgia;
5. Joint pains (especially in the spine);
6. Multiple Chemical Sensitivity;
7. Cranial Nerve Problems:
  - o 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);
  - o Trigeminal nerve: sense of vibration in the face, TMJ and facial pain, headache, tension and cramps in the face/skull/jaw;
  - o Ears (VII, VIII): tinnitus, vertigo, and hypersensitivity to noise;
  - o Eyes (II, III, IV, VI): decreasing and changing eye sight (fluctuates during the day), light sensitivity, floaters;
  - o Vagus (X), Glossopharyngeal nerve (IX) and Hypoglossus (XII): difficulty swallowing, faulty swallowing, reflux, hiatus hernia, heart palpitations, supraventricular arrhythmias.
8. CNS problems:
  - o Physical: epileptic seizures, insomnia, tremor, ataxia, movement disorders (torticollis, etc.);
  - o Emotional: irritability (key symptom in children), depression, bi-phasic behaviour (manic-depression), bouts of anger, listlessness;
  - o Mental: confusion, difficulty thinking, poor short term memory, increasingly messy household and desk, difficulty finding the right word, feeling of "information overload;"
  - o Mixed pictures: can resemble or imitate any known psychiatric illness.
9. Peripheral nervous system problems:
  - o Paraesthesia, burning, vibration, numbness, shooting pains.
10. Pelvis: interstitial cystitis, prostatitis, sexual dysfunction, loss of libido, pelvic pain, menstrual disorders.
11. Immune system failure: with all known secondary illnesses such as herpes virus infection, intestinal parasites, malaise.
12. General symptoms: hair loss, loss of zest for life, sensitivity to electric appliances.

### Laboratory Testing

Until recently laboratory testing has been unsatisfactory with a detection rate of probably below 30 %. In the past it was believed the laboratory evaluation of the spinal fluid was a reliable way to confirm or refute the diagnosis of Lyme disease. This has been proven wrong. The test with the broadest detection rate, the Western Blot ELISA test, has low specificity. The test with the highest specificity but with a fairly low detection rate was the PCR test. The *B. burgdorferi* is a master at evading the body's immune system and evading laboratory detection by modulating and changing its surface antigens. It can form a cystic stage, which is resistant to antibiotics, evades

laboratory detection, and gives birth to healthy spirochetes once the antibiotics are discontinued.

A new test has become available recently: the C6 Lyme Peptide ELISA test (BBI Clinical Laboratories, Tel.: 1-800-866-6254 or 860-225-1900, test code: 556 - C6LPE). The test is based on the discovery of six (6) peptides on the surface of the spirochete, which are consistently present and do not evade detection by the laboratory as many of the other surface antigens of *B. burgdorferi* do. This test detects all *B. burgdorferi* strains and genospecies. It is highly specific and more sensitive than conventional tests for chronic Lyme disease. It is also sensitive in early Lyme disease (which used to be problematic) and can be used for accurate antibody results for Lyme vaccinated patients.

### **Treatment**

Treatment has often been unsatisfactory in spite of correct diagnosis. Multiple antibiotic regimes have been tried with varying successes. The cystic stage responds only to one antibiotic: metronidazole (Flagyl). This drug should be given intravenously. The oral version is less effective and hard on the liver. It should always be given together with the herb "milk thistle" because of its liver-protective effect. A less toxic alternative is tinidazole, a Flagyl-derivative that is available in compounding pharmacies.

I use proteolytic enzymes for the purpose of breaking up the cyst wall and making the dormant form of *B. burgdorferi* inside the cyst vulnerable to both the host's immune system and the medications given for treatment.

Dosage: Wobenzyme, 8-10 tablets three times/day between meals and first thing a.m.

Treatment protocols using antibiotics are outlined in the web-site of J. Borrescano, MD: [www.lymenet.com](http://www.lymenet.com). I use, in selected cases, a combination of azithromycin or clarithromycin 250-500 mg two times/day in combination with trimethoprim 100 mg twice/day for 6-8 weeks.

My preferred treatment is a combination of enzymes, herbs, specific transfer factors and the injection of honeybee venom.

### **Herbs**

I follow the recommendations of Dr. Zhang, MD, LAc of New York (<http://www.dr-zhang.com>). His special garlic extract with a high concentration of Allicin:

2 mg Allicin/kg of bodyweight per day for 6 months; HH (*Houttuynia Herba*): 3 tablets three times/day for 6 months.

His special *Artemesia* (wormwood) combination: 1-2 tablets three times/day for 6 months (usually recommended when *Babesia* is involved).

