



Microbiology

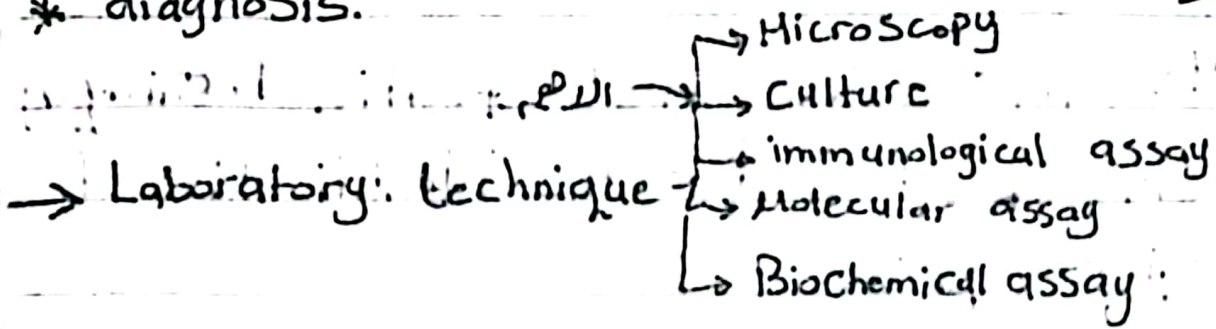
Subject :

Lec no : تلخيص محاضرات من ١٧ ل ١١

Done By : Tabark aldaboubi

وقار جازني علماً

* diagnosis.



* Direct observation (microscopy)

shape and arrangement

use gram stain and Acid Fast Stain

(quick and informative yet not definitive)

* Culture

culture medium → Nutrient prepared for microbi growth

Agar → complex polysaccharid used as solidifying

Liquefies at 100°C / solidifies 40°C.

* immunologic (Antigen, Antibody).

Agglutination → ~~cross~~ Antibody cross

link the Antigen to form visible clump

*(ABO + Rh)

widal test → Salmonella

Microbiology (1)

* Molecular (The most specific technique)
(PCR) → used for the identification of
microorganism.

95°C → denaturation

* Biochemical (Catalase test)
include carbohydrate fermentation, acid
or gas.

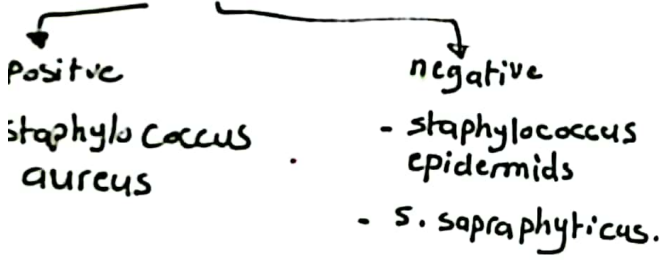
* rapid system for quick detection

Gram positive (cocci) => spherical or round shape

Staphylococci

The most common causes of human infection.

- shape : cocci
- Arrangement: clusters
- skin and موبودة بار mucous membrane.
- Lack of spore and flagella
- May (ممكن) have capsule
- Catalase positive (سنتيليداز) بالثقات
- Non motile
- Coagulase (تخثر الدم)

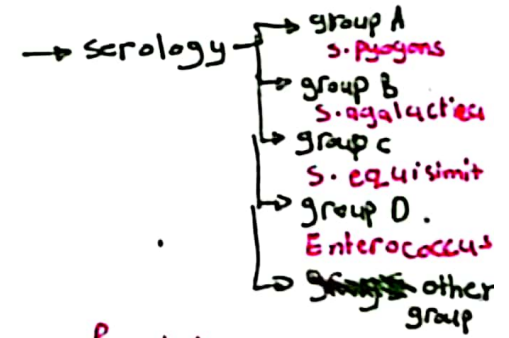
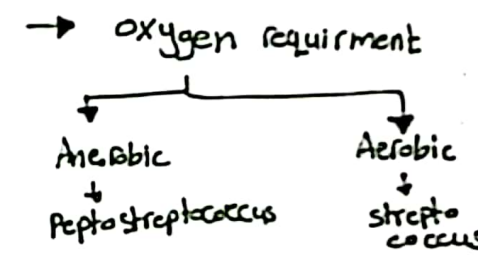


