

Al- Mustaqbal University College

First stage.
Department of Optometry(Optics)



جامعة المستقبل الاهلي
مرحلة الاولى
قسم التقنيات البصرية

Entamoeba histolytica and Taenia solium

Lab : 8

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1. *Entamoeba histolytica*:

Sites of infection : Intestinal site(Large intestine) and Extraintestinal site (liver , lung , pericardium, spleen, skin, and brain.

• **Disease :** Amebiasis , Amebic dysentery , hepatic abscesses ,lung abscesses , Skin amoebiasis

• **Stages :** It has four stages: Trophozoite, precyst, cyst, metacyst .

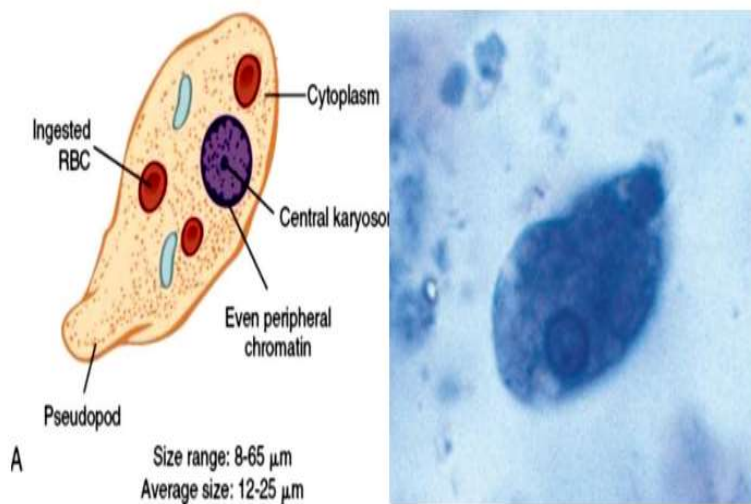
• **Infective stage :** Tetranucleated cyst (having 4 nuclei)

