TerranearPMC Safety Share

Week of July 23, 2012 – Lyme Disease

Lyme disease has been causing illness in North America for thousands of years. And while cases were documented during colonial times where the symptoms were unmistakable, the specific connection between cause and effect remained unsolved. Lyme disease is the most common tick-borne disease in the Northern Hemisphere and is transmitted to humans by the bite of a specific type of tick (within the genus, *xodes* or hard ticks). The tick, itself, does not cause the disease, but is a host of the disease-causing bacteria: genus Borrelia, of which there are a number of species. One species, within the genus, *Borrelia garinii*, has been attributed to Lyme disease cases in Europe. In the United States, the tick associated with Lyme disease is known by the more commonly used name, black-legged ticks or deer tick. The name, Lyme disease, was named after the town in Connecticut, Lyme, where a number of cases made headline news in 1975.

When one is initially infected, fever, headache, fatigue, depression and swollen lymph nodes are the typical symptoms. These are commonly accompanied by a circular red skin rash called erythema migrans. Left untreated, the joints, heart, and central nervous system may become affected. In most cases, the infection and its symptoms are eliminated by antibiotics, especially if the illness is treated early. Delayed or inadequate treatment can lead to the more serious conditions which can be disabling and difficult to treat. Also, if left untreated, the bacteria can spread throughout the body during the course of the disease, where problems may manifest in the skin, heart, joint, peripheral nervous system, and central nervous system. Many of the signs and symptoms of Lyme disease are a consequence of the immune response to the bacteria within those tissues.

If left untreated after several months, more serious consequences can result, leading to the development of severe and chronic reactions, affecting many parts of the body, including the brain, nerves, eyes, joints and heart. Many disabling symptoms can occur, including permanent paraplegia in the most extreme cases.

Lyme disease is the most commonly reported tick-borne disease in the United States. In 2010, more than 22,500 confirmed and 7,500 probable cases of Lyme disease were reported to the Centers for Disease Control and Prevention (CDC). Aside from ticks being carriers of the *Borrelia* bacterium, this bacteria has been known to reside in mice, squirrels, as well as other small mammals.

Outdoor workers are at risk of Lyme disease. In 2010, the highest number of confirmed Lyme disease cases were reported from New Jersey, Pennsylvania, Wisconsin, New York, Massachusetts, Connecticut, Minnesota, Maryland, Virginia, New Hampshire, Delaware, and Maine. Therefore, U.S. workers in the northeastern and north-central States are at highest risk of exposure to infected ticks. Ticks may also transmit other tick-borne diseases to workers in these and other regions of the country. Worksites with woods, bushes, high grass, or leaf litter are likely to have more ticks. Outdoor workers should be extra careful to protect themselves in the late spring and summer when young ticks are most active. However, ticks may be active all year in some regions with warmer weather.

Prevention and early diagnosis of Lyme disease are important for all workers; and that includes pregnant workers. Lyme disease acquired during pregnancy may lead to infection of the placenta and possible stillbirth. However, no negative effects on the fetus have been found when the mother receives appropriate antibiotic treatment. There are no reports of Lyme disease transmission from breast milk.

The following steps are presented as preventative measures to help protect yourself from tick bites; whether at work or during personal time:

- Wear a hat and light-colored clothing, including long-sleeved shirts and long pants tucked into boots or socks. Walking around barefoot in brush and grassy areas only increases your chance of receiving a tick bite.
- Use insect repellents that provide protection for the amount of time you will be outdoors:
    - Follow repellent label directions for use.
    - Use repellents containing 20% to 30% DEET on your skin or clothing.
    - Reapply repellents as needed.
- If feasible, use insecticides such as Permethrin for greater protection (This insecticide has a low mammalian toxicity- however, keep cats away!)
    - Permethrin kills ticks on contact.
    - Permethrin can be used on clothing but should not be used on skin (although it does not absorb through the skin, is a skin irritant).
    - One application of Permethrin to pants, socks, and shoes typically stays effective through several washings.
    - Pre-treated clothing is available and remains protective for many (up to 70) washings.
- Check your skin and clothes for ticks every day. The immature forms of these ticks are very small and may be hard to see.
    - Shower or bathe as soon as possible after working outdoors to wash off and check for ticks.
    - Remember to check your hair, underarms, and groin for ticks.
    - Immediately remove ticks from your body using fine-tipped tweezers.
    - Grasp the tick firmly and as close to your skin as possible.
    - Pull the tick's body away from your skin with a steady motion.
    - Clean the area with soap and water.
    - Removing infected ticks within 24 hours reduces your risk of being infected with the Lyme disease bacterium.
- Wash and dry work clothes in a hot dryer to kill any ticks present.
- Learn the symptoms of Lyme disease.

If you develop symptoms of Lyme disease seek medical attention promptly. Be sure to tell the examining health care professional that you work outdoors in an area where ticks may be present. Most cases can be successfully treated with antibiotics, especially if treatment is started early. However, some workers may have symptoms such as arthritis, muscle and joint pain, or fatigue for an extended period of time.

You've got to do your own growing, no matter how tall your grandfather was

Irish proverb