

Interactions Between Microbes and Humans

Chapter 11

- I. Human Microbiome
 - A. Colonize
 - B. Non-Disease causing
 - 1. Normal microbiota
 - a. microbial antagonism
 - C. Disease causing
 - 1. infection
 - 2. disease
 - 3. infectious disease

- II. Disease Vocabulary
 - A. Pathogen
 - B. Pathology
 - C. Pathogenesis
 - D. Pathogenicity
 - 1. true pathogens
 - 2. opportunistic pathogens
 - E. Virulence
 - F. Virulence factor
 - G. Opportunistic pathogens
 - 1. immunocompromised
 - 2. location

- III. Microbial Infection Steps
 - A. Portal of Entry
 - B. Adhesion
 - C. Evading host defenses
 - D. Causing disease
 - a. exoenzymes
 - b. toxins
 - c. indirect damage
 - d. epigenetic changes
 - 1. multiplication

- IV. Manifestations of Disease
 - A. Symptoms
 - B. Signs
 - C. Syndrome
 - D. Extent of Host Involvement
 - 1. local infection
 - 2. systemic infection
 - 3. bacteremia
 - a. septicemia
 - 4. toxemia
 - 5. viremia
 - 6. primary infection
 - 7. secondary infection
 - E. Severity and duration of disease
 - 1. acute
 - 2. chronic
 - 3. asymptomatic / subclinical
 - 4. latency
 - 5. sequelae
 - 6. immunity
 - 7. herd immunity

F.Course of infection
1.Incubation period
2.Prodromal period
3.Acute phase
4.Period of convalescence
5.Continuation

V.Disease Transmission

A.Reservoir
1.human
2.animal
a. zoonosis
3.non-living
B.Transmission
1.communicable
2.contagious
3.noncommunicable
C.Patterns of Transmission
1.Contact
a. direct
b. indirect
1)fomite
c. droplet transmission
2.Vehicle transmission
a. water
b. food
c. airborne
d. parenteral
e. oral-fecal route
3.Vector transmission
a. mechanical
b. biological
D.Healthcare-associated infections (HAIs) = Nosocomial infections
1.factors
E.Etiology
F.Koch's postulates
1.associate
2.isolate
3.inoculate
4.re-isolate

VI.Epidemiology

1.Center for Disease Control & Prevention
a. MMWR
1)morbidity
2)mortality
A.Incidence
B.Prevalence
C.Frequency of occurrence
1.Sporadic
2.Endemic
3.Epidemic
4.Pandemic

VII.Emerging Infectious Diseases