→ tough (تتحمل الحرارة و PH والملح)

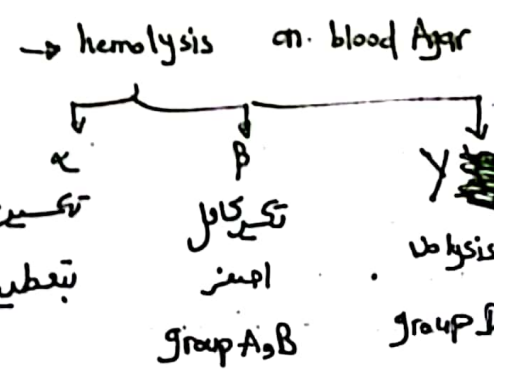
Strepto cocci

- shape : cocci
- Arrangement: chain

- Facultative anaerobic
- lack of spore and flagella
- usually capsulated.
- catalase negative
- Non motile



→ Fastidious حاسة



Staphylococci (Cocci Gram positive)

S. aureus

Coagulase Positive

Facultative ~~anaerobic~~ anaerobic

withstand high salt, extreme pH, high temperature

عوامل المقاومة

* cell wall polysaccharide

* Teichoic acid

* Capsule

* protein A

* Clumping Factor

* Enzyme such:

① Hyaluronidase

② Staphylokinase بتفكيك الجلطة

③ DNase بتحطيم الDNA

④ Lipases بتحطيم الدهون

⑤ Penicillinase بتحطيم البنسلين

⑥ coagulase تتشرب الدم

* Toxin

① hemolysin (α, β, γ, δ) RBC بتفكيك

② Leukocidin WBC بتفكيك

③ Enterotoxin

④ Exfoliative toxin

⑤ Toxic shock syndrome toxin (TSST)

Folliculitis امراض

Furuncle, Carbuncle

Staphylococcal Toxic shock syndrome

" " scalded skin "

