

LYME DISEASE AND ARTHRITIS

The complexity of the organism (*Borrelia burgdorferi*) and the variations in clinical manifestations of Lyme disease have not yet been fully explained. One well-accepted and described manifestation of Lyme disease is Lyme Arthritis. Patients with Lyme Arthritis typically see their doctor complaining of a swollen knee. Studies of Lyme disease identify up to 94% of Lyme Arthritis involves the knee, although other joints can eventually become involved. These patients most often have positive serologies (blood tests for Lyme) and improve with a 28-day course of disease-targeted oral antibiotics. The antibiotics recommended are doxycycline and penicillin derivatives. On rare occasion, this course of antibiotics needs to be repeated to achieve resolution of the infection.

The fluid in the knee (called synovial fluid) should be removed and sent for analysis in suspected Lyme Arthritis. Any joint that shows a collection of fluid, which is a sign of inflammation and arthritis, can be sampled and sent for synovial fluid evaluation. A blood test called a Western blot should be done at the same time to detect an immune recognition of the spirochete(s) that causes Lyme disease. The Western blot test is almost universally positive in people with Lyme Arthritis. The knee fluid provides a sample for a very sensitive and specific analysis in the detection of the disease-causing organism.

Chronic arthritis following Lyme infection can occur. This arthritis is no longer due to active infection with the bacterium, but rather a confused reaction by the immune system. Similar arthritis can occur following a variety of other infectious organisms. This persistent arthritis after bacterial killing results from excessive inflammation, immune system dysfunction, and autoimmunity.

Persistent joint effusions (swollen knees) can occur without evidence of a persistent infection. At this time, the reason for this has not been fully explained. Mounting evidence suggests that immune system dysfunction may occur following Lyme infection. Recent research suggests that increased production of inflammatory molecules seen in other forms of arthritis, and formation of an antibody to the blood vessel walls of joint tissue, may be involved. These changes may begin to explain the continued arthritis which may occur after Lyme infection. If only the knee is affected, one can consider removal of the affected joint tissue (synovectomy) for persistent knee swelling. For more generalized arthritis a patient, along with their doctor, can consider therapies used for other forms of inflammatory arthritis.

References:

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