In addition I use the specific herbal combinations from the Monastery of Herbs in Los Angeles (Tel.: 818-360-4871). These are very effective 18-day programs. I use Autonomic Response Testing to determine the most effective combination. I rotate different regimes over the 6-month treatment period.

### **Specific Transfer Factors**

When a pregnant cow is infected with a certain illness, her first milk (colostrum) after the calf is born contains specific peptides that prevent the illness in the calf. Based on this principle, specific transfer factors have become available for the treatment of *B. burgdorferi*, *Babesia*, *Mycoplasma pneumoniae* etc. Most readily available are oral capsules with dried peptide extracts (Chisolm Biological Laboratory, Tel.: 803-663 9618 / ext. 9777). By adding the specific transfer factors into the treatment regime, the success rate can be dramatically increased.

### **Bee Venom**

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 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.

**Table 1. Comparison of Venom Solutions.**

Product	Vial Size (ml)	DVSE*/vial	DVSE*/1.0 ml	DVSE*/0.1 ml	DVSE*/0.05 ml
VeneX-10	9.0	90	10	1	0.5
VeneX-20	12.5	250	20	2	1
* Dried Venom Sac Equivalent (DVSE): 0.1 mg bee venom					

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);
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 (for more information on Neural Therapy: call American Academy of Neural Therapy, Inc., at 206- 749 9967);
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. 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. 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 0.3 ml VeneX-10 or 0.15 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).

**Table 2. VeneX-10 and Procaine Calculation Table.**

Session	Procaine(ml)	VeneX-10(ml)	Procaine	DVSE	Administration
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			& VX-10(ml)	*("bee sting")	Injection / Dose
1st	0.6	0.3	0.9	3	3 x 0.3 ml
2nd	1.0	0.5	1.5	5	5 x 0.3 ml
3rd	1.4	0.7	2.1	7	7 x 0.3 ml
4th and ...	2.0	1.0	3.0	10	10 x 0.3 ml
Dried Venom Sac Equivalent (DVSE): 0.1 mg bee venom					

**Table 3. VeneX-20 and Procaine Calculation Table.**

Session	Procaine(ml)	VeneX-20(ml)	Procaine & VX-20(ml)	DVSE *("bee sting")	Administration Injection / Dose
1st	0.6	0.15	0.75	3	3 x 0.25 ml
2nd	1.0	0.25	1.25	5	5 x 0.25 ml
3rd	1.4	0.35	1.75	7	7 x 0.25 ml
4th and ...	2.0 0.5	2.5	10	10 x 0.25 ml	
* Dried Venom Sac Equivalent (DVSE): 0.1 mg bee venom					

We have taught many patients to treat themselves with this procedure. It is far less painful than the use of live bees. However, treatment with live bees does not involve the use of technical supplies and is often the only practical alternative.

If live bees are used I recommend reading the textbook by Charles Mraz and the other literature supplied by Apitronic Services (Tel.: 604-271-9414). I also recommend using the Multi Treatment Mesh (MTM) or SoftSting devices by the same company that allows the bee to not loose its stinger, survive the procedure and return to its hive.

**Caution:** Everyone who uses bee venom on domestic animals or humans must have an Anakit, Epipen or other medically approved "bee-sting kit," within immediate reach. The Anakit contains a pre-drawn syringe with epinephrine, an oral antihistamine and instruction sheet. The Epipen contains epinephrine in a self-injecting form.

**Recommendation:** should the patient experience a systemic reaction (usually within minutes) with airway restriction, I recommend to inject one third (1/3rd) of the epinephrine subcutaneously into the palmar (soft) side of the forearm (same depth as the bee venom injection). The wheezing will stop at the price of an agitated feeling in the patient. Now he/she should take the antihistamine (swallow the pill), which takes 15-20 minutes to work. During this time, a second injection with epinephrine may be needed. In 20 years of using bee venom, I never needed to use this procedure. However, I have always combined bee venom with procaine, which prevents most allergic reactions.

**Clinical observations:** many cases of chronic fatigue, MS, ALS, memory loss, jaw problems, etc. are really undiagnosed Lyme disease. With the new Lyme laboratory test many of these cases can be appropriately diagnosed. The treatment outlined here is in my experience very gentle and yet the most successful approach.

