

## Lab -6- (Flagellates' protozoa)

### (GIARDIA LAMBLIA)

Habitat: Duodenum and upper part of intestine

Mode of locomotion: flagellae

Reproduction: by binary fission

Giardia lamblia causes disease: Giardiasis

Infective stage: cyst

### **Morphology**

Giardia lamblia exists in two forms, an active form called a trophozoite, and an inactive form called a cyst.

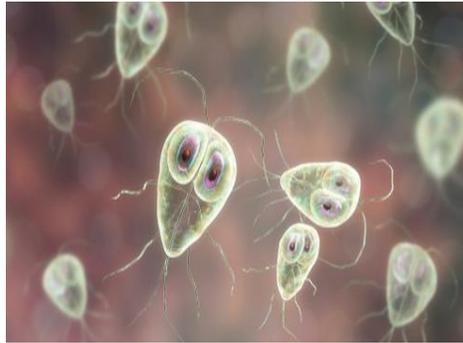
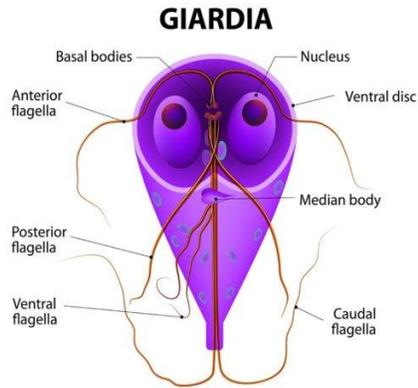
Trophozoite:

1-The active Trophozoite attaches to the lining of the small intestine with a "sucker" and is responsible for causing the signs and symptoms of giardiasis.

2- The Trophozoite cannot live long outside of the body therefore it cannot spread the infection to others.

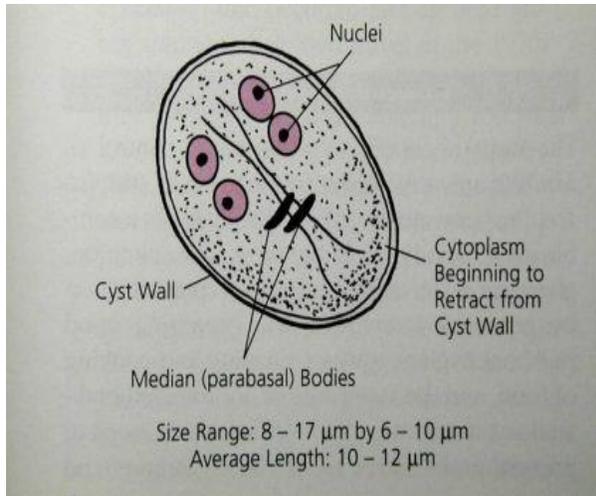
3- There are a pair of axostyles, two nuclei and 4 pairs of flagellae.

4- It multiplies by binary fission.



Cyst: Trophozoite are transformed into cysts under unfavorable conditions. The cyst is:

- Oval
- 8 to 14  $\mu$   $\times$  6 to 10  $\mu$ .
- Contains 4 nuclei usually lying at one end or lie in pairs at opposite poles.
- have flagellae and sucking disk lie inside cytoplasm.
- They are passed in stools.
- Cysts are present in the feces of infected people. Thus, the infection is spread from person to person by contamination of food with feces.



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## Laboratory Diagnosis:

1-Cysts in the stool (multiple samples)

2-Duodenal contents aspiration

3-Serologic test include counter current immunoelectrophoresis (CIE), ELAZA, Immunofluorescence and string test.

# *E. histolytica* & *G. lamblia*

<i>E. histolytica</i>	<i>Giardia lamblia</i>
Non- flagellated protozoa	flagellated protozoa
Intestinal and extra intestinal (lung, liver, brain)	Intestinal only
Stool contain mucus and blood	No
Treatment by <b>metronidazole</b>	Treatment by <b>metronidazole</b>
Prevention and control by health education and disinfection and filtration	Prevention and control by health education and disinfection and filtration + boiling of water is the best.
Fecal – oral transmission	Fecal – oral transmission
life cycle - Cyst and trophozoites stages	Cyst and trophozoites stages