Dynamic Chiropractic

PEDIATRICS

Joint Pain in Children, Part IV: Lyme Disease

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Lyme disease is becoming more widely recognized as a cause of joint symptoms in children. The diagnosis is established from a typical history and physical findings, along with a positive serologic test for Lyme disease.

Lyme disease is transmitted by the deer tick Ixodes dammini, which carries the spirochete Borrelia burgdorferi. The white-tailed deer is usually the host to this tick; the white-footed mouse sometimes carries them. Patients of all ages and sex can be affected. Most cases occur in summer and early fall. The incubation period is 3-32 days.

Symptoms can be divided into early and late stages, but any of the findings can occur any time, alone or with other symptoms. The initial manifestation is a skin lesion, erythema chronicum migrans, which originates at the site of the tick bite and spreads in an expanding circle, often with central clearing. The lesion is accompanied by such constitutional symptoms as malaise, fatigue, arthralgia, headache, and stiff neck. From this early stage, the disease may progress to a second stage in which symptoms and signs of meningitis, neuritis, or cardiac occur weeks to months after the tick bite, and are characterized by chronic neurologic symptoms and most commonly by pauciarticular arthritis. Infection during pregnancy can cause infection of the fetus, and can causing some birth defects, but no pattern has thus far been established. Early treatment is advised after diagnosis.

Serologic findings may be negative in the early stage of Lyme disease but become positive as the disease progresses. Incomplete clinical presentations are common, so Lyme disease should be considered in all children with pauciarticular arthritis who have been in an area in which the tick is endemic. A significant elevation in antibody titers is a prerequisite to a definitive diagnosis of Lyme disease.

Length and route of treatment is decided based on the patient's condition. An oral antibiotic such as penicillin, ampicillin, erythromycin or tetracycline is usually the preferred treatment. Treatment is usually given for 10-20 days. Arthritis may be treated with oral antibiotics but sometimes needs intravenous antibiotics.

Prevention

Try to avoid the tick's habitats, mainly high brush areas and grasslands. If you are in the tick's habitat, wear protective clothing and use an insect repellant. Always check for and remove any ticks on you or your family/friends and pets (your pets can also get Lyme disease). Remember that the tick is very small, about 1/2 the size of the dog tick, which does not carry the spirochete.

It is important to remove the tick promptly, but carefully. The best way to remove the tick is with its head intact. Use tweezers or any similar instrument that will allow you to grasp it where its mouth parts enter the skin. Do not squeeze the tick's body. Tug gently at the area where the mouth is attached to the skin until it releases its hold by withdrawing its barbed mouth. It may take some time.

It is good to save the tick in a covered jar or alcohol, with the date and location of the bite and the place where you may have picked up the tick. Wipe the bite area with antiseptic or wash with soap and water. Animal studies suggest that the tick must be attached for at least 24 hours to transmit the spirochete. Call your local or state board of health if you want to have the tick identified.

For further information and a useful brochure for your patients, visit the web site [url=http://www.ziplink.net/jcwheel/lyme.html]http://www.ziplink.net/jcwheel/lyme.html[/url]. The following is also a brief fact sheet[1] produced by the epidemiology and disease control program of the state of Maryland.

Lyme Disease Fact Sheet

Lyme disease is caused by a bacterium.

You can't catch Lyme disease from another person.

It is transmitted by the bite of a certain type of tick called Ixodes scapularis (formerly I. dammini). Ticks must usually be attached to the body for several hours before they can transmit the Lyme disease bacteria (Borrelia burgdorferi). Very few tick bites will result in Lyme disease.

Symptoms appear 3-32 days after tick bite.

Most people with Lyme disease will get a characteristic rash called erythema migrans (EM) where they were bitten. The rash starts as a small red area which expands in a circular manner to two or more inches. The center of the rash may clear giving a "bulls eye" appearance. Other symptoms such as fever, headaches, tiredness, stiff neck, joint pain and swollen lymph nodes may also appear. If untreated, the heart, nervous system, or joints may be affected weeks to months later.

Anyone can get Lyme disease.

People who spend time outdoors in tick-infested areas (wooded, bushy or grassy places) are at an increased risk of exposure. A person can get Lyme disease more than once.

Blood tests are available.

Blood tests taken in the early stage of illness when treatment should begin may be negative. During this stage, diagnosis is usually made on signs and symptoms and history of tick bite. The tests may remain negative in persons successfully treated with antibiotics. Blood tests are usually positive after 30 days.

Lyme disease can be treated; see your doctor if you think you have Lyme disease.

Treatment for Lyme disease is based on early signs and symptoms and a history of a tick bite or tick exposure. Early treatment will prevent later complications.

You can prevent Lyme disease:

- Inspect your body (including the hair on your head) for ticks after being outdoors.
- Use tick repellent -- follow directions on the package label.
- Minimize bite by walking in the middle of the paths and staying clear of tick-infested areas.
- Wear light colored clothes to help spot ticks.
- Wear long pants and long sleeved shirts.
- Tuck pant legs into socks, and tuck shirt into pants when hiking.
- Remove attached tick by grasping the tick as close to the skin surface as possible and pulling

back with a steady force. Use forceps or tweezers and protect bare hand by using gloves, cloth or tissue. Do not squeeze the tick's body. Clean the bite after removing a tick as you would any minor wound.

Reference

1. Lyme Disease Fact Sheet. Epidemiology and Disease Control Program, Maryland.

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