• **Diagnostic stage :** Motile trophozoite , cyst

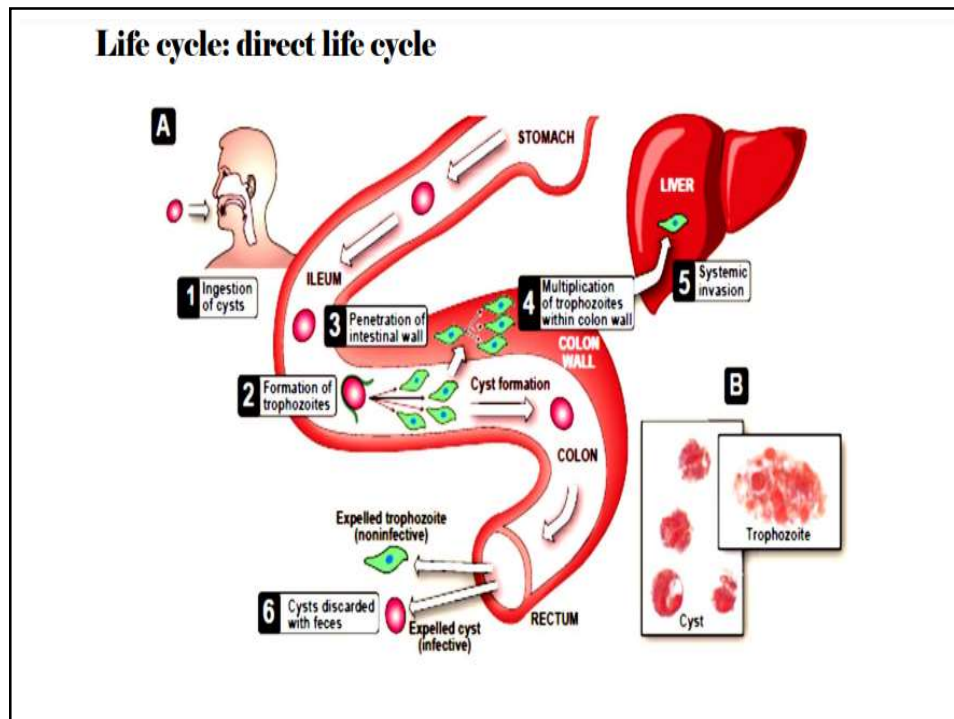
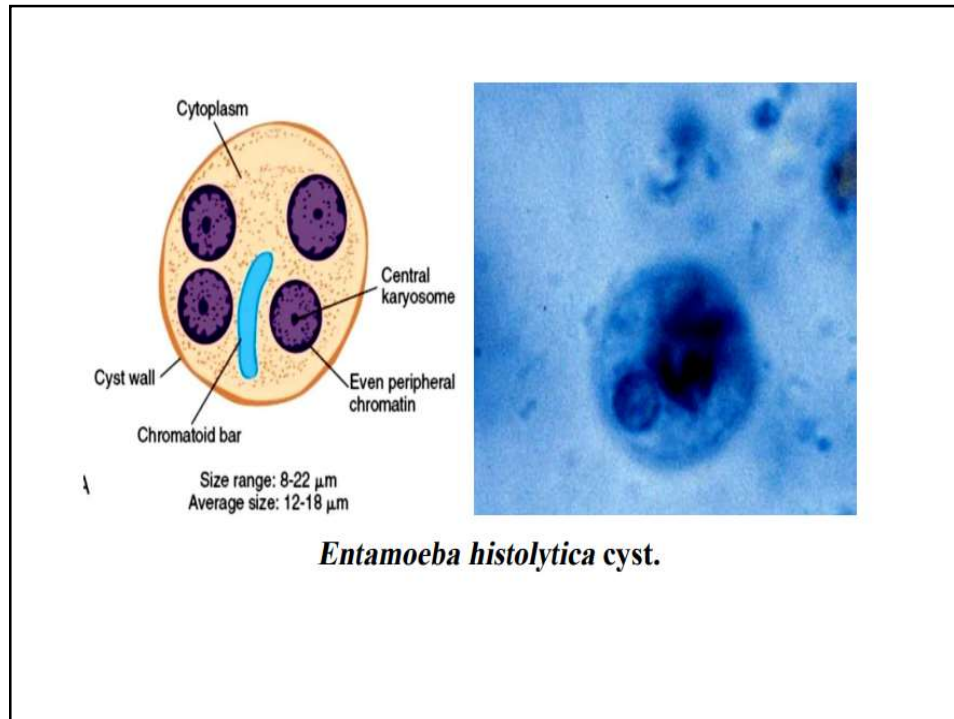
• **Mode of transmission:** Ingestion of mature cyst through contaminated food or water.

Morphology:

Characteries	Trophozoite	Cyst
Size range	8-86um	8-22um
Shape	Arregular shape	spherical to round
Motility	Progressiv, finger-like hyaline pseudopods.	Non- motility
Number of nuclei	One	1-4
Karyosome	Small and central	Small and central
Periphral chromatin	Fine and evenl distributed	Fine and evenl distributed
Cytoplasm	Finely granular	Finely granular
Cytoplasm inclusion	Ingested RBC	chromatoid bars, diffuse glycogen mass in younger cysts



Entamoeba histolytica trophozoite



- **Laboratory Diagnosis:**
- **Intestinal amoebiasis :**
- Direct microscopic examination of the stool to **recover motile trophozoite** (containing red cells are diagnostic of amoebic dysentery).
- **In extra intestinal amoebiasis :**
- laboratory tests, including immunologically based procedures, may be used.
Methods currently available include antigen tests, enzyme-linked immunosorbent assay (ELISA), indirect hemagglutination (IHA), gel diffusion precipitin (GDP), and indirect immunofluorescence (IIF).

