



Mutah University - 2nd year Med. Lab

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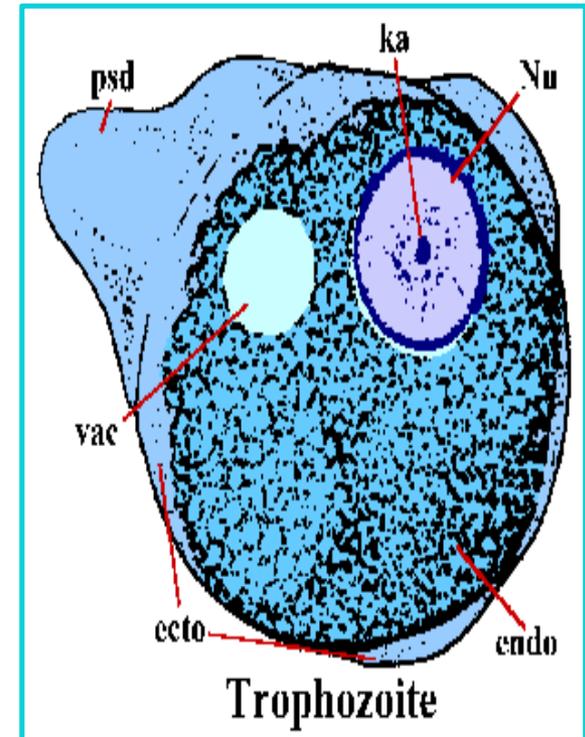


Entamoeba histolytica
&
Entamoeba Coli

Morphological characters

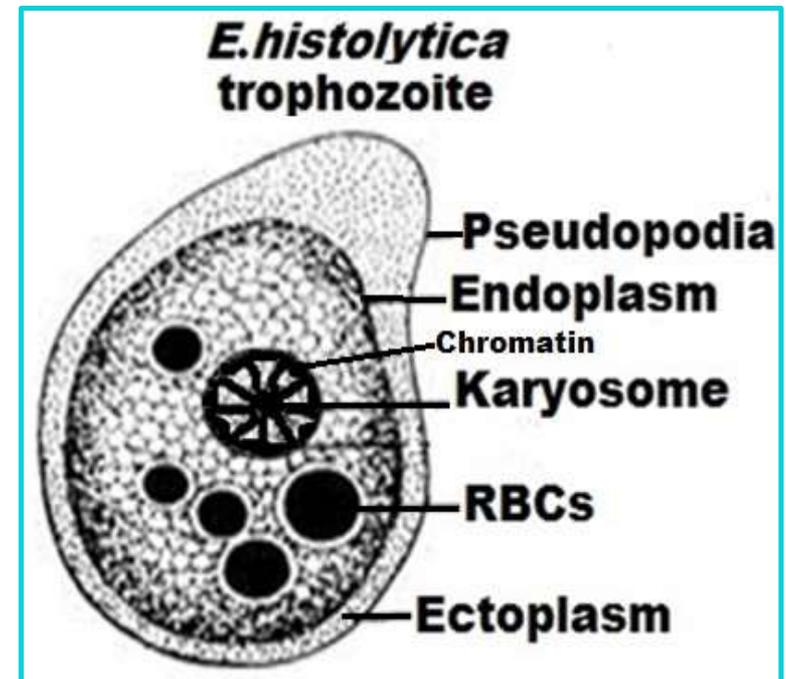
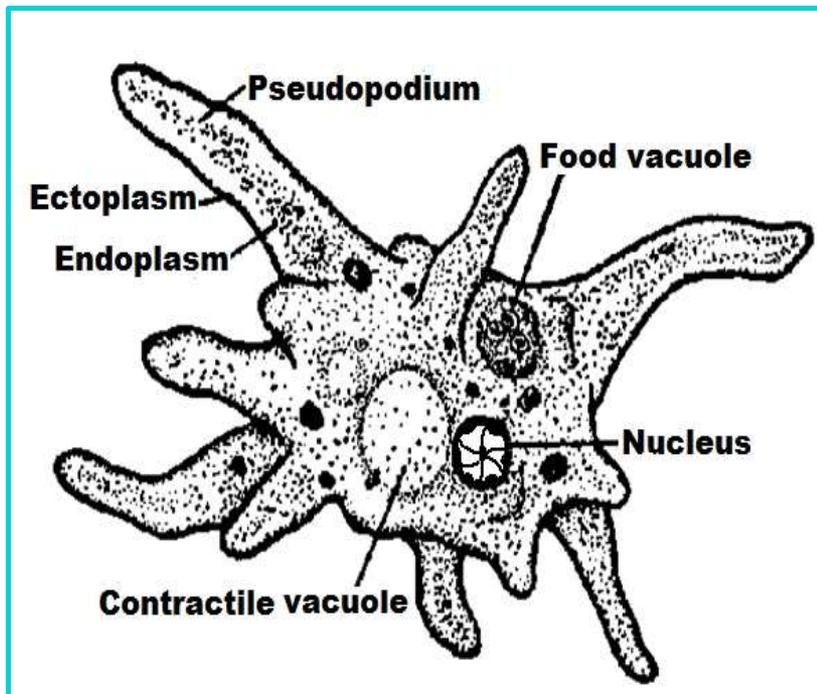
Trophozoite:

