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Dogs Have More Reasons Than Ever to Be Ticked Off

Veterinary medicine at the forefront of uncovering multiple tick-borne diseases

WESTBROOK, Maine (May 8, 2006) – When people think of ticks lurking in the woods, their backyard or a park, they often consider the dreaded Lyme disease they may carry. However, new research is discovering many of these eight-legged creatures carry multiple diseases that can be contracted by people — and even more so by their four-legged friends.

Dr. Matt Eberts practices veterinary medicine in the tick-endemic area of Brainerd, Minn. (approximately 130 miles north of Minneapolis) and researches canine tick-borne diseases. An alarming 40 percent of the dogs Eberts examines test positive for Lyme disease, which is transmitted when deer ticks infected by *Borrelia burgdorferi* bite an animal. Since it was discovered in Lyme, Conn. in the late 1970's, the disease has crawled from the Northeast across the country and has now been found in dogs in all 50 U.S. states.

Perhaps more troublesome than the extremely high incidence of Lyme disease Eberts sees, is that 50 percent of dogs entering his clinic show signs of canine Anaplasmosis – another disease transmitted by the same tick species that transmits Lyme disease. “While Lyme disease continues to be a concern, the growing number of dogs entering my clinic with multiple tick-borne infections adds a new wrinkle to the situation,” says Eberts. “There’s really no way for pet owners to know what’s wrong with their dogs without getting their dogs checked regularly.”

Unfortunately, Eberts has had more involvement with this topic than most. Not only has one of his own dogs contracted multiple tick-borne diseases; he too has been inflicted with a disease from these tiny arachnids. In 2001, Eberts became very ill with symptoms initially prompting doctors to diagnose the veterinarian with influenza. After a few days of rest, his symptoms subsided, and Eberts went back to work. Unlike the symptoms common with most flu viruses, Eberts' symptoms returned, leaving his doctors confused and the veterinarian hospitalized.

Eberts' familiarity with canine tick-borne diseases such as Anaplasmosis prompted him to suggest to his doctors that he could be suffering from Human granulocytic ehrlichiosis (HGE), the human form of canine Anaplasmosis. The doctors agreed with Eberts' self-diagnosis and quickly started the veterinarian on a successful treatment program. Fortunately, Eberts and his dogs are all healthy and doing well today.

Organizations such as the national Lyme Disease Association (LDA) have been trying to inform people about the potential dangers of ticks for years and hope what is learned in the veterinary community opens some eyes. "Lyme disease is a huge concern, but we want people to know there are several other tick-borne diseases out there that can be just as harmful. These diseases may have similar symptoms to Lyme disease and may often be acquired by the bite of the same tick," said Pat Smith, president of the LDA.

Ms. Smith believes dogs can serve as sentinels for people. "With their furry coats, proximity to the ground, and propensity to roll in leaves and other groundcover, dogs are many times more likely to come in contact with ticks than their owners. What we learn from our canine friends can tell us a great deal about where human outbreaks will occur in the future. Dogs play in some of the same areas as our children," she added, "and they are more vulnerable to the disease, too. By monitoring our pets, we can better protect our children in the process."

Diseases spreading or better testing?

Lyme and other tick-borne diseases are increasing in numbers and in range, but increased usage of advanced testing devices has most likely contributed to disease awareness and to a more speedy diagnosis, which improves the chances for full recovery. IDEXX Laboratories, a leading animal diagnostic company based in Westbrook, Maine, saw double-digit usage growth of a device that tests for both Lyme disease and canine ehrlichiosis, yet another disease transmitted from ticks. According to Eberts, “I think we’ve seen a combination of disease growth and better testing capabilities. As technological advancements continue, I’m sure we’ll see even more examples of ticks carrying Lyme disease as well as other tick-borne diseases.”

Diseases’ symptoms mimic one another

According to Dr. Stephen Levy, a Durham, Conn. veterinarian who has been on the forefront of tick-borne disease research for the past two decades, most tick-borne illnesses have one thing in common – they are difficult to diagnose based on symptoms alone. Many dogs exhibit no outward evidence of Lyme disease infection or the lesser known tick-borne diseases.