I- Taenia:

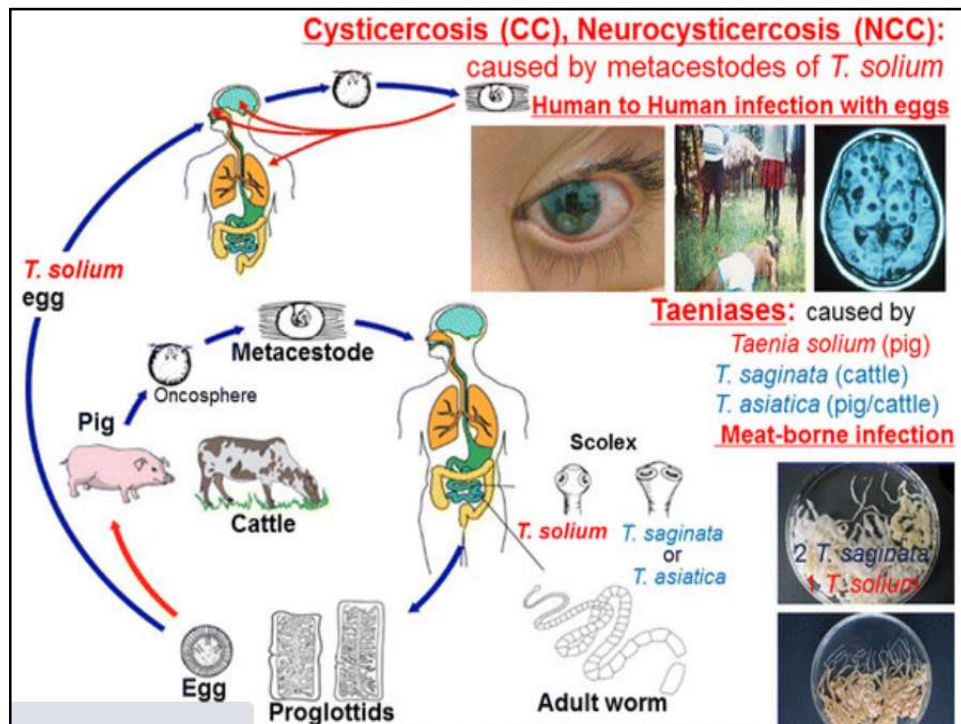
A.Taenia saginata

B.Taenia Solium

General Properties :

- **Common name:** Beef tapeworm (*Taenia saginata*).

Pork tapeworm (*Taenia Solium*) .
- **Final host :** man
- **Intermediate host:** cow (*Taenia saginata*).
: pig (*Taenia Solium*)
- **Disease :** Taeniasis , beef tapeworm infection.
Taeniasis(adult) , cysticercosis (Larva) .
- **Habitat :** Wall of small intestine
- **Body region :**
 1. Scolex (Head): The hold fast organ
 2. Neck: Posterior to the scolex .
 3. Stobilla(trunk) : made up of proglottid.
- **Stages :** Adult worm , Egg , Larva .



- **Infective stage :** *T. saginata* (Larva: *cysticercus bovis*)

T. solium (Larva: *cysticercus cellulosae*)

- **Diagnostic stages :** proglottid or egg
- **Reproduction :** Tape worms are Hermaphrodites .

➤ Morphology:

Adult Worm		
Characteries	<i>Taenia saginata</i>	<i>Taenia Solium</i>
Length	5-10 meters	3 meters
Scolex shape	pyriform scolex has 4 suckers but no rostellum.	globular scolex has rostellum with 2 rows of hooklets.
Uterus branches	15-30 branches	7-15 branches
Proglottids number	1000 -2000 proglottid.	fewer than 1000 proglottid
Eggs number	100.000 egg	30.000-50.000 egg
Infective stage	<i>Cysticercus bovis</i>	<i>Cysticercus cellulosae</i>
Egg		
Size range	28-40 μm by 18-30 μm	



Egg of *Taenia*

➤ **Laboratory Diagnosis:**

1. Demonstration of proglottid or egg in faeces.
2. Serodiagnosis: IHA, IFA, EIISA.
3. Adhesive tape technique.

Thank you