PARASITOLOGY I & II

Date:  Friday, January 4, 2019 – 8:30 am & 9:30 am


Additional reading – Robbins 10th edition has a small section on Parasites (pp 585-586).

EDUCATIONAL GOALS AND OBJECTIVES

After attending the lectures related to protozoal infections and completing the assigned reading, you will be able to a) describe the key characteristics of each protozoan, b) the geographical distribution and epidemiology, c) vectors and d) the related clinical disease.

To achieve the goal of these lectures, you will be able to:

1. Differentiate protozoa based on biological classification, i.e., Apicomplexa (Sporozoa), Amoebozoa (amoebae), Flagellates.
2. List the five species of *Plasmodium* responsible for human infection.
3. Define and describe the following terms regarding malaria: A. Sprorgony, B. Schizogony, C. Exoerythrocytic phase, D. Erythrocytic phase.
4. Identify the two species of *Plasmodium* that remain dormant in the liver.
5. Describe the pathogenesis of *Plasmodium* infection.
6. Distinguish the clinical features of falciparum malaria from those of other species of malaria.
7. Describe the mechanism of transmission and method of diagnosing infection of *Babesia microti*.
8. Describe the mechanism of transmission of *Toxoplasma gondii* and the three clinical toxoplasmosis syndromes: fever/lymphadenopathy, encephalitis in the immunocompromised, and congenital toxoplasmosis.
9. Describe the mechanism of transmission of each of the intestinal protozoa.
10. Given a clinical description:
    a. Identify *Cryptosporidium parvum* as a possible cause of severe diarrhea in a person with AIDS.
b. Identify *Entamoeba histolytica* as a cause of liver abscess in a Latino immigrant

c. Identify *Leishmania* as the cause of cutaneous and oral/nasal/perineal mucosal ulcers in a Peruvian farmer

d. Identify *Trypanosoma gambiense or rhodesiense* as the cause of progressive encephalitis in a person from central Africa

e. Identify *Trypanosoma cruzi* as a possible cause of chronic heart failure in a Bolivian immigrant with normal coronary arteries

11. Be able to match the insect vector with the following protozoal diseases: malaria, babesiosis, leishmaniasis, African trypanosomiasis, American trypanosomiasis.

12. List the stages of maturation of hemoflagellates and know which stages are transmitted by the insect vector and which stages are recognized in infected persons.

13. Identify Pneumocystis jirovecii from a photograph of a BAL sample stained with gomori methenamine siver from a person with AIDS, hypoxemia and interstitial pneumonia on chest x-ray.