SPIROCHETES

Date: September 10, 2018

Suggested Reading Assignment: Murray et al., Medical Microbiology, 8th ed., 2016. Chapter 32: Treponema, Borrelia, and Leptospira

LEARNING GOAL:
After completing the assigned readings and attending the lecture related to syphilis, relapsing fever, lyme borreliosis and leptospirosis, you will be able to describe the names of pathogenic spirochetes, the biological characteristics of the organisms as well as the transmission, pathogenesis, clinical features, diagnosis and treatment of the four infectious diseases.

LEARNING OBJECTIVES

To achieve the goal of this lecture you will:
1. Distinguish the unique structural and morphologic characteristics of spirochetes, including those specific to Treponema pallidum, Borrelia, and Leptospira.
2. Identify the primary mode of transmission of Treponema pallidum
3. From a clinical description, recognize the different stages of Treponema pallidum infection including congenital infection
4. Distinguish between non-specific non-treponemal and specific treponemal serologic tests for syphilis
5. Identify the common patterns of non-treponemal and treponemal serologic reactivity for different stages of syphilis
6. Identify the Borrelia species responsible for Lyme disease in the U.S. and for epidemic relapsing fever
7. Describe how Borrelia escapes immune recognition during clinical relapsing fever
8. Recognize the primary insect vectors, animal reservoirs, and geographic distribution for Borrelia burgdorferi
9. From a clinical description, distinguish between the early and late stages of Lyme disease
10. Describe the two-tier serologic testing for Lyme disease and recognize limitations of testing for early Lyme disease
11. Distinguish between epidemic and endemic relapsing fever with regard to vectors, animal reservoirs, and geographic distribution.
12. Recognize the characteristic clinical manifestations and preferred method of diagnosis of relapsing fever
13. Identify the primary mode of transmission of Leptospirosis
14. From a clinical description, diagnose Leptospirosis