Studies on tick-borne neuroborrelios

Project

Neuroborreliosis is a tick-borne disease where the bacteria *Borrelia burgdorferi* have disseminated to menigi and the central nervous system (CNS) causing radicular pain, sensory disturbances and sometimes paresis. The facial nerve is the most common affected site for paresis. In this clinical project we study diagnosis and treatment of this infectious disease. The diagnosis is sometimes difficult due to unawareness of tick-bite exposure and sensitivity and specificity problems with antibody specific diagnostic tests. Antibodies may take several weeks to be possible to detect, and many healthy individuals have unspecific high antibody titres against *Borrelia burgdorferi*. Furthermore, it is not possible to culture the bacteria in clinical practice and PCR tests have so far failed. The aim of the present study is to establish clinical criteria and find surrogate markers in the cerebrospinal fluid for better diagnose. We also study how an inflammatory CNS disease affects biochemical and neurodegenerative markers in the cerebrospinal fluid. Samples from patients with neuroborreliosis are compared with HIV patients and patients with Alzheimers disease. In Sweden we have introduced oral doxycycline 10-14 days as the drug of choice for treatment. In many other countries intravenous ceftriaxone is used often for longer treatment time. Our hypothesis is that oral doxycycline is as effective as intravenous ceftriaxone and with less cost and more convenience for the patient. In patients with neuroborreliosis and facial palsy we have started a study where corticosteroids are combined with doxycycline for improved outcome.

Research group

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