- ❖ **Nucleoplasm.**
- ❖ **Cytoplasm which consists of:**
 - **Outer thin hyaline ectoplasm.**
 - **Inner granular endoplasm.**



Morphological characters

1- Trophozoite stage (Vegetative form or tissue form):



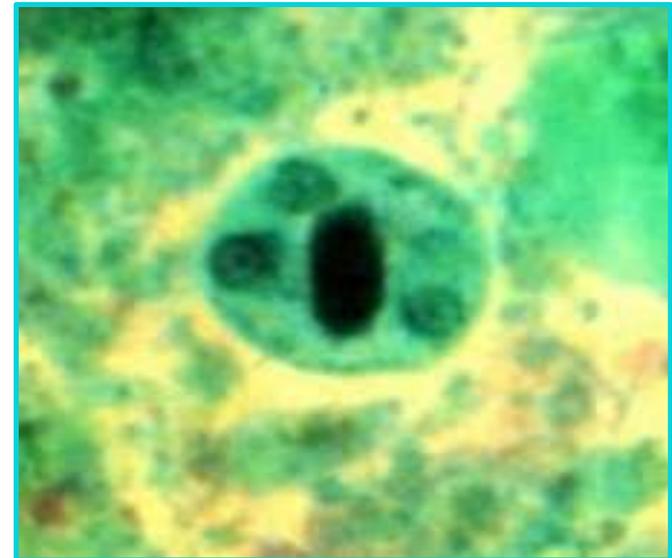
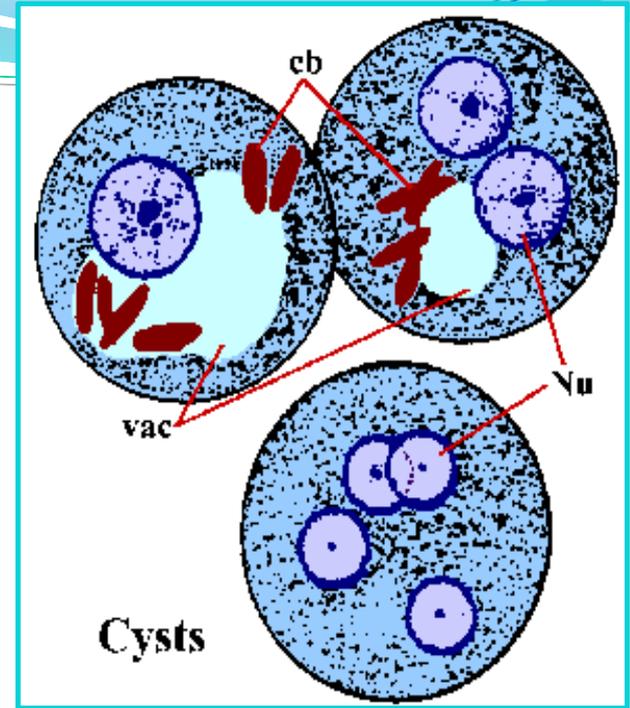
2- Cyst stage (Luminal form):

