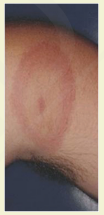
5.14.15. Systemic Conditions (XV): Neuro-Ophthalmic Manifestations of Infectious Diseases (III): Lyme Disease

- Borrelia burgdorferi
  - spirochete
  - transmitted by deer ticks
- stage 1
  - *localized infection*
  - within days or weeks of infection
  - skin rash (erythema chronicum migrans)
    - 
    - Figure 14-21 (© 2020 American Academy of Ophthalmology)
    - 60-80%
  - ± systemic findings
    - fever
    - minor constitutional symptoms
  - ocular findings
    - photophobia
    - periorbital edema
    - conjunctivitis
    - iridocyclitis
    - diffuse choroiditis
    - exudative retinal detachment
- Stage 2
  - *disseminated infection through the blood or lymphatic system*
  - within days or weeks
  - systemic findings
    - annular or malar rash
    - arthralgia
    - pancarditis
    - lymphadenopathy
    - splenomegaly
    - hepatitis
    - hematuria
    - proteinuria
    - malaise
    - fatigue
    - similar to sarcoidosis
  - neurologic findings
    - cranial neuropathies
      - most commonly facial nerve palsy
    - meningitis with headache and neck stiffness
    - radiculopathies
    - optic neuritis
  - ocular findings
    - 2/3 of patients have ocular findings
    - keratitis
    - granulomatous iritis
    - pars planitis
    - vitritis
    - panophthalmitis
    - papilledema (IIH-like syndrome)
    - orbital myositis
- Stage 3
  - *persistent infection*
  - keratitis
  - systemic findings
    - arthritis
    - scleroderma-like skin lesions
  - neurologic findings
    - chronic encephalomyelitis
    - spastic paraparesis
    - ataxic gait
    - subtle mental disorders
    - chronic radiculopathy
  - clinically and radiographically
    - neurologic picture may resemble that of MS
- diagnosis
  - patient might not recall a tick bite
  - exposure to endemic area
  - typical rash
  - elevated Lyme antibody titer in the serum or CSF
    - for screening
      - ELISA
    - confirms the diagnosis
      - Western blot
- Treatment
  - orchestrated by a specialist in infectious diseases

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