



Helicobacter spp.



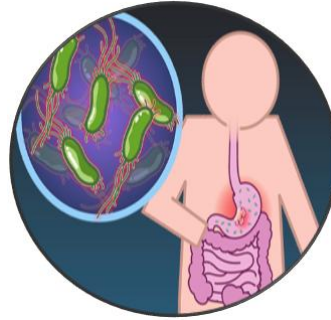
Species

Morphology and Staining

Cultural Characteristics

Diseases

Diagnosis



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10.4. 2025

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Species



Helicobacter pylori

H. cinaedi

H. fenneliae

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Morphology and Staining



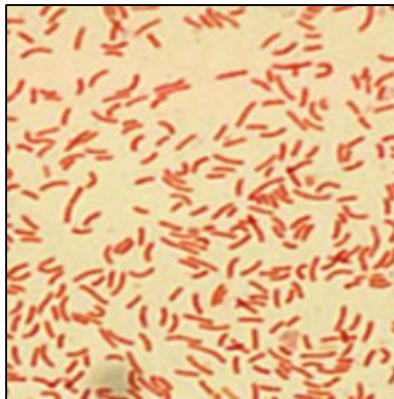
- Gram-negative, Helical (**spiral or curved**) shape with rounded ends .
- Produce urease , mucinase and catalase
- Motile , *H. pylori* (lophotrichous) of 4-6 sheathed flagella attached at one pole
- Single polar flagellum on *H. fennellae* & *H. cinaedi*
- Smooth cell wall with unusual fatty acids

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Morphology and Staining



Helicobacter pylori

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Cultural Characteristics



- Micro-aerophilic, require 5-10% CO₂ and high humidity. They are fastidious organism.
- Grow best at 37°C but not at 43°C and below 30°C.
- Growth is best on blood agar and chocolate agar after incubation for 2-5 days. Colonies are circular, convex and translucent and grow bigger than 2 mm in diameter.
- On Columbia blood agar they give small, dome shaped translucent and sometime weakly hemolytic colonies.

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Cultural Characteristics

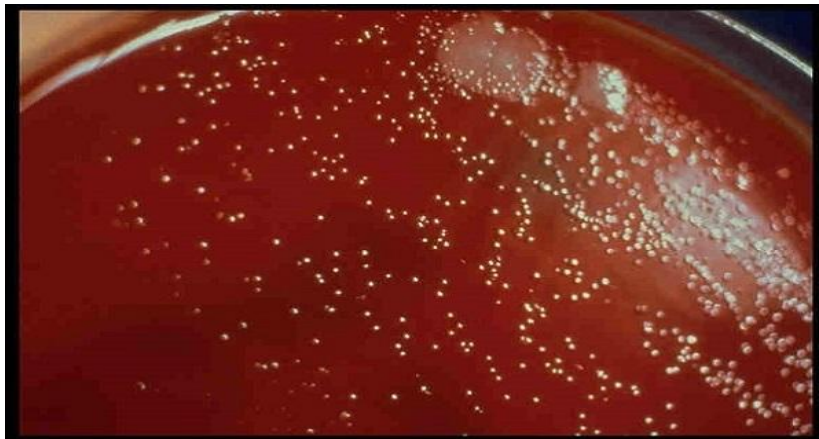


Fig. 3 day culture of *Helicobacter pylori* on blood agar

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Cultural Characteristics



Fig. Colonies of *Helicobacter pylori* on chocolate agar

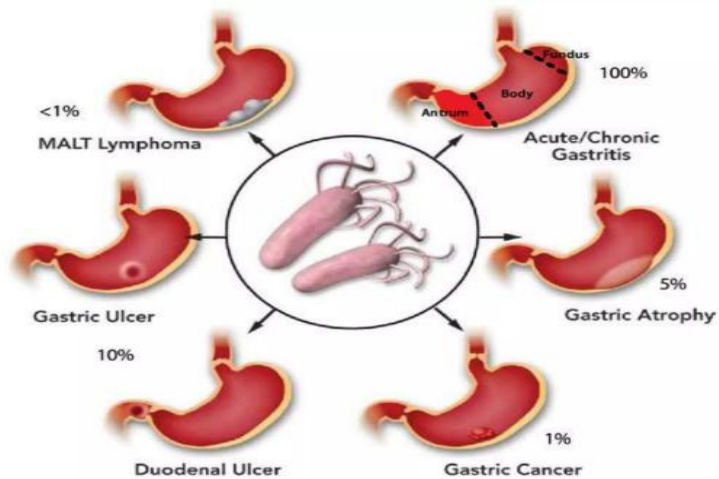


Fig. *Helicobacter pylori* on Columbia blood agar

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Diseases



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Diagnosis



Testing is important for detection of *Helicobacter pylori*.

Repeat testing after treatment is essential to be sure *H. pylori* was gone.

Tests may be done using :

1- Stool test (This is the most common test to detect *H. pylori*. The test looks for proteins (antigens) associated with *H. pylori* infection in the stool).

2-Breath test (called a urea breath test)

3- Scope test (endoscope).

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Thanks

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