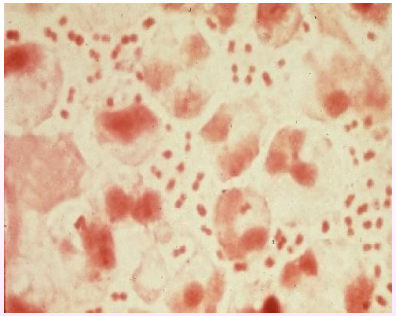
Other G- bacteria



Neisseria

form oxidase and catalase, G- cocci in pairs

N. gonorrhoeae

Microscopy: G- cocci in pairs and in leucocytes (intracell. parasite)

Cultivation: CHA/Thayer-Martin, 48 h, higher tension of CO_2

Biochemistry: rend only glucosis

Pathogenicity: always gonorrhea (uretritis, cervicitis, faryngitis), complication: infertility, peritonitis, new born babies - keratoconjunctivitis. Vector: sexual contact

Factors of pathogenicity: IgA protease, fimbrias

Detection: microscopy and cultivation on CHA – growth as drop of dew, oxidase +

Therapy: penicillin, fluoroquinolons, azithromycin, complications: cefotaxim. New born babies: Septonex drops, prevention safe sex

N. meningitidis

Microscopy: G- cocci in pairs

Cultivation: CHA, BA s growth factors

Biochemistry: rend glucosis and maltosis

Pathogenicity: not always the pathogen – sometimes is person only vector, in other cases - pharyngitis, sepsis (in young adults) starting as fever with skin spots ends as DIC (first coagulation, later bleeding). Cofactors: immunity, smoking, stress. Transport via droplets!

Factors of virulence: IgA protease, systems binding transferin with Fe, capsular antigens (neisserias are divided to serol. groups A, B, C, W135, Y, Z – antigens are used for vaccine preparation), catalase, oxidase etc.

Diagnostic: cerebrospinal fluid – rapid diagnostic is needed, agglutination+PCR

Cultivation on BA with vancomycin and colistin, which circle out normal flora, biochemistry

Therapy and prevention: vaccination (only against A and C antigen, B antigen is missing!), infusion, plasma, heparin, activators of fibrinolysis, penicillin, ceftriaxon, chloramphenicol

Branhamella (Moraxella) catarrhalis !!

Microscopy and biochemistry: G-cocci, oxidase, catalase, hydrolysis of indoxylacetate (INAC)

Pathogenicity: bronchitis, conjunctivitis, sinusitis

Therapy: ampicillin, cotrimoxazol, macrolides, cefalosporins

Oral neisseria *(N. subflava, N. sicca* aj*.)*

Cultivation and biochemistry: less sensitive than previous neisseria, rend various sugars

Pathogenicity: compound of normal flora, in immunocompromised endocarditis

Diagnostic: less used, Neisseria test

Therapy: PNC

G- difficult cultivable aerobe rods

Pathogen	urease	oxidase	Pathogenicity	BA	McConkey	Bordet-Gengou medium
B. pertussis	-	+	pertusis (whooping cough)	-	-	3-5 days, little pearle colonies
B. parapertussis	+	-	pertusis - mild form	+	+/-	1-3 days, higher colonies, haemolysis
B. bronchiseptica	+	+	Disease similar like pertusis	+	+	+

Bordetella pertussis, parpertussis, bronchiseptica

Pathogenicity: pertusis: **catarrhal** stadium – cold with fever

1 week later: **paroxysmal stadium –** dyspnoea, cyanotic, crowing child.
Last stadium: **reconvalescence,** also may stay cough

Factors of pathogenicity: pertussis toxin, tracheal toxin...

Diagnostic: direct-microscopy less used, cultivation on B-G soil eradication of other bacteria due to penicillin, agglutination with spec. antiserum, PCR

Indirect: ELISA, agglutination

Therapy: erytromycin

Prevention: vaccination with cellular or acellular vaccine (less side effects)

Intracellular parasites

Francisella tularensis

Cultivation: difficult, needs cystein/medium with egg yolk (McCoy soil), chicken yolk vac, CHA

Pathogenicity+pathogenesis: various forms:

Ulceroglandular - passes through the skin – swelling of lymphatic nodes and local ulcus

Orofaryngeal/gastrointestinal – after diggestion of contaminated food – in GIT form bleeding ulcerations, **tyfoid** – gastrointestinal form ending as sepsis

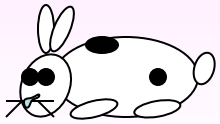
Oculoglandular – contaminate hands in contact with conjunctiva – conjunctivitis

Pulmonary – inhalation of the dust

Epidemiology: contact with infected animals (hare, tick, rabbits). Autumn - skinning of bucks/foxes after chase

Diagnosis: direct - Giemsa stain/immunofluorescence, cultivation on spec. medias with cystein, indirect: ELISA, agglutination

Therapy: streptomycin, fluoroquinolons



Legionella pneumophila

Cultition: difficult, BCYE medium (with active carbon), 7 days – grey colonies with fluorescence under the UV light

Pathogenicity:

Legionary disease – fever, caugh, headache, chestpain, hard pneumonias

Pontiac fever - 2-5 days lasting light disease with fever and muscle pain

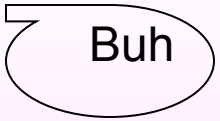
Epidemiology: entrance via inhalation – aerosol, also present in water or climatization units (air-condition)

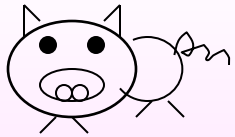
Detection: direct – Gramm staining - bad, silver staining, cultivation on BCYE, antigen detection in urine via ELISA method (many serotypes) - specific only for specific serotype

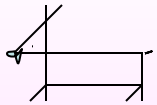
Indirect - indirect immunofluorescence, ELISA

Therapy: erytromycin, tetracyclin in hard form, pontiac fever stops without therapy

Brucella abortus, suis, melitensis, canis







Cultivation: special media with serum, chicken embryas

Pathogenicity: Bang disease (Maltese fever)

enter via skin, various forms: hepatolienal, cardial, orchitis….

Epidemiology: contact with animals, inhalation, consummation, prevention: veterinary control

Detection: direct – cultivation, indirect - CFT, ELISA, agglutination to proof of incomplete antibodies

Therapy: doxycyklin