Lyme disease

- Clinical Reasoning: A 64-Year-Old Man With Confusion, Nausea, Seizure, and Fever
- Neurosurgical management of intracranial hypertension in pediatric neuroborreliosis: a systematic literature review
- Facial Nerve Repair
- Neuroborreliosis with intracranial hypertension and visual loss in a pediatric patient: illustrative case
- High Prevalence of Borrelia burgdorferi Antibodies in Jaworzno, Poland: A Retrospective Study Revealing Endemic Lyme Borreliosis
- Clinical and epidemiological features of Lyme neuroborreliosis in adults and factors associated with polyradiculitis, facial palsy and encephalitis or myelitis
- Documented growth of an intracranial capillary hemangioma: A case report
- Lyme neuroborreliosis: An unusual case with extensive (peri)vasculitis of the middle cerebral artery

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Lyme disease is recognized as the most common vector-borne disease in the United States. Surveillance data indicate both increasing numbers of Lyme disease cases and geographic expansion of areas where the causative spirochete, Borrelia burgdorferi, can be found. With prompt diagnosis and appropriate treatment in the acute stage, most patients will recover fully. Without treatment, however, the infecting pathogen remains within the body, often producing long-term complications, including musculoskeletal, neurologic, and cardiovascular effects. The authors describe early and late manifestations of Lyme disease, the appropriate use of diagnostic tests, the recommended treatment, and strategies for preventing tickborne diseases nurses can share with patients [1)].

Neuroborreliosis is reported in approximately 10% of patients with Lyme disease. We report a patient with central nervous system (CNS) large vessel vasculitis, ischemic stroke, and tumefactive contrast-enhancing brain lesions, an unusual complication of neuroborreliosis. A 56-year-old man presented with headache and disorientation for 1 month. Magnetic resonance imaging revealed basal meningitis with rapidly progressing frontotemporoinsular edema and (peri)vasculitis. Transcranial ultrasound confirmed stenosed medial cerebral arteries. [18 F]GE-180 microglia positron emission tomography (PET) showed frontotemporoinsular signal more pronounced on the right. [18 F]FET amino acid PET demonstrated low tracer uptake, suggesting an inflammatory process. Cerebrospinal fluid (CSF) showed lymphomonocytosis (243/µl), intrathecal anti-Borrelia IgM (CSF/serum index = 15.65, normal < 1.5) and anti-Borrelia IgG (CSF/serum index = 6.5, normal < 1.5), and elevated CXCL13 (29.2 pg/ml, normal < 10 pg/ml). Main differential diagnoses of neurotuberculosis and perivascular CNS lymphoma were ruled out by biopsy and Quantiferon enzyme-linked immunosorbent assay. Ceftriaxone (28 days), cortisone, and nimodipine (3 months) led to full recovery. Neuroborreliosis is an important differential diagnosis in patients with CNS large vessel vasculitis and tumefactive contrast-enhancing brain lesions, mimicking perivascular CNS lymphoma or neurotuberculosis as main neuroradiological differential diagnoses. Vasculopathy and cerebrovascular events are rare in neuroborreliosis but should be considered, especially in endemic areas [2)].

A patient with positive N-methyl-D-aspartate receptor (NMDAR) IgG antibodies in their serum and cerebrospinal fluid (CSF) associated with neuroborreliosis. Clinically, the patient presented with symptoms of confusion, as well as behavioral and speech impairments. Regardless of antibacterial treatment, no significant improvement was achieved. Methylprednisolone provided a marked improvement in the patient's clinical signs and CSF findings. The screening did not reveal any underlying neoplasm. Taking into account the marked clinical improvement after treatment with glucocorticosteroids, they suggest that NMDAR encephalitis is a possible autoimmune complication in neuroborreliosis patients requiring additional immunotherapy [3].

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2)
Palleis C, Forbrig R, Lehner L, Quach S, Albert NL, Brendel M, Schöberl F, Straube A. Lyme neuroborreliosis: An unusual case with extensive (peri)vasculitis of the middle cerebral artery. Eur J Neurol. 2023 Jan 13. doi: 10.1111/ene.15633. Epub ahead of print. PMID: 36636924.
3)
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