

Staphylococci



Coagulase positive

S. aureus

S. intermedius

S. schlieferi

S. sciuri

S. aureus



Microscopy: G+cocci in clumps

Cultivation: blood agar with haemolysis

10% NaCl



Morphology: yellow pigment

Factors of virulence:

bounded coagulase (clumping factor)
free coagulase
catalase, hyaluronidase
toxins – enterotoxins
haemolysins, TSST 1, exfoliatins

Coagulase negative

S. epidermidis

S. hominis

S. haemolyticus etc.

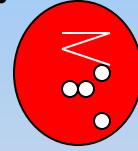
staphylococci coag. negative

Microscopy: G+cocci in clumps



Cultivation: blood agar without haemolysis

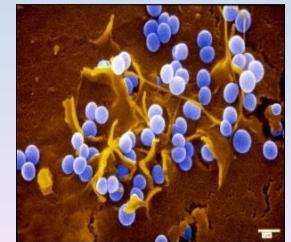
10% NaCl



Morphology: white pigment

Factors of virulence:

slimy - biofilm
catalase



S. aureus

Pathogenicity:

Skin diseases (absces, furuncle aj.)
 wound infections, bone infections, sepsis
 enterotoxicosis, toxic shock syndrom
 exfoliative dermatitis

Therapy: common used ATB

oxacillin, cefalotin, septrin, erytromycin, (ampicillin)

MRSA (methicilin resistant)

vancomycin, teicoplanin, rifampicin, linezolid

VRSA (vancomycin resistant) - linezolid

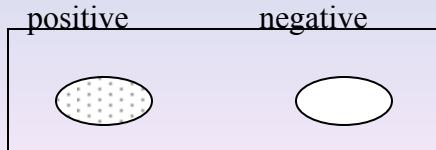
Diagnostic:

Microscopy: G+cocci in clumps

Cultivation: **blood agar** with haemolysis
 10% NaCl, **yellow** pigment

Biochemistry: catalase +

Enzyme detection: **rapid** latex test (glass)
 Bounded coagulase (clumping factor)+



Staphylococci coag. negative

Pathogencity: oportunne pathogens

often in: drug users, immunocompromised patients
 patients with medical devices
 endocarditis, sepsis, bloodstream catheter infections

Therapy: common used ATB

oxacillin, cefalotin, septrin, erytromycin, (ampicillin)

- often resistant -

vancomycin, rifampicin, teicoplanin are used

Diagnostic:

Microscopy: G+cocci in clumps

Cultivation: **blood agar** without haemolysis
 10% NaCl, **white** pigment

Biochemistry: catalase +

Enzyme detection: latex test (on glass)
 free coagulase (clumping factor)-

Free coagulase + (test tube)

Less often used



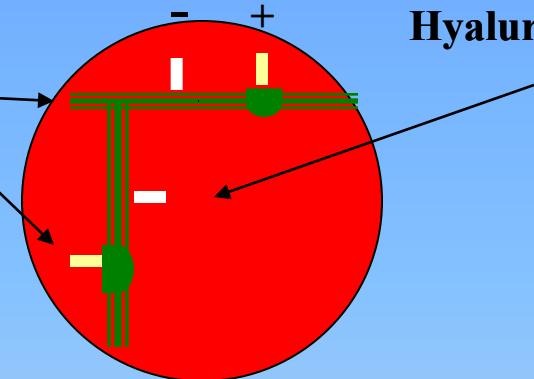
free coagulase – negative



Hyaluronidase positive

Streptococcus equi

Hyaluronidase negative



In case of insurance biochemistry: **Staphytest**

Staphytest

More tests in NRL for staphylococci (Prague):

fagotyping, DNase detection

Special methods:

detection of a biofilm

PCR, toxin detection

Other catalase positive cocci

Micrococcus

Kocuria, Kytococcus etc. }

Part of the normal skin flora, opportunistic pathogens able to cause sepsis/endocarditis in immunocompromised patients.