

The University of Jordan

Faculty of Medicine

Gram-negative coccobacilli and
cocci

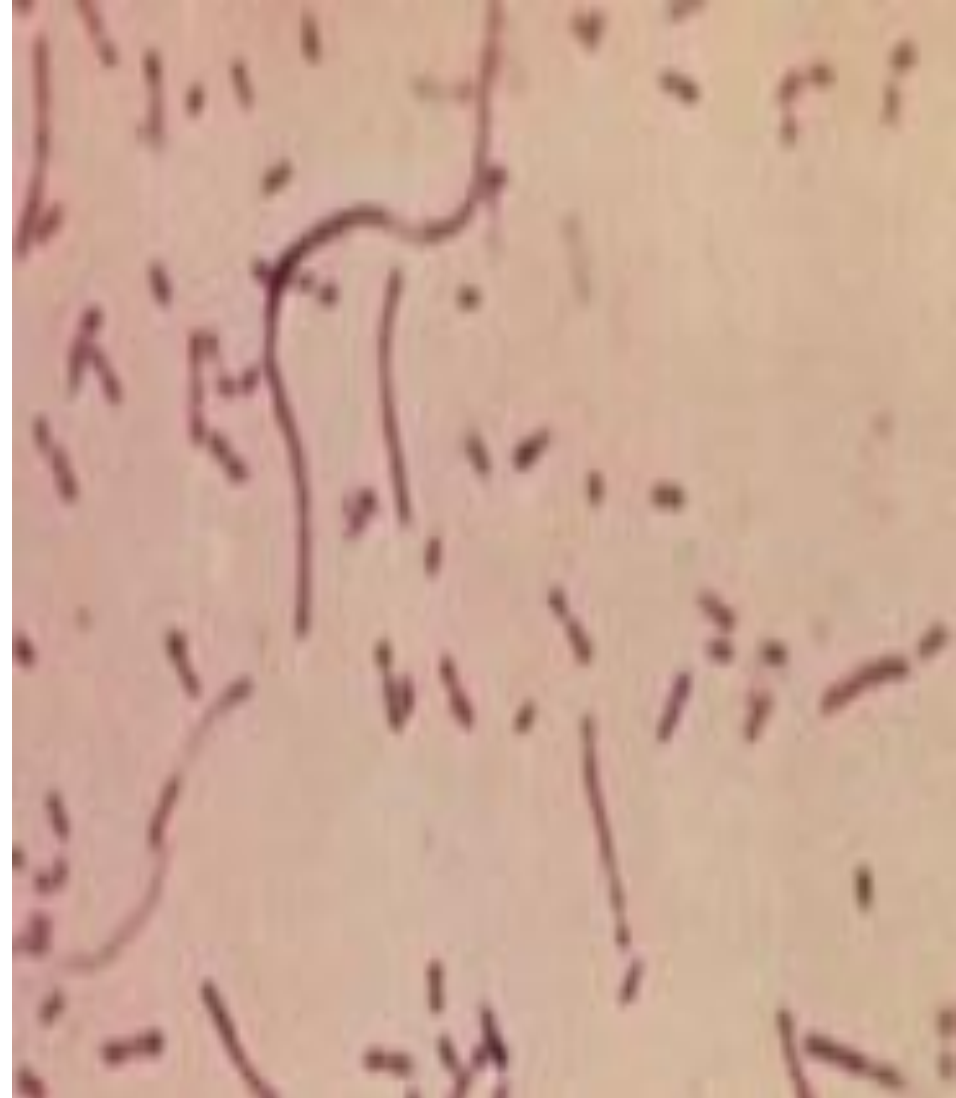
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Matar

1-Haemophilus Group

- Gram-negative coccus/large- thin bacilli.. Micro-aerophilic.. Requires growth factors (**V- X-factors**)..Red blood cells, Grow around hemolytic *Staphylococcus*, Rapid autolysis outside body.
- **Normal Flora**.. Human Upper Respt. Tract.. Many Haemophilus species..opportunistic pathogens Virulence factors.. Endotoxin & Capsule.. Localized & invasive infections..
- **H. influenzae type b**: Most common pathogenic species.. capsulated .. Sore Throat, Otitis Media, Sinusitis, Conjunctivitis, Brochopneumonia, Septicemia & Meningitis.. More common Children 6 Months-5 Years..Potent vaccine for children.

Lab Diagnosis: Blood, CSF & Others culture samples.. Chocolate & blood agar included X & V Factors.. **Hib-Vaccine**.. Infants > 2 months old.

