Borrelien trotz Antibiose, Tier
Lyme disease despite treatment with antibiotics in animals

Gelb = IDSA Autoren Yellow = IDSA Authors

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"G.P.W. received research grants from the Centers for Disease Control and Prevention (CDC); the National Institutes of Health (NIH); Immunetics, Inc.; BioRad; DiaSorin , Inc.; and BioMerieux. He has equity in Abbott (which has no FDA-approved Lyme product to our knowledge). He is an expert witness in malpractice cases involving Lyme disease, is an unpaid board member the American Lyme Disease Foundation, and is an expert witness regarding Lyme disease in a disciplinary action for the Missouri Board of Registration for the Healing Arts. E.D.S. has served as an expert witness in legal proceedings related to the correct and incorrect diagnosis of Lyme disease, and is an unpaid board member of the

American Lyme Disease Foundation. I.S. receives grants from the NIHand CDC. S.O'C. has served as an expert witness at a General Medical Council Fitness to Practice hearing in relation to Lyme disease. No conflicts exist for the other authors".

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"The agent of Lyme borreliosis, *Borrelia burgdorferi*, evades host immunity and establishes persistent infections in its varied mammalian hosts. This persistent biology may pose challenges to effective antibiotic treatment. Experimental studies in dogs, mice, and non-human primates have found persistence of *B. burgdorferi* DNA following treatment with a variety of antibiotics, but persisting spirochetes are non-cultivable. Persistence of *B. burgdorferi* DNA has been documented in humans following treatment, but the significance remains unknown.
The present study utilized a ceftriaxone treatment regimen in the C3H mouse model that resulted in persistence of non-cultivable *B. burgdorferi* in order to determine their long-term fate, and to examine their effects on the host. Results confirmed previous studies, in which *B. burgdorferi* could not be cultured from tissues, but low copy numbers of *B. burgdorferi flaB* DNA were detectable in tissues at 2, 4 and 8 months after completion of treatment, and the rate of PCR-positive tissues appeared to progressively decline over time.
However, there was resurgence of spirochete *flaB* DNA in multiple tissues at 12 months, with *flaB* DNA copy levels nearly equivalent to those found in saline-treated mice. Despite the continued non-cultivable state, RNA transcription of multiple *B. burgdorferi* genes was detected in host tissues, *flaB* DNA was acquired by xenodiagnostic ticks, and spirochetal forms could be visualized within ticks and mouse tissues by immunofluorescence and immunohistochemistry, respectively. A number of host cytokines were up- or down-regulated in tissues of both saline- and antibiotic-treated mice in the absence of histopathology, indicating host response to the presence of non-cultivable, despite the lack of inflammation in tissues".

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