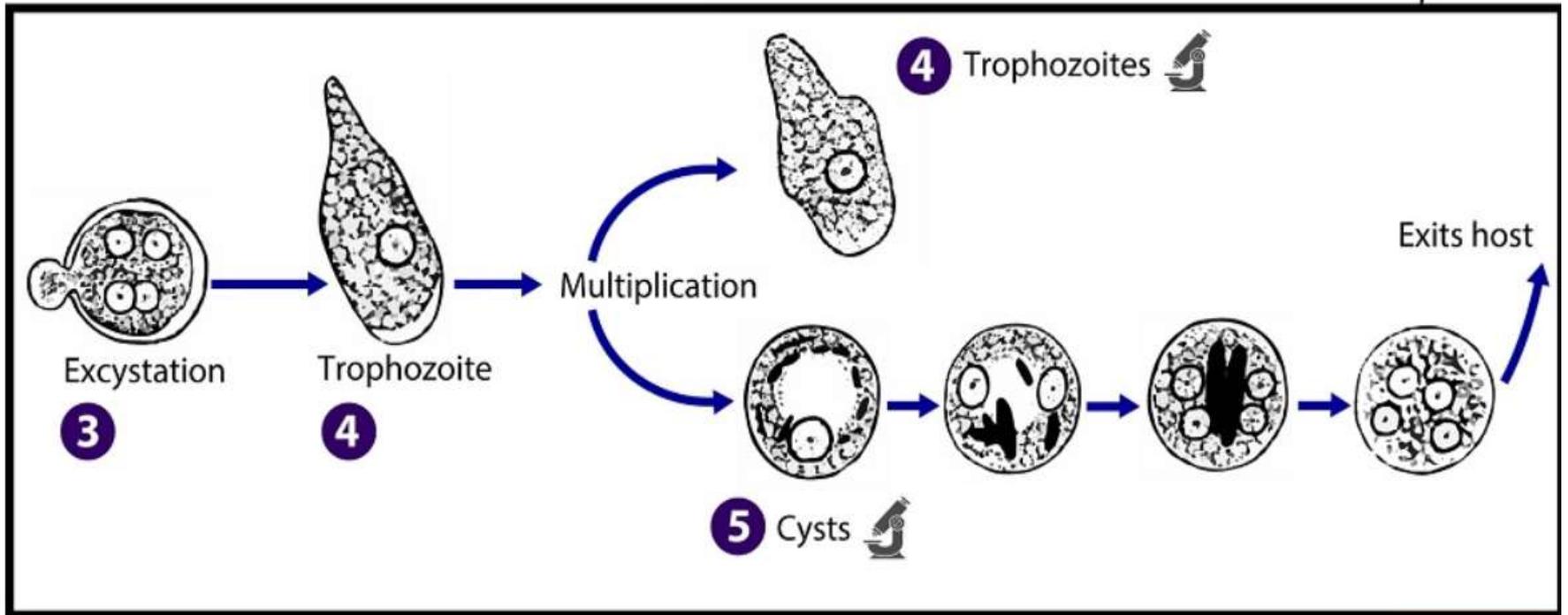
(a) Immature cyst (Uninucleate cyst and Binucleate cyst):

❖ Uninucleate cyst (one nucleus)

❖ Binucleate cyst (2 nucleus)

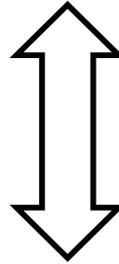
b) Mature cyst (Quadrinucleate cyst)



