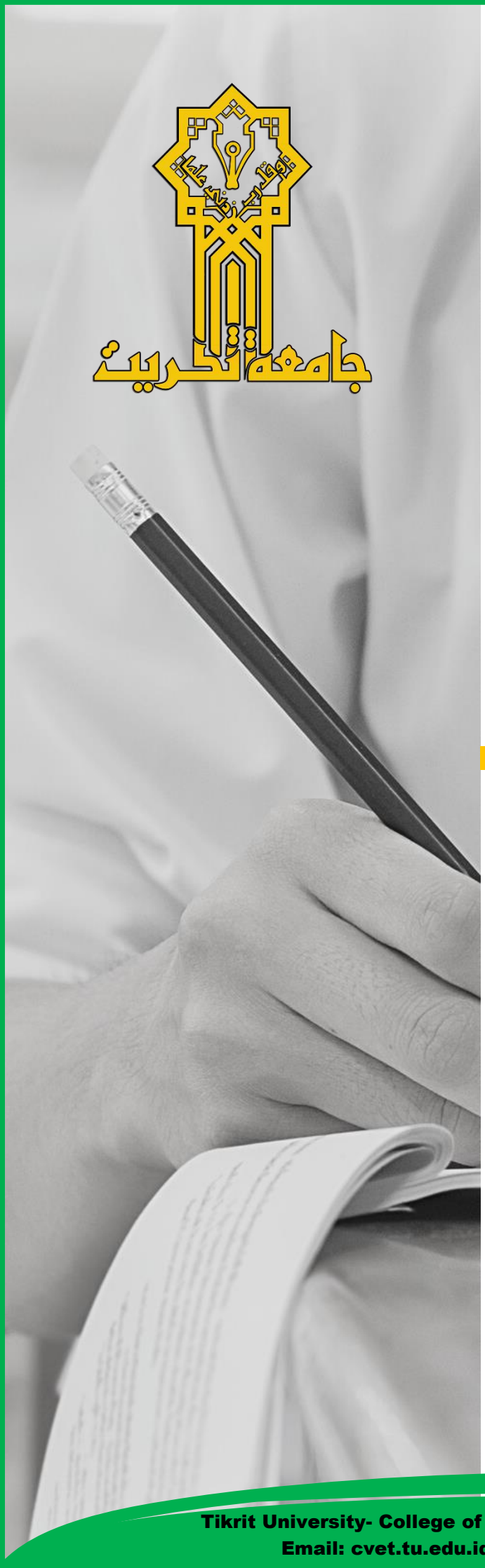

Tikrit University
College of Veterinary Medicine

Lect.1: Microbiology

Subject name: *Staphylococci*

Subject year:Third-year

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SCAN ME
Lecturers link

Staphylococci

Species :

Staphylococcus aureus

Staphylococcus intermedius

Staphylococcus hyicus

Staphylococcus saprophyticus

Staphylococcus chromogenes

Staphylococcus epidermidis

Morphology and staining :-

1- **Gram +ve, cocci**
2- The diameter varies from (1.5-0.8)µ
3- Arrangement: **bunches clusters (grape like cluster)** observed in smears taken from solid culture growth.
4- They are **Non-motile, non-spore forming**
5-**Some strains are capsulated when isolated from pathogenic specimen** or fresh culture

Cultural characteristics:-

1- aerobic or facultative anaerobic
2- grows on simple media at temperature ranged between 15-40C°.optimum temperature for **growth is 37 C°**
3- the **important media** are:
a- Nutrient agar:-the colonies are pigmented with (golden yellow or white color), circular, 1-2µ,convex, opaque, glistering with enteic edges.

b- **Blood agar:** pathogenic strains produce wide zone of β-hemolysis (clear zone)while other strains do not.

c- **Milk agar:** the colonies are similar to these on nutrient agar this medium stimulates the endopigmentation produced by some strains golden yellow color produced by *Staphylococcus aureus* ,lemon yellow color produced by *Staphylococcus citrus,* white color produced by *S. albus*

d-Manitol salt agar (MSA): because of *Staphylococci* tolerance to high salt concentration, the MSA acts as highly selective media for them. It contains 7.5-10% of sodium chloride.(this medium is used for isolation of *Staphylococci*from pathogenic specimens (pus, feces) . on this medium *Staphylococcus aureus* and some types of coagulase negative staphylococci CNS are positive for manitol fermentation appear as yellow colonies while other CNS appear as small orange or pink colonies.

Biochemical test :-

1-Catalase, Urease , DNase ,Coagulase and phosphatase positive.
2-Gives negative reaction for oxidase and indol test.
3-Ferment glucose , produce acid without gas
4-Utilize nitrate to nitrite.

Table(1) Biochemical tests uses in the differential between types belong to *Staphylococci*

Species	Coagulase	B-haemolysis	maltose	mannitol	DNASE	Vp	Hyaluronidase
S. *aureus*	+(4hr)	+	+	+	+	+	+
s. *intermedius*	+(2hr)	+	+	v	-	-	-
s. *hyicus*	v	-	-	-	+	-	+
s. *saprophyticus*	-	-	+	v	-	-	v
s. *epidermidis*	-	-	+	-	-	-	-

Diagnosis :-

The specimens which is taken from the infection depends on the lesion
1-Gram stain smear
2-Culture on sheep and human blood agar to notice the hemolysis types
3-Using the selective media for isolation like MSA
4-Performing the coagulase test
5-Performing the biochemical test.