

# PLAGUES AND MAN

## BACTERIAL DISEASES (SELECTED)

- I. AIRBORNE BACTERIAL DISEASES
  - A. STREPTOCOCCAL SORE THROAT
    - a.  $\beta$ -HEMOLYTIC STREPTOCOCCUS (GROUP A)
    - b. STREP PYOGENES
    - c. SYMPTOMS: PHARYNGITIS, ETC.  
SCARLET FEVER--ERYTHROGENIC TOXIN
    - d. TREATMENT & SEQUELAE
      - 1) RHEUMATIC FEVER
      - 2) GLOMERULO-NEPHRITIS
  - B. DIPHTHERIA--CORYNEBACTERIUM DIPHTHERIAE
    - a. PSEUDOMEMBRANE IN THROAT
    - b. TOXIN
    - c. DPaT VACCINE--D TOXOID  
[the aT is for Whooping cough]
  - C. TUBERCULOSIS--MYCOBACTERIUM TUBERCULOSIS
    - a. ACID FAST [GRAM + (HGC)], SLENDER ROD
    - b. OBLIGATE AEROBE
    - c. INFECTS PHAGOCYTES
      - 1) TISSUE DAMAGE BY HYPERSENSITIVITY -  
TUBERCLE FORMATION
      - 2) GHON COMPLEXES
    - d. REACTIVATION AND SPREADING
  - D. PNEUMONIAS
- II. TWO BACTERIAL DISEASES TRANSMITTED BY ARTHROPODS
  - A. PLAGUE -- YERSINIA PESTIS
    - 1. ORGANISM -- GRAM NEGATIVE  $\gamma$ -PROTEOBACTERIUM (BIPOLAR)
    - 2. RODENT <--> FLEA --> HUMAN
    - 3. BUBONIC AND PNEUMONIC TYPES
    - 4. HISTORY - 542, 1300, UP TO 1890s
  - B. LYME DISEASE
    - 1. ORGANISM -- SPIROCHETE - BORRELIA BURGDORFERI
    - 2. DEER, MOUSE <--> TICK --> HUMAN
    - 3. BULL'S-EYE RASH (EMC) --> SYMPTOMS -->  
HEART-JOINT-NERVE
    - 4. RECENT DISCOVERY (1975 TO 1982) & DISTRIBUTION
- III. DIRECT CONTACT AND STDs
  - A. GONORRHEA
    - 1. NEISSERIA GONORRHOEAE--GRAM - COCCI
      - a. ATTACHMENT FIMBRIAE
      - b. BINDS TO MUCOSAL CELLS OF EPITHELIUM
      - c. CAUSES INFLAMMATION
    - 2. MALES
      - a. PAINFUL URETHRITIS
      - b. COMPLICATIONS
    - 3. FEMALES
      - a. URETHRITIS

- b. VAGINITIS
    - c. COMPLICATIONS
      - 1) PID--PELVIC INFLAMMATORY DISEASE
      - 2) SALPINGITIS
  - 4. CHLAMYDIA TRACHOMATIS AND NGU
- B. SYPHILIS--TREPONEMA PALLIDUM
  - 1. SPIROCHETE--SEEN BY DARKFIELD MICROSCOPY
  - 2. SYMPTOMS--3 STAGES
  - 3. SEROLOGICAL TESTING
    - a. NON-TREPONEMAL--RPR
    - b. TREPONEMAL--FTA
  - 4. TREATMENT
- C. ANTHRAX
  - 1. THE AGENT - B. ANTHRACIS
  - 2. ANIMALS & ANIMAL PRODUCTS
  - 3. THREE TYPES
  - 4. MALIGNANT PUSTULE OR ESCHAR
- G. LEPROSY
  - 1. THE AGENT - MYCOBACTAERIUM LEPRAE
  - 2. SLOW PROGRESSIVE DISEASE - CELL MEDIATED IMMUNITY
  - 3. TUBERCULOID & LEPROMATOUS TYPES

IV. DISEASES OF THE ORAL CAVITY

- A. DENTAL CARIES
  - 1. CARIOGENIC SPECIES - STREPTOCOCCUS MUTANS
  - 2. DIET--RARE UNTIL 19TH AND 20TH CENTURIES
    - a. CORRELATED WITH SUCROSE
    - b. EATING HABITS
- B. PERIODONTAL DISEASE
  - 1. GINGIVITIS
  - 2. PERIODONTITIS--INFLAMMATORY RESPONSE TO MIXED BACTERIAL INFECTION
  - 3. TRENCH MOUTH

V. DISEASES OF THE LOWER GI TRACK

- A. "FOOD POISONING"
  - 1. STAPHYLOCOCCAL TYPE
  - 2. CLOSTRIDIAL TYPE
  - 3. BACILLUS CEREUS
- B. E. COLI - TRAVELER'S DIARRHEA
  - 1. LIKE A MILD FORM OF CHOLERA
  - 2. ENTEROTOXIGENIC E. COLI - ETEC
  - 3. OTHER E. COLI DISEASES (HUS AND 0157:H7)
- D. SHIGELLA--BACILLARY DYSENTERY--SHIGELLOSIS
  - 2. PRODUCES EXOTOXINS
  - 3. INTEROINVASIVE--ENTERS & DESTROYS CELLS
- E. SALMONELLA
  - 1. SALMONELLOSIS
  - 2. TYPHOID FEVER
- F. CHOLERA
  - 1. COLONIZATION AND TOXIN PRODUCTION
  - 2. CHOLERA TOXIN
    - a. ALTERS A "G PROTEIN" & cAMP LEVELS
    - b. LOSS OF FLUIDS (Cl ION CHANNEL)