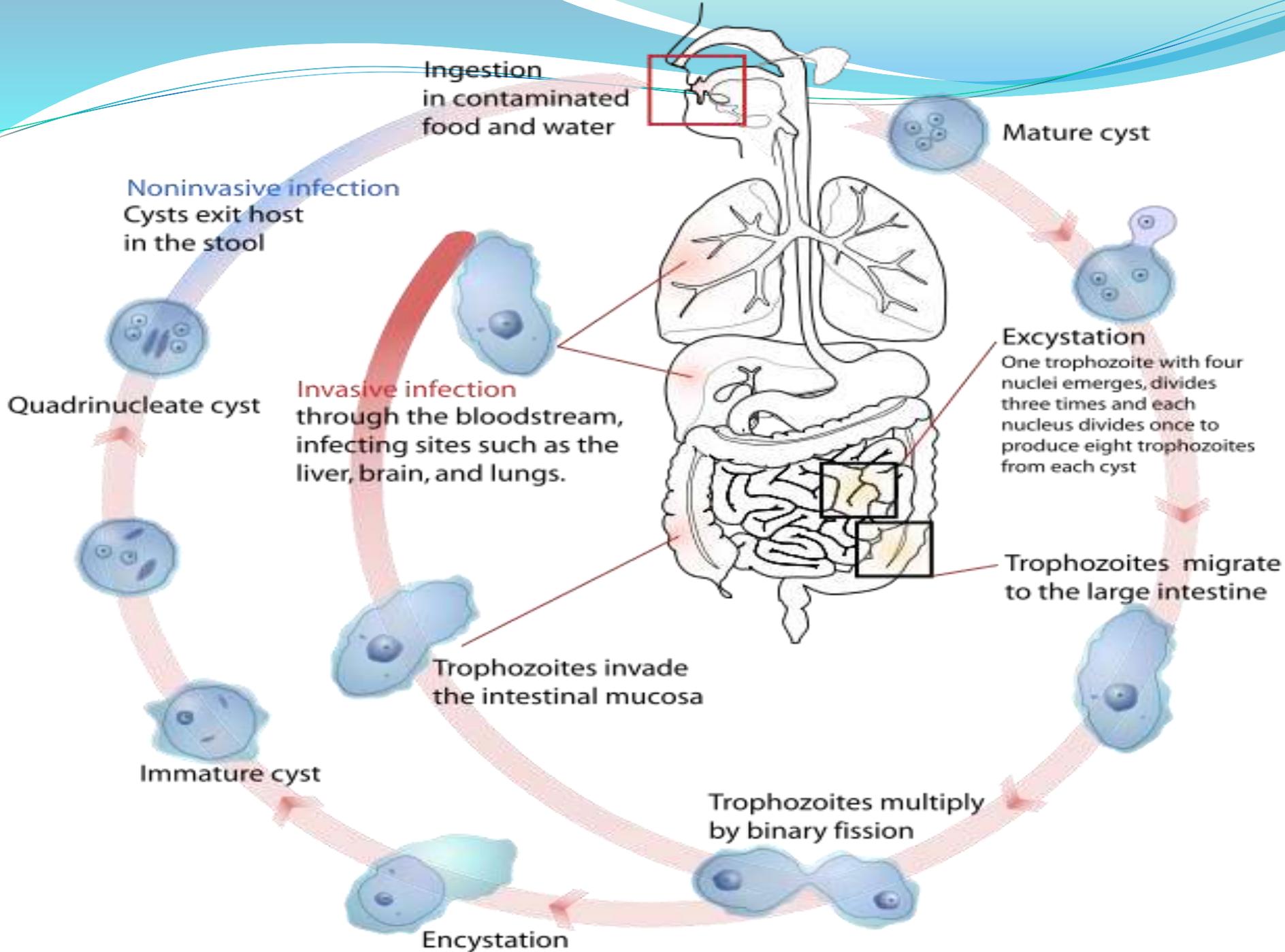




cyst



trophozoite



With heavy infection and lowering of host immunity

→ The trophozoites of *E. histolytica* invade the mucosa and submucosa of the large intestine by secreting lytic enzymes → amoebic ulcers

