

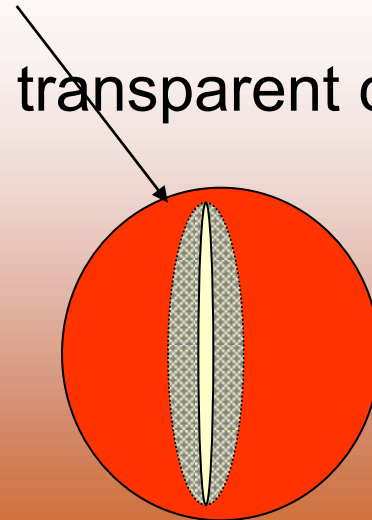
Haemophilus

Morphology: G- pleomorphic rods, facultative anaerobe



Cultivation:

- Is dependent on growth factors haemin (X) and NAD (V)
- They are not able to grow on **BA**, growth factors must be released by *S. aureus* and haemophilus grows around *S. aureus* (satellite phenomenon)
- Grows also on Levinthal agar in little transparent colonies or on chocolate agar (CHA)



H. influenzae

Biochemistry: indol formation, urease, ornitindekarboxylase

Factors of virulence: capsule - 6 serotypes (a-f), the highest pathogenicity b

Pathogenicity:

Capsuled strains:

serotype b: faryngitis, sinusitis, otitis, epiglottitis (children 2-5 years), meningitis

other serotypes: faryngitis, pneumonia, sinusitis

notcapsuled strains: light respiratory infections

Therapy: amoxycillin, co-amoxicillin, cotrimoxazol, macrolides, cefalosporins

In epiglottitis: sitting + wet cold air

Meningitis: cefalosporins 3rd generation

Prevention: vaccination of children

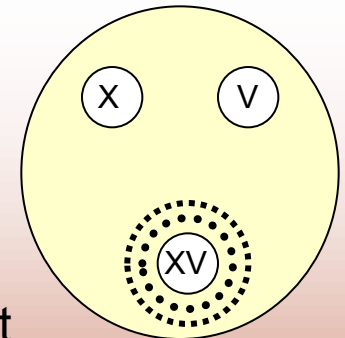
Cultivation and detection: CHA,

satellite phenomenon on BA in presence of *S. aureus*,

depression of normal flora via bacitracin,

Detection of a type due to growth factors (XV factor)/porphyrine test

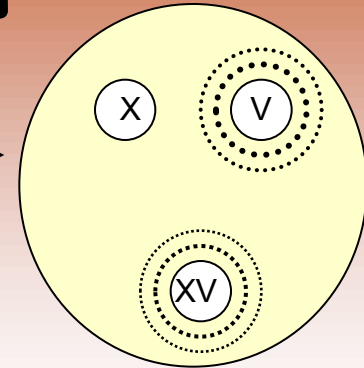
latex. agglutination (cerobrospinal fluid, serotype detection)



Other haemophili

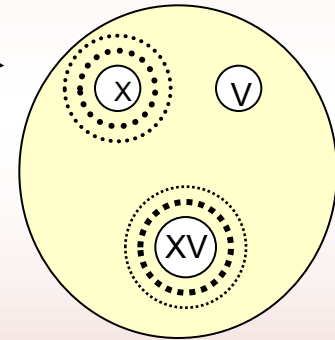
H. parainfluenzae

Light resp. infections, needs factor V



H. aphrophilus

Causes light resp. infections, needs factor X



H. ducreyi

Causes ulcus molle

Haemophilus parainfluenzae, *h. aphrophilus*, *h. paraaphrophilus*
(+Actinobacillus+ Cardiobacterium+Eikenella+Kingella) can cause
endocarditis - **HACEK**

Pasteurella multocida

Morphology: G- pleomorphic rods, facultative anaerobe



Cultivation: on BA forms little transparent watery colonies, Levinthal agar, CHA

Pathogenicity: light respiratory infections, wound infections

Therapy: ampicillin, fluoroquinolones, tetracycline

! Dg. sign: resistance to vancomycin, susceptibility to pnc

Cultivation and diagnosis: CHA, BA, biochemistry

Epidemiology: present in mouth of animals, often in wounds bitten by cat or dog.




Pseudomonas

P. aeruginosa



Microscopy: G-rods with capsule

Cultivation: on BA pearled shine colonies with haemolysis, various pigments, smells like yasmine

Biochemistry: oxidase +, catalase + 

Factors of virulence: capsule, slime, enzymes, haemolysins

Pathogenicity: wound infections (in burns), urinary tract infections, nosocomial infections and sepsis in immunocompromised patients

Therapy: often multiresistant strains, antipseudomonade penicillins, cephalosporins of 3rd and 4th generation, carbapenems, aminoglycosides, fluoroquinolons

Lab. detection: direct - cultivation and microscopy, biochemistry

Other pseudomonades: biochemical detection, typical resistance to ATB

Burkholderia cepacia – colonisation of lungs in cystic fibrosis patients, urinary infections

Stenotrophomonas maltophilia – catheter sepsis, ventilatory pneumonias (VAP)

Other G-nonfermenting bacteria (biochemical identification)

Acinetobacter calcoaceticus/baumannii - oxidase negative, immobile, resistant, similar spectrum of diseases like *P. aeruginosa*