The Hidden Secrets of Lyme Disease

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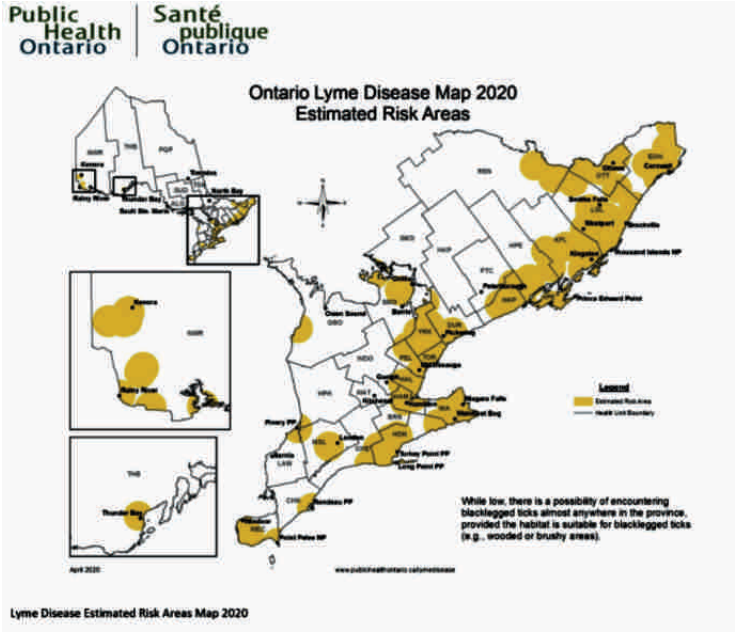

National surveillance for human Lyme disease cases began in Canada in 2009. Reported numbers of cases increased from 144 cases in 2009 to 2,025 in 2017. However, this trend is not likely to run out of steam, some models in 2012 had already estimated that 80% of the population of Eastern Canada could live in an endemic area by 2020.
The incidence of clinical cases of Lyme Disease in dogs in Canada is unknown.

What Every Pet Owner Should Know

If you want to be prepared for Lyme disease, the first step is to arm yourself with knowledge, not fear.

Between 2001 and 2009, nearly half of the US states reported more than 500 Lyme positive dogs, based on IDEXX veterinary tests. While that may seem like a lot, it's important to realize that there is a difference between testing positive for Lyme and actually having Lyme disease. In fact, according to research done at Cornell University Veterinary School, 94% of all dogs with antibody for Lyme were exposed to it and didn't get sick - without vaccination. Because the diagnosis of Lyme disease is normally based on antibodies, this means more than 90% of dogs diagnosed with Lyme disease probably don't have the disease and never did have it.

Why is Lyme Disease Over Diagnosed in Dogs?

The presence of antibody to Lyme only means that your dog was exposed to Lyme at some point in his life. Once exposed, those antibodies can stay in the dog for weeks, months, and even years.

If your dog were to become sick or show signs of lameness, your vet might choose to test for Lyme disease. In many dogs, this test will come back as positive - but because more than 90% of dogs who are exposed to Lyme never become sick at all, there's a 90% chance that diagnosis is wrong. Newer tests have been developed to delineate the Lyme diagnosis better, and we'll teach you about those in an upcoming chapter.

What About Vaccination?

The Lyme disease vaccine is fraught with issues, making it one of the more controversial vaccines. The Lymerix vaccine for humans was recalled due to severe adverse events. The lipoprotein antigen used in all Lyme vaccines is now understood to potentially cause auto-immune diseases that can cause painful arthritis, kidney disease, and neurological disease similar to Lyme disease. In fact, the kidney disease associated with Lyme disease, called Lyme nephritis, has been found without any naturally occurring Lyme organisms on biopsy, meaning that the vaccine and not natural exposure had the ability to cause Lyme nephritis *(NAVC Clinicians Brief Sept 2008 pg 46. Western Blot C6 peptide antibody test serology and histopathology was positive, but no intact Borrelia found)*.

