

A.B. Xxxxx

Identification of Unknown Culture (say A, B, and C).Filmed Preparations

(A) (B) (C)

Simple stain (dil. C.F.)

(A) (B) (C)

Gram
=====

(A)

(B)

(C)

Any
special
stain

e.g. Corynebact ——— Löffler:Neisser. ?Acid-fast ——— Z.N.

Example I. Organism ACulture on Agar Slope - 24 hrs. at 37°C. (if this information is given).

There is a profuse growth, confluent in the lower part of the slope, with isolated colonies in the upper part. The colonies are irregularly round, 3-5 mm. in diameter, flat, greyish-yellow in colour, opaque, with a granular surface and a crenated or fimbriate edge. The colony is differentiated into a dark centre and a less opaque periphery. The consistency of the colonies is membranous and emulsifiability rather difficult. The confluent growth is of the same character, the edge being undulate owing to the fusion of colonies.

Morphology - Films made from the growth were stained with

(a) Dilute carbol-fuchsin. Large rods (3-5 μ x 1 μ), straight or slightly curved, parallel sides and rounded ends. Occur singly or in chains. No bulging or beading observed.

(b) Gram's stain. General Morphology as (a). Gram-positive. Unstained oval areas in the centre of the organism suggest presence of spores.

(c) Spore stain. This confirms the presence of oval, centrally situated spores, not wider than the bacterial body.

(d) Ziehl-Neelsen's stain. Non-acid-fast.

A hanging drop preparation was made from the condensation water of the slope. This confirmed the morphology and arrangement of the organisms above noted. They are actively motile.

Conclusion.

Organism A is a large Gram-positive rod, tending to occur in chains, and possessing central spores not distorting the bacterial body. The colonies on agar are large, opaque and granular. The organism belongs to the Bacillus group and, on account of its motility, can be identified as B. subtilis.

Leptospira biflexa - in water

Example 2. Example of culture not completely identifiable.
Describe in a manner similar to the above.

Conclusion.

Organism B is a Gram-negative, motile rod, growing readily on agar in the form of smooth white opaque convex colonies. It is probably a member of the Bacterium group. The dysentery group can be excluded on grounds of motility. Further identification would involve growth on MacConkey's medium followed by biochemical and serological tests.

A motile member of the Bacterium Group.

Example 3.

Conclusion.

Organism C is a Gram-negative coccus, tending to occur in pairs with opposed sides flattened. It is therefore a member of the Neisseria group.

The meningococcus and gonococcus are excluded by the colonial appearances, and by the fact that the organism is growing on ordinary agar without enrichment. The colonies are rather rough, and their tenacity and difficult emulsifiability would suggest that organism C is N. pharyngis.

Morphology.

Shape
Size
Arrangement
Spores
Capsules
Flagella (Motility)

Staining Reactions.

Ordinary stains
Gram
Acid-fast
Other differential stains

Cultural Reactions.

Aerobic or Anaerobic
Temperature requirements
Special media requirements
Other special requirements

Characters of growth on:-

Agar plate (isolated colonies)

Shape
Size
Surface
Opacity
Other characters

Broth

Turbidity
Surface growth
Deposit

Gelatin stab

Character of growth
Liquefaction

Special media

Biochemical Reactions.

Acid Gas

Dextrose
Maltose
Mannite
Lactose
Sucrose
Salicin
Special sugars

Biochemical Reactions (contd.)

Acid Gas

Litmus milk
Indole
M.R.
V.P.

Haemolysis

Antigenic Structure

Toxin Production.

Pathogenicity

For Man
For Animals

Distribution in Nature.

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