NEURO-LYME


Take home points:
1. Neurologic manifestations of Lyme disease can occur at any stage of the disease
2. Lyme meningitis mimics aseptic meningitis, so look for associated erythema migrans, facial nerve palsy, and/or radicular involvement (more common in Europe and Asia)
3. Lyme facial palsy can be bifacial and is often associated with an abnormal CSF
4. Treatment of isolated facial palsy can be oral, but all other neuro-lyme manifestations should be treated with extended IV antibiotics.

Neurologic involvement in Lyme disease by stage:
- Early local infection (< 30 days): CNS seeding (headache, stiff neck, cognitive difficulties) associated with flu-like symptoms and/or erythema migrans
- Early disseminated infection (< 3 months): aseptic meningitis, meningoencephalitis (acute cerebellar ataxia, acute myelitis), cranial nerve palsy (usually facial nerve palsy, can be bifacial), acute painful radiculoneuritis
- Late persistent infection (> 3 months): encephalopathy, chronic axonal polyradiculoneuropathy, chronic encephalomyelitis

Clues on Lyme meningitis: Mimics aseptic viral meningitis, so use the following clues to differentiate
- Associated erythema migrans, facial nerve palsy, and/or radicular involvement
- Headache and stiff neck are quite mild

Lyme facial nerve palsy vs. idiopathic Bell’s palsy:
- Lyme disease: more often bifacial nerve palsy
- Lyme disease: more often associated with other neurologic symptoms
- Lyme disease: associated with CSF abnormalities
- Both present as a peripheral facial nerve palsy (look for forehead involvement)

Lyme encephalopathy:
- Most common late manifestation of Lyme disease
- Often subtle and may present with neuropsychiatric disturbances
- Responds to antibiotic therapy

Manifestations of Lyme borreliosis:

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<thead>
<tr>
<th>Cutaneous findings</th>
<th>Extracutaneous findings</th>
<th>Neuroborreliosis</th>
<th>Arthritis</th>
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<tbody>
<tr>
<td>Erythema migrans</td>
<td>Acute onset of arteriovenous constriction deficit (grade II or III) that resolves in days to weeks; sometimes associated with penicillitis. This definition does not include palpatations, bradycardia, boudle-brache block or myocardiitis without other objective manifestations of Lyme borreliosis.</td>
<td>Lymphocytic meningitis, cranial neuritis (particularly peripheral facial nerve palsy), radiculoneuropathy, and, rarely, encephalomyelitis. This definition does not include headache, fatigue, paresthesia, or stiff neck without other objective symptoms of Lyme borreliosis.</td>
<td>Recurrent brief attacks (weeks or months) of objective joint swelling in one or few joints, typically in one or both knees. This definition does not include chronic progressive arthritis not preceded by brief attacks, chemical symmetrical polyarthritis or arthralgia, myalgia or fibromyalgia without other objective symptoms of Lyme borreliosis.</td>
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<td>Lymphocystis coriacea</td>
<td>Pointless rash nodules, plaque on ear lobe, nipple, or scrotum. Longstanding red to bluish discoloration, usually on the exterior surfaces of extremities, sometimes associated with swelling, ultimately becoming atrophic (sometimes associated with peripheral neuropathy and adjacent perineurial nodules).</td>
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<td>Aerolymphomatosis chronic ulcerativa</td>
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