

Chapter 27 - Direct Contact Diseases

- transmitted by wound/skin breaks

Toxoplasmosis

- *Toxoplasma ghandii*
- disease of blood & lymph
- intermediate host = cat (cysts in cat feces)
- exposure: uncooked meat, dried cat feces
- TORCH disease → 1st trimester exposure = stillbirth
- High incident in AIDS patients
- ID through Fluorescent Ab test
- Treatment: sulfadiazine (anti-protozoan)

Tetanus

- *Clostridium tetanii*
- found in soil, rusty nails, fecal material from horses and cattle
- endospore forming obligate anaerobe (puncture wounds)
- neurotoxin causes "spastic paralysis" beginning with jaw muscles and ending with respiratory muscles
- high incidence in IV drug users
- Vaccine: DPT @ 2 months & booster ever 10 years
- Antibiotics: penicillin with a muscle relaxant

Gangreen

- *Clostridium perfringens* (anaerobe)
- lack of blood to soft tissues causing necrosis (death of tissues)
- may be a complication of diabetes, improper abortions
- anaerobe ferments carbohydrates producing CO₂
- enters blood leading to systemic sepsis
- swelling, pain, foul odor
- Treatment: amputation, surgical removal, hyperbaric chamber
- Antibiotics: penicillin

Staph aureus (aerobic)

- *Staphylococcus aureus*
- most pathogenic
- gram (+) cocci produces many enzymes (coagulase, leukosidine)
- enters through hair follicles (folliculitis)
- infects single pore (pimple, abscess, stye)
- impetigo
- serious infection = boil, furuncle
- can spread to lungs (pneumonia), brain (meningitis)
- produces toxin with prophage
 - scalded skin syndrome
 - toxic shock syndrome
 - fever, vomiting, rash
 - drop in Blood pressure
- Treatment: penicillin, blood transfusion

Anthrax (Koch's postulate - Robert Koch)

- *Bacillus anthracis*
- spores ingested by cattle & sheep traveling through stomach into blood
- enters through cuts
- Pulmonary Anthrax - inhalation
- GI Anthrax - eating meat
- fever, chest pain, difficulty breathing, boil-like lesions
- Treatment: penicillin
- Vaccine: for animals

Catscratch Fever

- *Streptobacillus*
- fever, lymph node swelling, malaise
- penicillin, tetracycline

Rabies

- *Rabies virus*
- causes encephalitis
- animal bite or aerosol (dogs, cats, bats, etc.)
- 5 to 8 week incubation time
- multiplies in skeletal muscle & connective tissue
- enters nerve tissue & brain
- spasm of the mouth = hydrophobia (foaming at the mouth), fever, headache, aggressiveness
- ID through Fluorescent Ab test
- Human Diploid cell Vaccine - 5 to 6 injections in 1 month - vaccine helps to produce antibodies that stop the disease prior to it reaching the brain.
- 100% fatal if not treated

Schistosomiasis Fig. 27.12

- caused by Flatworms (waste entering the water)
- penetrates skin enzymatically
- enters blood & travels to liver, bladder, intestine
- causes major liver damage, rash, fever, chills
- prevention: good sanitation or eliminate the snail that carries