#### RESOURCES

Acupuncture charts -- Apitronic Services, Tel.: 604-271-9414

Dried peptide extracts -- Chisolm Biological Laboratory, Tel.: 803-663-9618 / ext. 9777

Herbs -- Monastery of Herbs, Los Angeles, Tel.: 818-360 4871

Herbs protocol -- Dr. Zhang, MD, LAc of New York, web site: [www.dr-zhang.com](http://www.dr-zhang.com)

Lab test -- C6 Lyme Peptide ELISA test -- BBI Clinical Laboratories, test code: 556 - C6LPE, Tel.: 1-800-866-6254 or 860-225 1900

Multi Treatment Mesh (MTM) or SoftSting -- Apitronic Services, Tel.: 604-271-9414

Neural Therapy and Autonomic Response Testing workshops and resources -- American Academy of Neural Therapy, Inc., (AANT) 410 East Denny Way, Suite 18, Seattle, WA, USA, Tel.: 206-749-9967, Fax: 206-723-1367, E-mail: [neuralt@aol.com](mailto:neuralt@aol.com), Web Site: [www.neuraltherapy.com](http://www.neuraltherapy.com)

Procaine (preservative free) -- ApotheCure Pharmacy, Tel.: 1-800-969-6601

VeneX-10 and VeneX-20 -- Tel.: 604-271-9414

## RESOURCES FOR INFORMATION

### Books, Booklets and Literature

Beck, B. F., MD (1997) The Bible of Bee Venom Therapy. Health Resources Press, Inc., Silver Spring, MD, USA, book, ISBN 1-890708-03, pp. 238. Reprint of the original 1935 edition of Dr. Beck: Bee Venom Therapy - Bee Venom, Its Nature, and Its effect on Arthritic and Rheumatoid Conditions. (available from Apitronic Services: Tel.: 604-271-9414)

Broadman, J., MD (1997) Bee Venom - The Natural Curative for Arthritis and Rheumatism. Health Resources Press, Silver Spring, MD, USA, book, ISBN 1-890708-01-3, references, index, glossary, foreword by Harold Goodman, DO, pp. 224 (available from Apitronic Services: Tel.: 604-271-9414)

Klinghardt, D. K., MD (1990) Bee Venom Therapy for Chronic Pain. The Journal of Neurological & Orthopedic Medicine & Surgery, Vol. 11, No. 3, pp. 195-197

Klinghardt, Dietrich, MD (1999) Treatment Protocol for Bee Venom Therapy. Apitherapy Education Service - Apitronic Services, Richmond, BC, Canada, booklet, 11 pp.

Lubke, L. L. and Garon, C. F. (1997) Bee Stings as Lyme Inhibitor. J. Clin. Infect. Diseases, July, 25 Suppl. 1, pp. 48-51

Marinelli, Rick, ND and Klinghardt, Dietrich, MD (1999) Methodology for Injectable Bee Venom Therapy. Apitherapy Education Service - Apitronic Services, Richmond, BC Canada, 12 pp.

Mraz, Charles (1994) Health and the Honeybee. Queen City Publications, Burlington, VT, USA, ISBN 0-9642485-0-6, pp. vii+92 (available from Apitronic Services: Tel.: 604-271-9414)

### Organizations

American Apitherapy Society, Inc., 5390 Grande Rd., Hillsboro, OH 45133 USA, Tel.: 937-364-1108, Fax: (937) 364-9109, e-mail: aasoffice@in-touch.net, web page: [www.apitherapy.org/aas](http://www.apitherapy.org/aas)

American Academy of Neural Therapy, Inc., 410 East Denny Way, Suite 18, Seattle, 98122 USA, Tel.: 206-749-9967, Fax: 206-723-1367, e-mail: neuralt@aol.com, web page: [www.neuraltherapy.com](http://www.neuraltherapy.com)

### Internet Resources

American Academy of Neural Therapy, Inc.  
[www.neuraltherapy.com](http://www.neuraltherapy.com)

Bee Venom Therapy Supplies and Books  
[www.beevenom.com](http://www.beevenom.com)

Apitherapy Bookshop  
[www.apitherapy.net](http://www.apitherapy.net)

Apitherapy Reference Database  
[www.saunalahti.fi/~apither/](http://www.saunalahti.fi/~apither/)

### Bee Venom Therapy Supplies and Books

Bee venom products and therapy related books, literature and Apitherapy Education Service.

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### Conversion Table

0.10 ml = 0.10 cc	0.60 ml = 0.60 cc
0.20 ml = 0.20 cc	0.70 ml = 0.70 cc

0.30 ml = 0.30 cc	0.80 ml = 0.80 cc
0.40 ml = 0.40 cc	0.90 ml = 0.90 cc
0.50 ml = 0.50 cc	1.00 ml = 1.00 cc