De ziekte van Lyme: een diagnostische uitdaging

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Lyme borreliosis is a spirochetal infectious disease caused by the tick-borne *Borrelia burgdorferi* sensu lato complex. Lyme disease now has been recognized as one of the most common vector-borne infections in the northern hemisphere. Erythema migrans, although not present in all patients, is the skin lesion representing the earliest and most easily recognized manifestation of Lyme disease. Dissemination of the spirochete to multiple organs and tissues, including the skin, the joints and the central nervous system, occurs early in the course of infection. Neurological involvement can affect both the peripheral and central nervous system, causing a wide range of acute or chronic symptoms.

Unfortunately, the available serological diagnostic tests are not optimal. False-negative serology results occur during the acute phase, and differential diagnosis has become increasingly difficult. Also, patients may remain seropositive years after adequate antibiotic treatment. In clinical practice, the diagnosis of Lyme disease is based on the epidemiological history and clinical findings, supported by serological tests.

Treatment for patients with erythema migrans typically involves oral doxycycline or amoxicillin during 7-14 days, and most patients treated with either of these agents for local infection have an excellent response. However, not all patients with early disease have a favorable outcome, and disseminated disease may develop in some patients. Treatment with ceftriaxone is usually effective in acute disseminated Lyme disease, including that manifested by neuroborreliosis, carditis, or meningitis.

While diagnosis and treatment of acute Lyme disease is relatively easy, this is far more problematic for (possible) chronic or persistent Lyme disease (PLD). Many patients present with a history and complaints compatible with persistent Lyme disease.

There is considerable controversy about the diagnosis of these patients, and diagnostic tests currently available cannot exclude or confirm the diagnosis of active Lyme disease. These patients are increasingly demanding empirical treatment for possible or presumed persistent Lyme disease. Patients with possible PLD often present with musculoskeletal symptoms, with or without arthritis, paraesthesia, cognitive impairment and fatigue. Various pathophysiological explanations for PLD have been proposed, including persistent *Borrelia* infection, autoimmune mechanisms, or psychological factors. The lack of appropriate diagnostic techniques makes it highly difficult to either prove or rule out active infection in most of these patients. At present, the scientific basis for long term antibiotic treatment for chronic symptoms related to possible PLD is weak, if not non-existent. Randomized trials on prolonged antimicrobial therapy for (presumed) PLD have been of limited quality and were generally underpowered, thus unable to either exclude or confirm a beneficial effect of long-term antibiotics. This has led to much controversy and high medical consumption, and is an area of ongoing studies.