Haemophilus colonies growth
surrounding Staphylococcus colonies



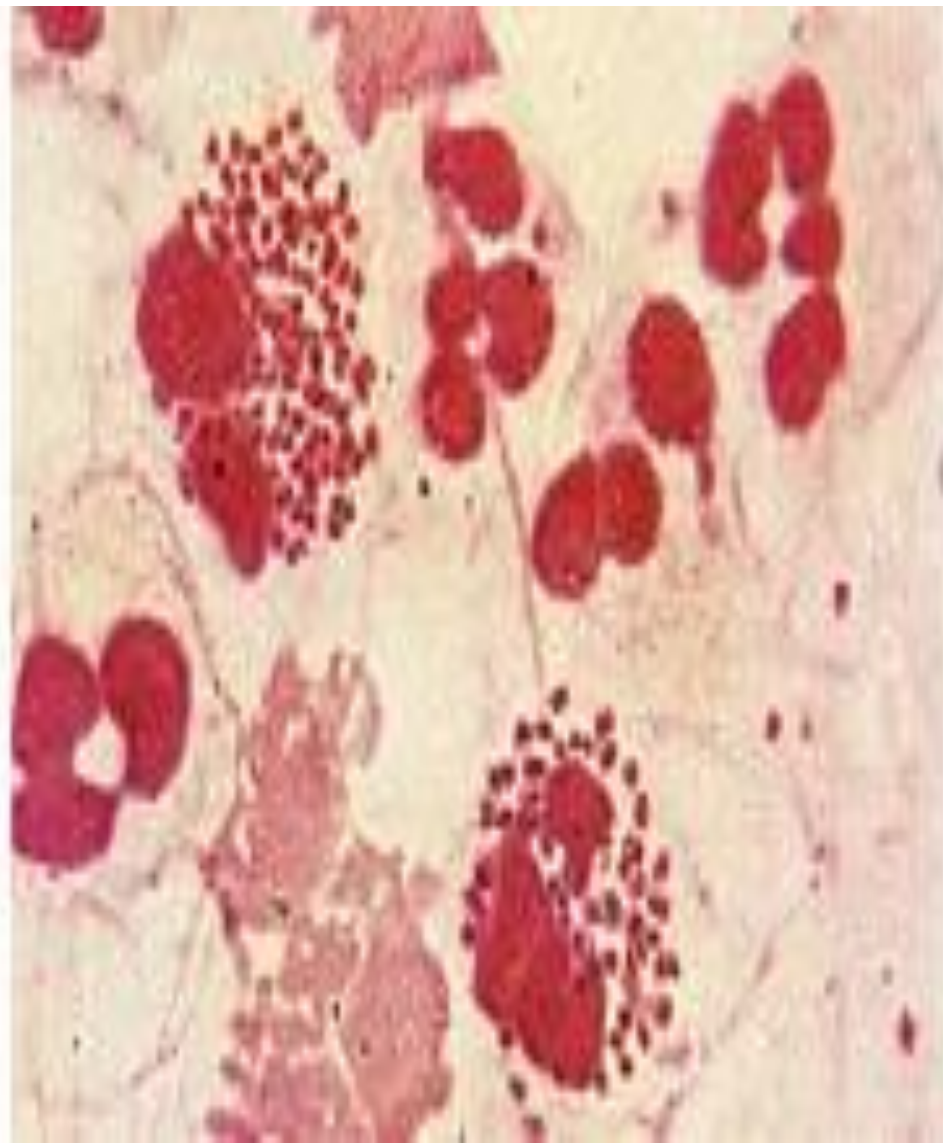
Bordetella pertussis

- Gram-negative coccobacilli.. Aerobic.. Highly human **Communicable agent**.. Droplets Infection..close contact.. Bacteria attach to lower respiratory tract mucosa., Incub. period 7-10 days..Destruction tracheal ciliated cells by releasing **Pertussis toxin** (cytotoxin) . **Pertussis** start by mild coughing, sneezing..intense cough (Whooping / paroxysmal cough), vomiting, red eyes, cyanosis..Infants & Children more susceptible to infection than adults, high fatal in Adults than in children. Antibiotics are useful in first stage.
Prevention: DTP vaccine within first 2 -4-6 Months .
Diagnosis: Clinical signs and Symptoms.. Less useful culture & lab tests.

Neisseria & Moraxella Groups

- **Neisseria spp., Moraxella spp.:** Gram-negative diplococci, Facultative anaerobes, Oxidase & Catalase+ve, Highly susceptible to Low/High Temp... Dryness, Rapid Autolysis at Room Temp. Normal Flora Respiratory Tract.. Non-pathogens (*N. sicca*, *N. flava*, *M. Mucosa*).. Common Pathogens.. ***N. gonorrhea*, *N. meningitidis*.**
- **1-N.gonorrhea:** Pili, IgA-Protease, LPS, Colonization Mucosa.. Invasion..Inflammation.. Genitourinary Tract, Rectum, Throat, Sexually Transmitted Diseases.. Acute/Subacute/Asymptomatic Infections.. Uretral/Vaginal Discharge, Urethritis, Cervicitis, Salpingitis.. Common Re-infection..

Neisseria Gramstain-Intracellular Presence in Urethral Discharge



- **Lab diagnosis**: Direct Gram-stain.. Intracellular G-ve diplococci in WBCs (pus cells).. Rapid Culture in Blood/chocolate Agar.. Antibiotics, No Vaccine.

2- N. meningitidis: Capsular Polysaccharides, LPS, IgA-Protease, Serotypes A,B,C, Invasive, Exogenous Infect. Respt.Tract.. Mild sore throat.. Septicemia.. Meningitis.. Acute disease with high Mortality without treatment. Children (6-Months-5 years) more susceptible than adults..more epidemic outbreaks.

- Protective vaccine is available.
- **3- M. catarrhalis**: Part of normal Respiratory tract.. Opportunistic pathogen.. Pneumonia.. Rarely Septicemia.. Compromised Lung/heavy smokers.
- **Lab Diagnosis**: Direct-Gram-stain, Culture Blood/ chocolate Agar, Biochemical tests, Antibiotics,