

Pathogens of Skin and Wounds

Chapter 22

1. Introduction (Pages 572 - 598)
 - A. Anatomical Review (Page 573)
 - i. Epidermis
 - ii. Dermis
 - iii. Subcutaneous Layer
 - B. Non-specific Defense Review (Page 573)
 - i. Keratinized Stratified Squamous Epithelia
 - ii. Secretions
2. Rocky Mountain Spotted Fever (Pages 580 - 582)
 - A. Causative Agent of disease: *Rickettsia rickettsii*
 - B. Rickettsia Review (Page 581)
 - i. Obligate Intracellular Parasites
 - ii. Non Motile
 - iii. Arthropod Vector
 - iv. Spotted Fevers
 - C. Pathogenesis

- i. Reservoir and Vector
 - a. Reservoir
 - b. Vector: Dog Tick
 - Transovarian Route to transmission
 - ii. Tick Rejuvenation Period: 4 - 10 hours
 - iii. Phagolysosome escape;
 - iv. Cytoplasm/nucleus multiplication
 - v. Spread to adjacent Cells
 - vi. Endothelia Compromised
 - vii. Disseminated Infection
- D. Disease Symptoms
- i. Fever and joint pain
 - ii. Rash: palms, wrists, ankles and soles
 - iii. Rash spreads
 - iv. Bleeding and potentially clotting
 - v. Organ Involvement
 - vi. Blood pressure drops
 - vii. Death

2. Lyme Disease (Pages 582 - 585)
 - A. History (Page 582)
 - B. Causative Agent of disease: *Borrelia burgdorferi*
 - C. Reservoir
 - D. Vector: Deer tick
 - i. Life Cycle (See handout) (also page 585)
 - E. Pathogenesis and signs and Symptoms (Page 583)
 - i. First: Erythema Migrans
 - ii. Second: “Flu-like symptoms”
 - iii. Third: Arthritis
 - iv. Fourth
 - F. Diagnosis
 - G. Prevention
3. Chickenpox and Varicella Zoster (Pages 582 - 585)
 - A. Diseases
 - i. Chickenpox (Varicella)
 - ii. Shingles (Zoster)

- iii. Reye Syndrome
 - B. Chemotherapy
 - C. Vaccine
4. *Pseudomonas aeruginosa* (Pages 607 - 609)
- A. Opportunistic Pathogen
 - i. Biofilms
 - ii. Indwelling Medical Devices
 - iii. Ventilators
 - iv. Resistance
 - v. Burn Victims
 - B. Virulence Factors
 - i. Elastase
 - ii. Collagenase
 - iii. Exotoxin A
 - C. Diseases
 - i. Urinary Tract Infections
 - ii. Respiratory Infections
 - iii. Swimmers Ear (Otitis Externa)

5. *Clostridium tetani* (Pages 609 - 611)

A. General Information

- i. Obligate anaerobe
- ii. Endospore Formation
- iii. Neurotoxin

B. Disease

- i. Necrotic Wound
- ii. Tetanus (lockjaw)

C. Prevention

- i. Wound Cleaning
 - a. Debridement
- ii. Vaccination (DTaP)
 - a. Toxoid
- iii. Antitoxin (Tetanus Immune Globulin (TIG))