Epidemiology and Disease Transmission

1. Define:

   Epidemiology – Epidemiology is the quantitative study of the occurrence of disease and factors that influence disease frequency and distribution. The overall goal of epidemiologists is disease prevention.

   Endemic – A disease is considered to be endemic to an area or to a population if it tends to affect a small percentage of the population at a fairly constant rate. Plague is endemic to rodent populations in this region of California, and rabies is endemic to populations of skunks, raccoons, bats and other wild carnivores.

   Reservoir – The term reservoir refers to all the potential sources for a disease-causing agent. Reservoirs may be categorized as living or non-living and may include humans, other animals, soil, water, food materials, etc.

   Zoonosis – (pleural zoonoses) A disease is considered a zoonosis if it is one normally associated with non-human animals, but can be transmitted to humans. Plague and rabies (as mentioned above), are zoonoses.

   Morbidity rate – Morbidity rate refers to the number of individuals infected by a specific disease-causing agent within a given population and within a given time period. Morbidity and Mortality within the United States is published weekly by the Centers for Disease Control and Prevention (CDC). (http://www.cdc.gov/mmwr/)

2. Epidemiology/ The primary goal of epidemiologists is disease prevention.
3. Pathology
4. Centers for Disease Control and Prevention (CDC)/ World Health Organization (WHO)
5. Endemic/ sporadic
6. Epidemic/ pandemic
7. Soil/ vehicles
8. Matching letter sequence is – C, D, B, J, G, F, A, E, I, H
9. Fomites
10. Reservoirs/ zoonosis
11. Arthropods (ticks, fleas, mosquitoes, mites, etc.)
12. *Salmonella* Typhi (*Salmonella enterica* ssp. *enterica*, serovar Typhi)/ typhoid fever
13. These diseases are maintained within living reservoirs (animal populations) that cannot be immunized or eliminated.

14. Direct
15. Indirect
16. Direct
17. Genetic background/ cultural habits/ virulence of the pathogen involved. **Note** – Natural immunity may also be acquired through exposure to pathogens in the environment.
18. Host resistance/ reservoirs
19. Morbidity/ mortality