

Lec- 4- *Entamoeba coli*.

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Introduction- *Entamoeba coli* is a non-pathogenic amoeba with world wide distribution. Its life cycle is similar to that of *E. histolytica* but it does not have an invasive stage and do not ingest red blood cells.

Morphology of Cysts

Cysts of *E. coli* are 15 - 30 μ in diameter and contain 1 - 8 nuclei. Chromatoid bodies are not frequently seen but when present they are usually splinter-like with pointed ends. Glycogen is usually diffuse but in young cysts is occasionally found as a well defined mass which stains reddish brown with iodine.

Morphology of Trophozoite

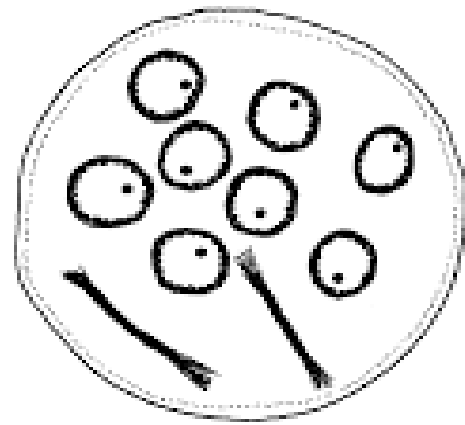
The trophozoite is larger than that of *E. histolytica* ranging from 15-50 μ in diameter. It exhibits blunt pseudopodia with sluggish movement. A permanently stained preparation shows a nucleus with a moderately large eccentric karyosome with the chromatin clumped on the nuclear membrane. The cytoplasm appears granular containing vacuoles with ingested bacteria and other food particles .

Laboratory Diagnosis

Laboratory diagnosis is made by finding the characteristic cysts in an iodine stained, formol-ether concentration method or by detecting the characteristic trophozoites in a wet preparation or a permanent stained preparation.



trophozoite



cyst

Entamoeba coli

Trophozoite



Peter Darben

Cyst



10µm

It is similar to *E. histolytica* with exception of the following differences :-

Trophozoite	<i>E. histolytica</i>	<i>E. coli</i>
Disease	Amoebiasis(Amoebic dysentery or Amoebic liver abscess)	Non pathogenic
Motility	Active	Sluggish
Size	10-40 μ m	20-50 μ m
Cytoplasm	Ectoplasm clearly differentiation from endoplasm	Not clearly differentiation from endoplasm
Food vacuole	Contain R.B.C in acute case	Contain bacteria,yeast & other particles without RBC
Karyosome	Small & central in the nucleus	Large & not central eccentric
Cyst	Have cyst stage	Have cyst stage
Diameter	10-15 μ m	10-30 μ m
Nuclei in mature cyst	4 Nuclei	8 Nuclei
Chromatin	Chromatin bodies from 1-4 & cigar-shape	Chromatin bodies from 10-15 & splinter shape

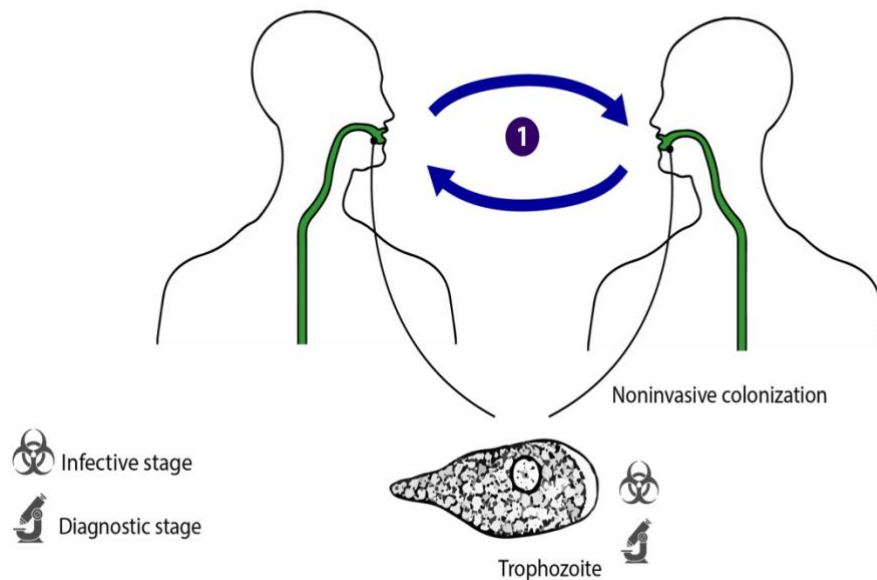
Entamoeba gingivalis

Entamoeba gingivalis is a non-pathogenic ameba that inhabits the human oral cavity and occasionally other sites. Although it is often found in conjunction with periodontal disease, no causative association has been definitively identified.

Life Cycle



Entamoeba gingivalis



There is no known cyst stage for *Entamoeba gingivalis*; trophozoites live in the oral cavity of humans, residing in the gingival pockets near the base of the teeth. They are not considered pathogenic, and feed on bacteria and other debris. Trophozoites are transmitted person-to-person orally by kissing or fomites (such as eating utensils). The trophozoite stage of *E. gingivalis* is morphologically similar to that of *E. histolytica*. The two should be differentiated, as both can be coughed up in sputum specimens (if *E. histolytica* is present in pulmonary abscesses).

Geographic Range

E. gingivalis is a cosmopolitan species and is very common globally.

Clinical Presentation

E. gingivalis is common in individuals with poor oral hygiene or periodontal disease. However, several studies have not definitely

demonstrated any causative correlation. It appears that diseased periodontal tissue and associated *Actinomyces* bacteria simply provide a favorable environment for the ameba to develop. Occasionally, *E. gingivalis* trophozoites have also been reported from the female genital tract, particularly in association with use of an intrauterine device (IUD).

Laboratory Diagnosis :-

Identification of *E. gingivalis* is usually made by the finding of trophozoites in scrapings of the gums and teeth; trophozoites may be seen ingesting white cells and epithelial cell nuclei