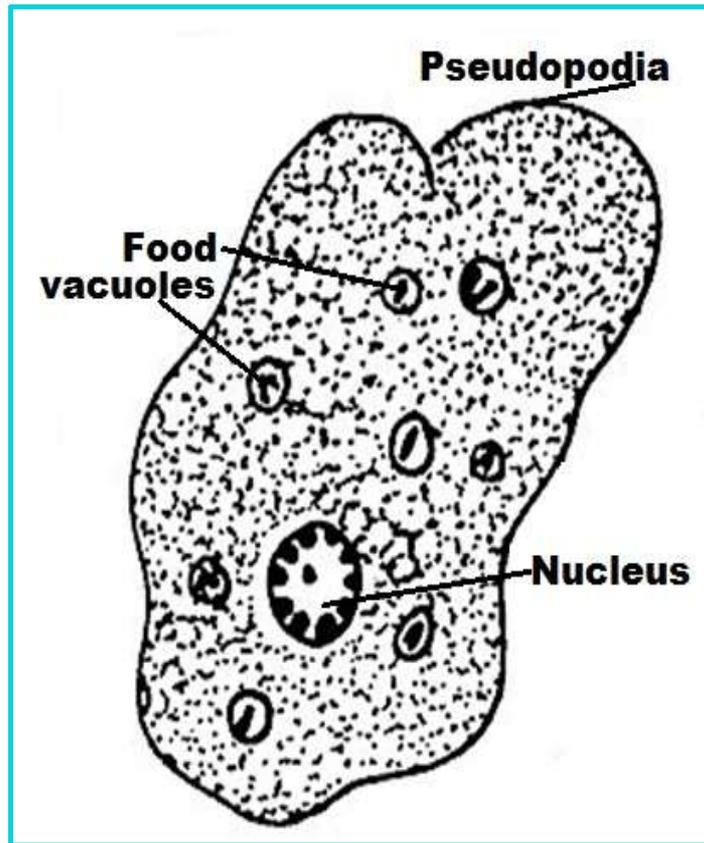
→ The ulcer is flask-shaped with deeply undermined edges containing cytolysed cells, mucus and trophozoites (may go to blood).



→ The most common sites of amoebic ulcers are caecum, colonic flexures and sigmoidorectal regions due to decrease peristalsis & slow colonic flow at these sites that help invasion.

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- ***Entamoeba coli* :**

- It is a parasite of the large intestine and Its life cycle is similar to that of *E.histolytica*.
- It is of medical importance only because it may be mistaken for *E.histolytica*.
- It has two stages (trophozoite& cyst).
- The important morphological features are :



***E. Coli* trophozoite**



***E. Coli* cyst**

- **Trophozoite:**
- 1- Its size (10-35 μm), it has **granular endoplasm** containing ingested bacteria and debris (**no RBCs**) .
- 2. The **ectoplasm** is not clear and it has small pseudopodia.
- 3. It has one nucleus contain large eccentric karyosome, and large chromatin granules arranged irregularly beneath nuclear membrane.
- **The cyst** : is large oval in shape , 10 – 30 μm and it has **1 - 8 nuclei**, the characters just like that of trophozoite.

