Lyme Disease

And Deer Ticks

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Introduction

• Lyme disease was named in 1977 when arthritis was observed in a cluster of children in and around Lyme, CN
• Conditions suggested that this was an infectious disease probably transmitted by an arthropod
• Further investigation revealed that Lyme disease is caused by the bacterium *Borrelia burgdorferi* a Loosely coiled spirochete
Deer Ticks

- *Ixodes scapularis* ticks are much smaller than common dog and cattle ticks
- Below adult female, adult male, nymph, and larva on a centimeter scale.
- Humans acquire disease from bite of nymph or adult tick.
LYME DISEASE ASSOCIATION (LDA)
U.S. LYME DISEASE REPORTED CASES 1990–2014*

U.S. TOTAL CASES 1990–2014*: 530,450

* Lyme disease case definition was changed in 2008. In addition to “Confirmed” cases, the “Probable” category was reported out for the first time. Cases for 2008 forward are the CDC “Total” reported cases (confirmed plus probable). In 2011, CDC changed case definition to include positive CSF antibody tests.

Note: CDC states only 10% of Lyme disease cases meeting the surveillance definition are reported – 10,000 cases are reported; 100,000 cases occurred (does not include all the cases falling outside the stringent surveillance case definition). In 2013, CDC announced that about 300,000 cases of Lyme actually occur annually.

Source: Data compiled from CDC pub. data (MMWR)

STATES RANKED BY REPORTED CASES

- # 1 – 7
- # 8 – 14
- # 15 – 21
- # 22 – 28
- # 29 – 51*
- No cases

▲ Reporting criteria changed – CLICK FOR DETAILS
N Not notifiable

*one tie
Three Stages of Disease

- Localized rash – Erythema Migrans (EM Rash)
  - Can appear anywhere from 3 to 30 days after a tick bite, with the average at 7 days
  - It’s estimated that only 60% to 70% of those infected have the EM rash
- Dissemination to multiple organ systems
- Chronic disseminated stage often with arthritic symptoms
Localized Rash
Treatment

• Single dose doxycycline shortly after tick bite.
• Lyme disease give doxycycline followed by amoxacillin
• Neuroborreliosis requires IV antibiotic therapy.
Protective measures

- Simple but effective
  - Tick Checks (during and after)
    - Remove ASAP
  - Light colored clothing
  - Tape clothing joints
  - Use coveralls
  - Use 20% DEET or greater
  - Treat clothing with Permethrin.
  - Shower ASAP
  - Wash and Dry clothes
  - Inspect body for ticks
THANK YOU FOR YOUR TIME.

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