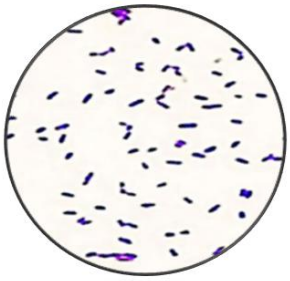
Listeria spp.

- Species
- Morphology and Staining
- Cultural Characteristics
- Diseases
- Biochemical test



Assist Lecturer Basma Bashar Haseeb
Department of Environmental Health

Species

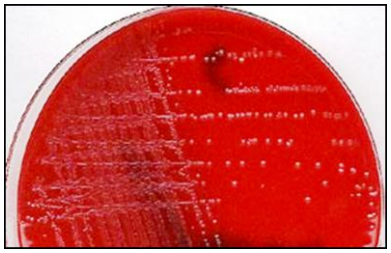
- *Listeria monocytogenes*
- *Listeria ivanovii*

Morphology and Staining

Gram positive , non spore forming , small rods , arrangement as single, pair , or v-shaped. In new culture appear like the arrangement of Corynebacterium (palisades) , motile in liquid media which contain glucose in 6-25 c for 6-18hr.(tumbling movement).

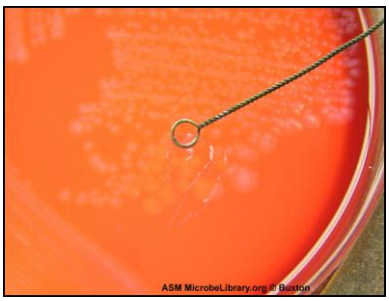
Cultural Characteristics

- Isolation can be enhanced if the specimen is kept at 4 º C for some days before inoculation into media.
- The bacteria grow aerobically but some species need Co2. The growth increased with addition of serum , blood , glucose or liver extract .



Cultural Characteristics

- The hemolysis is little but β-hemolysis in blood agar of sheep.



Disease

- Pathogenic infection by *L. monocytogenes* results in listeriosis and usually affects individuals pre-disposed through an underlying disease affecting the immune system, such as cancer or AIDS, and also other susceptible individuals such as the elderly, pregnant women, newborn babies or fetuses.

- Symptoms of the disease are flu-like, yet may result in severe complications, such as meningitis, septicaemia, spontaneous abortion or listeriosis of the newborn

Biochemical test

Species	β haemolysis	Catalase	CAMP test with		Acid		Motility Tumbling movement 25°C
			S. aureus	*R. equi*	L- Rhamnose	D - Xylose	
L. monocytogenes	+	+	+	-	+	V	+
L. ivanovii	+*	+	-	+			+

CAMP test between *Listeria monocytogenes* & *S. aureus*

Note: the motility at room temp. and the hemolysin production are primary findings that help in differentiation of Listeria from **Corynebacterium**