Entamoeba coli

Trophozoite

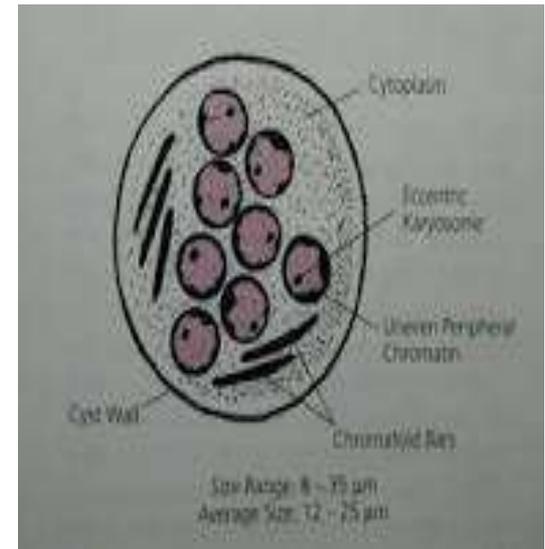


Peter Darben

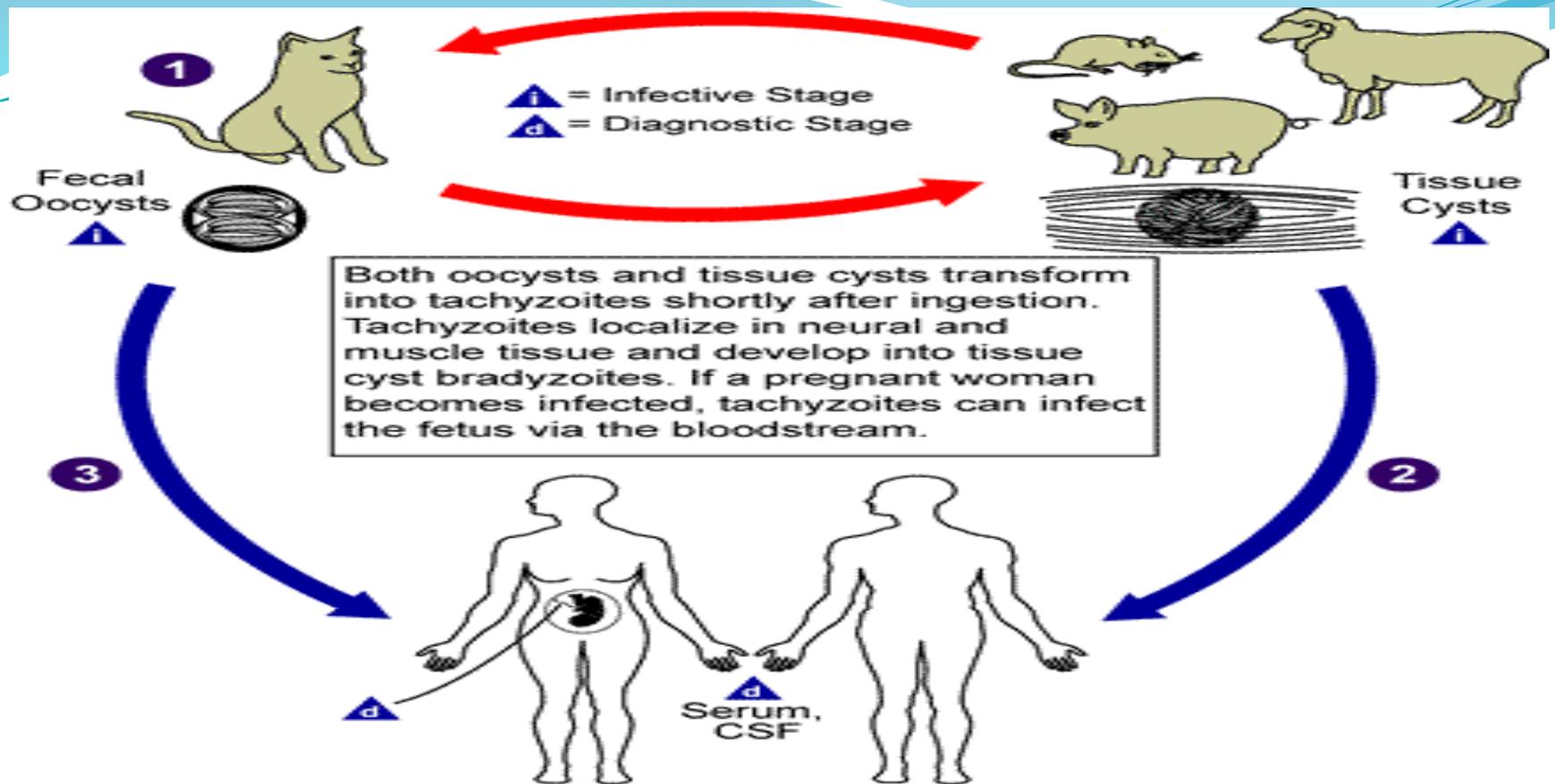
Cyst



10µm



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- *Toxoplasma gondii*



Both oocysts and tissue cysts transform into tachyzoites shortly after ingestion. Tachyzoites localize in neural and muscle tissue and develop into tissue cyst bradyzoites. If a pregnant woman becomes infected, tachyzoites can infect the fetus via the bloodstream.