S. epidermidis

Coagulase negative

common habitat of skin

Leading to bacteremia

S. saprophyticus

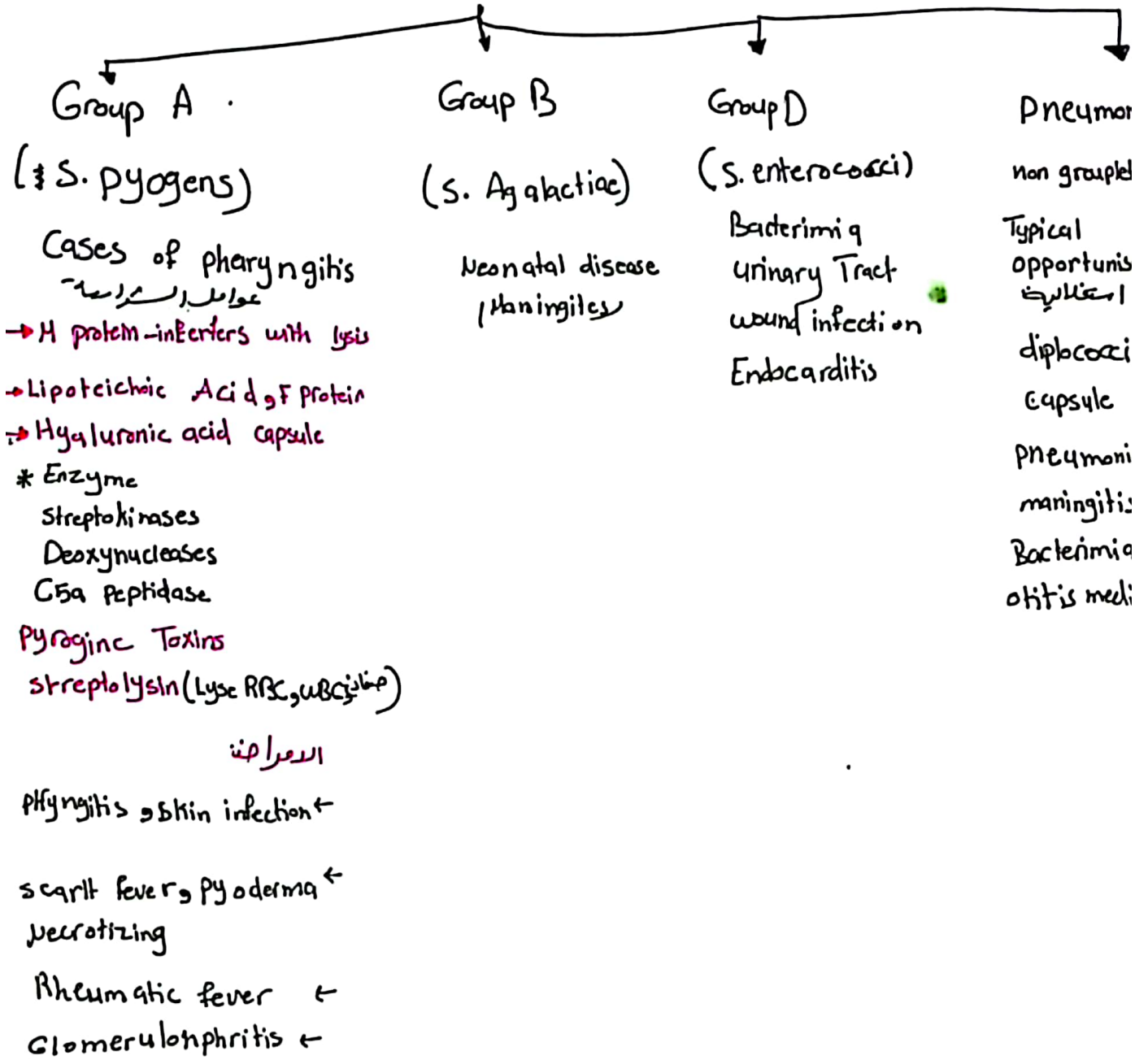
Coagulase negative

causes urinary tract infection

resistance to novobiocin

عناطر ستيبتوجيناز
epidermidis وسينار

Streptococci



معهد لنا طريقاً سيرا
سلكه لنفهم في حياتنا
آمينه مطمئنين

Gram negative cocci

Neisseria gonorrhoeae

Gram negative
Cocci (diplococci)
oxidase positive
catalase positive
Non motile
Non spore

Sensitive
Susceptible to
Cool temperature
drying and F.A

* common source of
infection in human-
urethritis → In men
Cervicitis → In women

Glucose fermentation positive

اللعج ← سيترافونيم
نعالج

مستحلب تكون فورمال فلدرا

Neisseria meningitidis

gram negative
diplococci
oxidase positive
catalase positive

وجود CO2 ببا عى النيو
less sensitive

glucose and maltose
fermentation positive

gram negative bacilli

Hemophilus	Bordetella	Pseudomonads
<p>gram negative</p> <p>bacilli or coccobacilli</p> <p>Aerobic</p> <p>liking blood.</p> <p>hemophilus influenzae</p> <p>decreyi induce sexually transmitted.</p> <p>Non motile</p> <p>6 Type of capsule</p> <p>A, B, C, D, E, F</p> <p>Local invasion → otitis</p> <p>→ sinusitis</p> <p>Systemic invasion → bacteremia</p> <p>→ meningitis</p> <p>Catalase positive</p> <p>oxidase "</p> <p>glucose fermentation</p>	<p>gram negative</p> <p>Coccobacilli arrange single or pair</p> <p>obligate Aerobic</p> <p>B. pertussis (whooping cough)</p> <p>B. parapertussis</p> <p>B. bronchisptica</p> <p>*Incubation period (4-21 day)</p>	<p>gram negative</p> <p>rods arrange in pairs</p> <p>Motile.</p> <p>Non Fermentative</p> <p>oxidase positive</p> <p>obligate aerobic.</p>