“With the potential range of symptoms brought on by Lyme disease and other tick-borne infections, I encourage pet owners to make testing a standard part of their dogs’ veterinary exams,” says Levy. An in-clinic testing device is available so dog owners can learn if their pets have contracted a tick-borne disease such as Lyme disease or *E. canis* prior to leaving the clinic. The test also screens for heartworm, a disease transmitted by mosquitoes. Dr. Levy emphasizes the importance of regular screening to detect the infections as early as possible. “Most tick-borne illnesses can be treated, but dogs infected with multiple diseases may take longer to recuperate.”

The following examples are some of the most common tick-borne diseases that infect dogs.

Lyme disease – Caused by *Borrelia burgdorferi*, Lyme disease is transmitted by the deer tick. The most common visible signs of Lyme disease infection are recurrent arthritis and lameness that lasts for three to four days, sometimes accompanied by loss of appetite and depression. Dog owners should be aware of these additional signs: reluctance to move or a stiff, painful gait; joints that are swollen and warm to the touch; pain in the legs or throughout the body; fever; fatigue; and swollen lymph nodes. Lyme disease signs may come and go, vary in intensity from mild to severe, and can mimic numerous other conditions. In many dogs, the signs are not apparent or may not appear for several months after infection. Although Lyme disease

has been found throughout the U.S., infections are most frequently diagnosed in the Northeast, mid-Atlantic and north-central states.

Canine Ehrlichiosis – Caused by *Ehrlichia canis*, canine Ehrlichiosis first appeared in dogs during the early 1970's, and it is believed that the disease was brought to the U.S. by military dogs returning from the Vietnam War. The disease is commonly transmitted by the brown dog tick and can be found throughout the U.S., but more frequently in the Southwest and Gulf Coast regions. *Ehrlichiosis* has three phases of symptoms — acute, subclinical and chronic. Dogs experiencing the acute phase may demonstrate symptoms including fever, discharge from eyes and nose, lack of appetite, depression, weight loss, and swollen lymph glands. The subclinical phase can last for years, and dogs may never show any obvious symptoms. The chronic phase can be either mild or severe. When mild, the disease appears to mimic a vague illness and dogs show signs of obvious weight loss. When severe, signs include eye disease, spontaneous nosebleeds, retinal bleeding and swelling of limbs.

Canine Anaplasmosis --- Sometimes referred to as dog fever, or dog tick fever, canine Anaplasmosis is caused by the bacterium *Anaplasma Phagocytophilum* (Aph). This disease is transmitted by the deer tick, the same tick that transmits Lyme. Anaplasmosis symptoms are often arthritis-like with multiple painful joints. Other Aph-positive dogs run a high fever, accompanied by lethargy, vomiting and diarrhea. Neurological symptoms can also present themselves, resulting in seizures and neck pain. Although minimal geographic data is currently available about the disease, its common host, the deer tick, can be found throughout the U.S., primarily the Northeast, mid-Atlantic and north-central states.

Rocky Mountain spotted fever – Rocky Mountain spotted fever (RMSF) is caused by the organism *Rickettsia rickettsii*, and is transmitted from the American dog tick or the wood tick. RMSF was first detected in dogs in the 1970's and despite its name, RMSF is prevalent throughout most of the United States. In most cases, the disease lasts about two weeks, but in severe cases can end in death. Symptoms include joint swelling and pain, as well as neurological abnormalities. Ocular lesions are also associated with RMSF and result from vasculitis and hemorrhage.

About the Lyme Disease Association

The Lyme Disease Association (LDA) is a national nonprofit volunteer organization dedicated to finding solutions for tick-borne diseases. Recognizing that the ability to find solutions involves a multi-disciplinary effort, the LDA has endeavored to partner with businesses, patients, government, and the medical community to unlock the secrets of Lyme and other tick-borne diseases. The LDA has fundraisers and receives grants and donations from the public to benefit research on this important health topic. Ninety-four percent of all money raised goes directly to TBD disease research, education, prevention and patient support. To learn more about Lyme disease in people and about the Lyme Disease Association visit LymeDiseaseAssociation.org.

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