None of the US Veterinary schools list Lyme disease among their recommended vaccines, and the AVMA and AAHA don't recommend Lyme vaccination as a core vaccine. It might be a safer option to use natural tick control products, pull ticks off your dog when you see them, and to test for Lyme disease when your dog is healthy, not sick. Now let's talk about the most effective tests as well as natural treatment options for Lyme disease.

Lyme Disease Testing: Facts You Should Know

by Deva Khalsa, DVM

Lyme disease is one of the world's most common infectious diseases, and the incidence is growing. It is the leading tick-

borne disease in the United States.

Lyme disease came to the forefront in the late '70s with an outbreak of puzzling proportions in the wooded areas in and around Lyme, Connecticut, a sleepy town on the coast of Long Island Sound. Lyme disease is introduced to both animals and people by small deer ticks or wood ticks. Undetected and untreated, Lyme disease can cause devastating damage to a dog's health. Today, there are very few areas in the country that are still considered free of infected ticks, and it's believed they've been dispersed throughout the country by clinging to birds making their seasonal migration. In the nation's warmer, more temperate zones, the risk remains high throughout the year, while in the northern sections of the country, it's contracted most often from late spring through late summer.

Lyme disease is a difficult disease to pinpoint because initial symptoms, which appear as various combinations, are often regarded as symptoms for a number of other conditions. The early signs of lethargy, stiffness, diminished appetite, and rising temperature are relatively common and can be mistakenly attributed to other common ailments in dogs. The symptoms of Lyme can be enigmatic. I once had a Dachshund patient who appeared to have a back problem. I do spinal manipulations, and I'm a certified acupuncturist, so you can imagine how many Dachshunds I see with back problems. When this dog didn't respond to treatment, I tested him for Lyme disease, and he was positive. Fortunately, treating him for Lyme disease resolved the problem entirely. I routinely see dogs who have been vaccinated for the disease contract it post-vaccination, so vaccinated dogs should also be checked for Lyme disease if they present any symptoms.

Detecting Lyme Disease

Nowadays, people are very aware of the threat of tick-borne diseases and most test their dogs yearly. The tests available for Lyme disease have changed over the years and are vastly improved. As vaccinated dogs can still get Lyme disease, it's essential to use a test that can differentiate between natural exposure and vaccination-induced disease. There are several tests available that do this. It's important to note that the IDEXX in house SNAP test will only determine if your dog has been infected naturally. Vaccinated dogs typically do not get positive test results. This is good because you want to find out if your dog has been infected naturally, and if the test for vaccinated dogs were also positive, it can confuse things. The older tests would come back positive for both vaccinated dogs and naturally infected dogs.

I recommend following up on a positive IDEXX in house SNAP test with the C6 Antibody test by IDEXX (*this one must be sent out to the laboratory*) because it gives you a quantitative number. Why is that important? Let's say you bring your dog in for a routine, in-office Lyme SNAP test, and it's positive. There is no way to determine the extent of the infection because the darkness of the spot on the SNAP test doesn't indicate the degree of infection – just like the colour on a pregnancy test doesn't indicate how pregnant you are. It merely gives a yes or no answer. The C6 antibody test, however, will provide you with a quantitative answer. If it comes back high, you need to be proactive in treating Lyme disease. The higher the number, the higher the immune response, showing which dogs will benefit from more aggressive treatment.

Another important use of the C6 test is for monitoring the response to treatment. You use the test to monitor the dog's progress by looking for at least a 50% reduction in the result. Testing a few months after completion of treatment will often let you know how successful the treatment has been. Additionally, it's important to know if your dog has a new infection or if the SNAP test is registering the old infection. Not all dogs will stay positive forever, but some retain an immune response, so this test is more effective in monitoring subsequent re-exposure to infection than the in house SNAP test.

AccuPlex4 by Antech Laboratory has five different antibodies that check for several factors. The test will determine whether the Lyme disease is via natural or vaccine-induced infection. It can differentiate between early and chronic infection and even multiple combinations thereof. Early infection, combined with a particular vaccine, may cross-react, however, giving erroneous results.