- d** Diagnostic Stage
- 1) Serological diagnosis.
 - or
 - 2) Direct identification of the parasite from peripheral blood, amniotic fluid, or in tissue sections.





A fetus may contract toxoplasmosis through the placental connection with its infected mother

The mother may be infected by:

Improper handling of cat litter

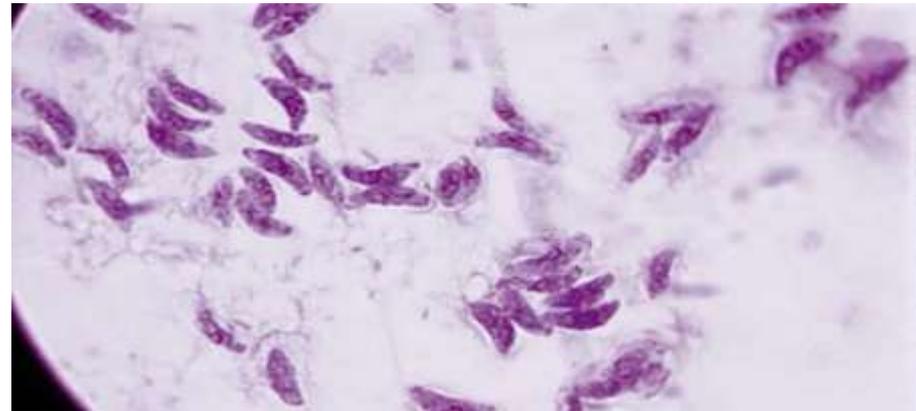


Handling or ingesting contaminated meat



Toxoplasma gondii

- Human :
- The actively multiplying asexual form in the human host is an obligate intracellular parasite , pear-shaped called tachyzoite.
- tachyzoites are responsible for expanding the population of the parasite in the host

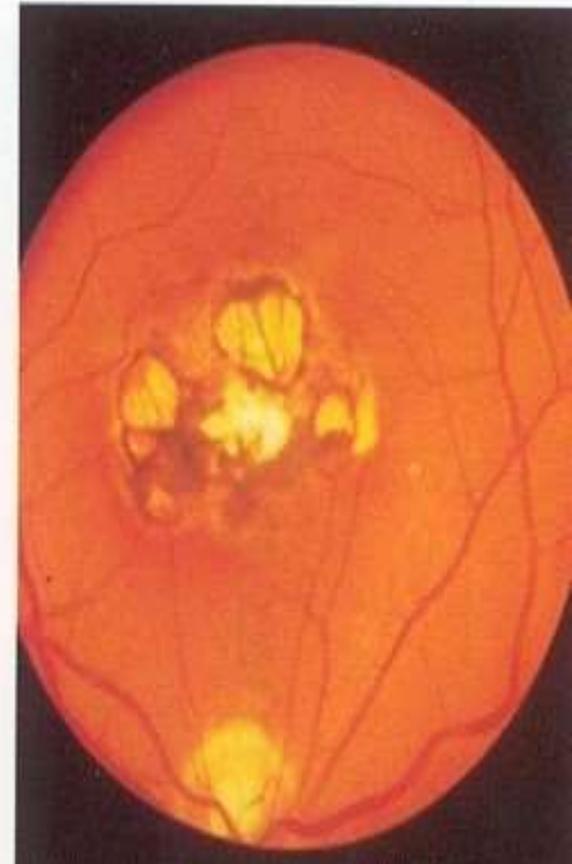


Congenital toxoplasmosis

Normal head size



Microcephaly





- The End