At times, the AccuPlex4 test will show dogs vaccinated for Lyme disease as unvaccinated. This brings into question the efficacy of either the test or the vaccine (or both). This test can be confusing at times for the veterinarians that use it, and the jury is still out on how effective it is.

Five different tests perhaps do what one C6 Antibody test does, but for those who avoid over vaccination, measuring immune memory to the Lyme vaccine is a moot point.

Lyme Disease and Auto Immunity

The microorganism that causes Lyme disease is Borrelia burgdorferi. This is a Spirochete, a spiral-shaped bacterium. Spirochete bacteria also cause diseases such as Syphilis and can remain hidden in the tendons, muscle tissue, lymph nodes, brain, heart, joint fluid, nervous tissue, and other parts of the body and stay dormant for years. This is part of why diseases caused by spirochete bacteria can be difficult to clear completely from the body. The same ticks that carry the Borrelia burgdorferi bacteria can also carry mycoplasms. These tiny infectious pathogens have no cell wall, making them stealth pathogens and masters of disguise that are very difficult for the immune system to find. Like Borrelia burgdorferi, mycoplasms can also create autoimmune diseases.

A Norwegian researcher was looking for the spirochete bacteria in the tissue of people infected with Syphilis and was surprised he could not see the flagellates swimming around. In fact, he saw funny little pearl-like structures on

the nerve tissue and realized that the spirochetes had wrapped their tails around themselves and had effectively hidden from the immune system in a self-fashioned cocoon.

The immune system must not only eradicate the Lyme pathogen if the cure is to happen, but it must also deal with any mycoplasms introduced by the tick at the same time. Because these organisms can hide in the body tissues and disguise themselves, the immune system has quite the job cut out for it. Moreover, as the immune system searches for these foreign invaders, they continuously move from tissue to tissue, making them that much more resistant. Consequently, both antibiotics and the immune system are faced with quite a challenge.

An unfortunate consequence of the cloak and dagger presentation of Lyme spirochetes and mycoplasms is that the immune system may eventually begin to malfunction. While it desperately seeks out the pathogens, it can destroy the tissues that they are hiding in. This is what creates the autoimmune complications that accompany Lyme disease.

Lyme Disease and Vaccination

The only Lyme vaccine approved for humans, LYMErix was removed from the market after just three years of production. Smith Kline, the vaccine manufacturer, stated in 2002 that they would stop production due to "insufficient demand." However, a class-action lawsuit was filed against them in 1999, claiming that patients developed an incurable form of autoimmune arthritis that produced symptoms worse than those caused by the disease.

Lyme Nephritis *(sometimes called Protein Losing Nephropathy)* is another autoimmune disease commonly caused by Lyme disease or Lyme vaccination. It usually progresses slowly, enabling the dog to compensate for the kidney damage, so the disease is usually well advanced before pet owners notice symptoms and bring them to the vet's attention. Unfortunately, by this time, it's often too late.

Every dog that has tested positive for Lyme disease should have a routine urine analysis done every year to check for elevated protein in the urine. The reason for this is to proactively watch for kidney damage. The kidney has tubules called glomeruli, and these tubules sift bodily wastes through the kidneys and into the urine. The tubules' antigenic makeup is very similar to the tail of the bacteria that cause Lyme disease, and the immune system can confuse the two. When the immune system attacks these tubules, they develop unnaturally large openings that allow bigger protein molecules to slip out into the urine. In an effort to destroy the Lyme disease, the kidney tissue is damaged by the immune system. Much later, even years later, the kidney markers in the blood elevate, and kidney failure signs can occur.

If you find high protein levels in a routine urine test, a second urine sample should be sent to the laboratory for a specific test called a Protein/Creatinine Ratio test. This will identify quantitatively precisely how much protein is spilling out into the urine. Routine blood tests that check kidney levels will not indicate any problem in the beginning stages of this disease. Only high protein in the urine will. Much later, the kidney enzymes in the blood will elevate. This happens only when the disease has progressed and is very severe, and usually, by this time, your dog has lost weight and is not feeling well at all. This disease is often fatal so catching it early is essential.

Since beginning her holistically oriented veterinary practice over 25 years ago, Dr. Khalsa has incorporated homeopathy, acupuncture, Chinese Herbs, nutritional advice, allergy-elimination techniques such as NAET and JMT to her approach. Dr. Khalsa is a Fellow and Professor of the British Institute of Homeopathy.

Lyme Disease Treatment:
There Are Natural Alternatives

by Stephen Harrod Buhner

Oddly enough, there is no definitive medical text on Lyme disease. Even more oddly, a book I wrote in 2005, *Healing Lyme*, has become the closest thing to one in print. This is because, at the time I wrote it, I analyzed all the peer-reviewed research papers on the Lyme bacteria and co-related their findings in one place – something no one had done before. The interesting thing is how much difference it has made in Lyme treatment. For the first time, the disease began to be somewhat understandable.

Because Lyme disease can appear as arthritis, or heart disease, or severe neurological problems, or gastrointestinal problems, or partial facial paralysis, or limb atrophy (as well as a multitude of other, seemingly unrelated, conditions), the disease itself often seems unintelligible, even malevolent, to those who have it. And this has made diagnosis extremely difficult for both vets and physicians.

Many people with Lyme have been misdiagnosed for years as having multiple sclerosis, psychiatric disorders, or lupus, for example. But it turns out that the Lyme bacteria are pretty easy to understand once you really spend some time with them and begin to understand what they do in the body – and why.

How Lyme Spreads

Lyme bacteria are parasitic organisms, as many bacteria are. They need a host in which to live. And because they can't make all the nutrients they need themselves, they scavenge them from their hosts. Most of what they need can be found in collagen tissues. So, once they enter the human or animal host, they begin breaking down collagen tissues into a kind of soup in order to feed. Where they break down those tissues is important. If it is in a joint, then the result is Lyme arthritis. If it is in the heart, Lyme carditis. If it is in the central nervous system, it will cause neurological Lyme with associated brain fog, difficulty thinking and remembering, tremors, facial paralysis, loss of limb function, and so on. This

is the secret to understanding the disease and how to treat it.

Once Lyme bacteria move to a site rich in collagen, they initiate inflammatory processes that begin to break down the collagen at that site. Then they decrease certain aspects of the immune response, essentially the parts of the immune system that can affect them (in particular, CD57 cell counts). So, in order to successfully treat the disease, three things need to occur:

1. Reduce the inflammation the spirochetal bacteria cause
2. Support the collagen in the body
3. Increase immune function

A final, fourth, important consideration, at least for most of the cases I have seen, is to treat any specific symptoms that might arise. For example, neurological Lyme can often cause extreme anxiety, so treating that specific symptom is highly important. Additionally, there may be extreme fatigue which is also crucial to address for healing to occur. Very much the last thing to do, in my experience, is to use anti-bacterials to try and kill the spirochetes. *(However, if it is a serious case of Lyme and the patient has never used antibiotics, they are definitely worth trying)*.

After nearly ten years of focus on Lyme, often with people who have, without success, gone through multiple rounds of antibiotics, I found that if the inflammation is stopped, the collagen protected, and the immune health raised, then the disease goes into a kind of remission where a balance is established with the bacteria and their host. In such instances, all or nearly all symptoms disappear. Sometimes, the bacteria disappear completely because their source of nutrients is cut off.

Natural Treatment Protocol

Lyme, and many of its co-infections, are common in companion animals, although Lyme can infect nearly all animals on the planet. Many people, concerned about their pets and exasperated at the lack of progress by their vets, reported good success once they began using the protocol I developed for people on their dogs (and horses, although I have never heard of it being used with cats who are a lot more sensitive to herbal medicines in general). So, here is a good general protocol to use with your dogs. Generally, improvements begin to occur within two to four weeks.

Please note that all of the herbs can be given simultaneously, and all the herbs may be used along with antibiotics. Also, if your dog is very small, use smaller doses. If larger, use more. The doses I am giving here are for a medium-sized dog. And yes, you can use liquid formulations as well. I prefer to use the herbs themselves.

Japanese Knotweed Root

The most important herb to use is the Japanese knotweed root (Polygonum cuspidatum). Inflammation can occur through several different pathways in the body, but this plant's root is specific for the exact pathways that the Lyme bacteria initiate. It will reduce the inflammation, which will then reduce many of the symptoms that occur. Additionally, the herb is a fairly good synergist, which means it tends to increase the action of both herbs and pharmaceuticals when used along with them.

Japanese Knotweed is a food-grade herb, which means it can normally be taken in relatively large doses. For pets, I would recommend you get the bulk root, powder it (*in a Vitamix or blender)*, and add it to their food. I think it is best given at least twice a day, morning and evening. I would look at an initial dosage of three tablespoons, twice a day. Another benefit of this plant, it is invasive in nearly all Lyme endemic areas, so you can often harvest the root yourself if you are on the east coast.

Cat's Claw

The second crucial herb is cat's claw (Uncaria tomentosa). This herb will raise the particular parts of the immune system specific to the disease. Again, I would use the bulk herb as a powder and the same dosage as the knotweed. Cat's claw is also a very safe herb; I know of no side effects from use, even in largish doses.

Glucosamine Sulfate

The third important substance is glucosamine sulfate. This is a natural supplement that is often included in doggy snacks to help joint problems. It does help with pain and inflammation, but I like it for its ability to help restore and protect cartilage. You can get this in powdered form, which I think, again, would be the best form for dogs. (If you buy it for animals rather than humans, you can get larger quantities at a significantly reduced cost). Some of the powdered forms also include chondroitin, MSM, and collagen. All these are helpful. I would use, to begin with, two tablespoons, twice daily. These three things will, for most dogs, take care of the majority of the problems Lyme causes. Also, here are a couple of other things that can really help.

Ledum

Veterinarian Steven Tobin has reported that he has used Ledum (*1M potency, three times daily for three days – yes, that is all, just three days*) in treating hundreds of dogs for Lyme with very good success. Homeopathic remedies are very safe and generally inexpensive, so it makes sense to have some on hand and use them for your pet. Some people have indeed reported that it worked well for them.

Astragalus

Research into the onset of Lyme infection found that the more depressed the immune system, the worse the infection and the worse the outcome. As well, the better the immune health, the better the outcome, and the milder the infection.

Astragalus (Astragalus membranaceus) is a very good immune herb that has been used in China for millennia. It raises exactly the immune markers needed to keep infection low or nonexistent. I generally recommend that people who live in Lyme endemic areas take it year-round. It is also a food-grade herb and can be taken in large doses. I would

recommend three tablespoons, twice daily in food. In some long-standing Lyme cases, due to certain complexities of the infection, the herb can exacerbate the symptoms. It is best used as a preventative and if the Lyme infection is less than two years old.

Teasel

Teasel (Dipsacus spp) is very good for joint inflammation. If your dog is suffering badly from Lyme arthritis, use this. It is a very safe herb as well. I would recommend the powder in food, one tablespoon twice daily.

Lyme Is Curable

There is no reason you or your pets have to suffer years of illness from Lyme infection.

Most of us have been raised to believe that "modern" medicine has all the answers, so it may seem odd to hear that plants can often heal more effectively than pharmaceuticals.

Nevertheless, it is important to remember that our species has only been around a hundred thousand years or so. Plants have been around between 170 and 700 million years. They get infections just as we do, but they have learned a thing or two during those millions of years about creating chemical compounds to combat infections (*which is, I suppose, why pharmaceutical companies model so many of their drugs after them*). Plants are, in fact, the best chemists on earth.

Stephen Harrod Buhner has worked in the natural healing fields for over 30 years. He is the multiple-award winning author of 15 books including "Healing Lyme" and "Ensouling Language". You can see more about him at his website www.gaianstudies.org. He lives in Silver City, NM