Lab (3)

Kingdom: Protista

Subkingdom: Protozoa

Phylum: Sarcomastigophora

2-Subphylum: Ciliophora

Class: Ciliata

Order: Euciliata

Genus: *Balantidium coli*

3- Subphylum: Mastigophora (Flagellates)

Class: Zoomastigophora

Order: Diplomonadida

Genus: *Giardia lamblia , Trichomonasvaginalis*

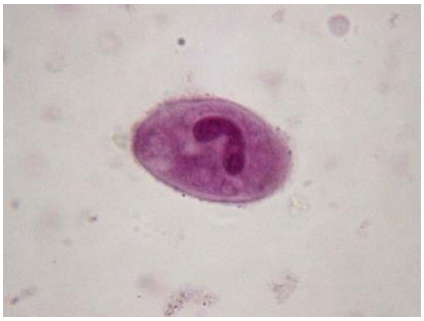
Balantidium coli

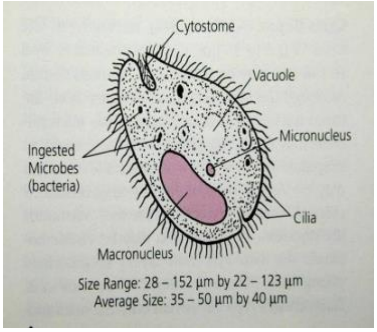
Disease name: Balantidiasis , Balantidil dysentery

Site of infection: Large intestine, cecum and terminal ileum

Morphology of trophozoite:

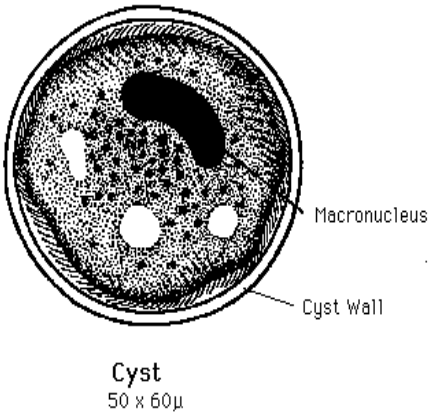
They are oval in shape and covered in cilia and have boring or rotary motility. *Balantidium coli* is known for being the largest protozoan parasite of humans , the two nuclei are clearly visible.The macronucleus is long and kidney shaped, the spherical micronucleus is nestled next to it.





Cyst:

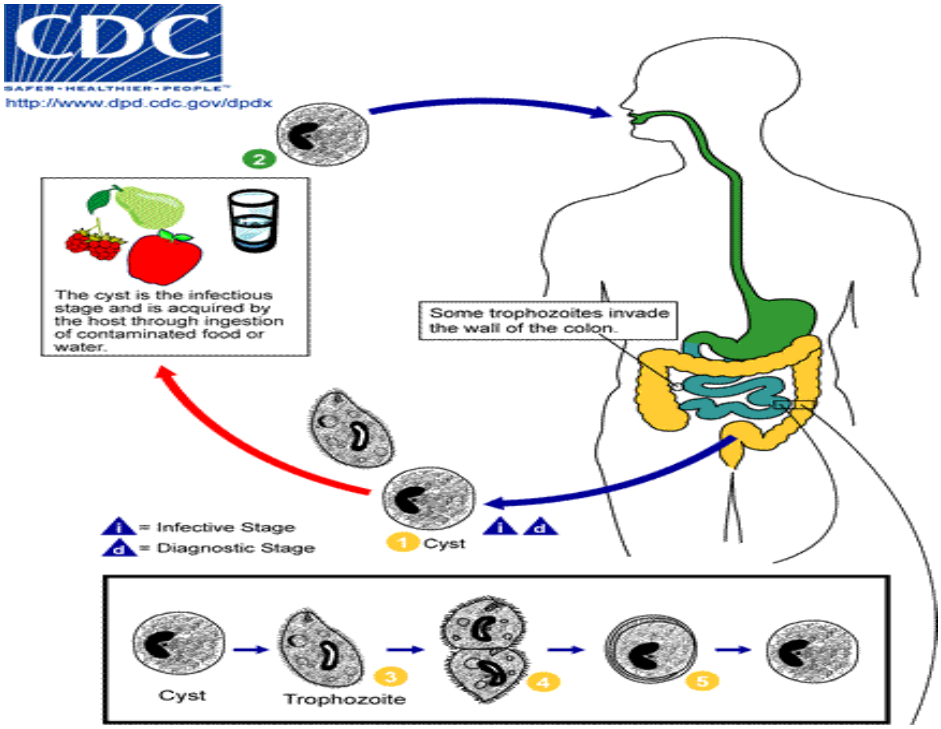
Cysts are smaller than trophozoites, measuring Cysts are round and have a tough, heavy cyst wall made of one or two layers. Usually only the macronucleus and perhaps cilia and contractile vacuoles are visible in the cyst.



Life cycle:

Infective stage:Cyst

Diagnostic stage: Cyst,trophozoite



Symptoms:

who are infected with *B. coli* remain asymptomatic. trophozoites can invade the mucosa of the large intestine (cecum and colon) and cause ulcerations. Other bacteria in the intestine may enter the ulcer leading to secondary infections. Common symptoms chronic diarrhea, occasional dysentery (diarrhea with passage of blood or mucus), nausea, foul breath, colitis (inflammation of the colon), abdominal pain, weight loss, deep intestinal ulcerations, and possibly perforation of the intestine.

Diagnosis:

Examination of stool samples, looking for trophozoites and cysts ,Trophozoites are readily identified because of their large size and the fact that B. coli is the only ciliate that parasitizes humans.

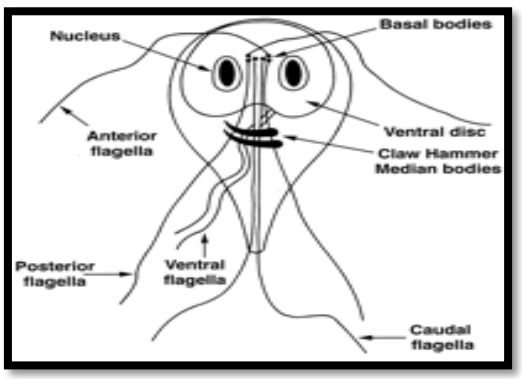
Giardia lambilia

Disease name :Giardiasis

Site of infection: small intestine

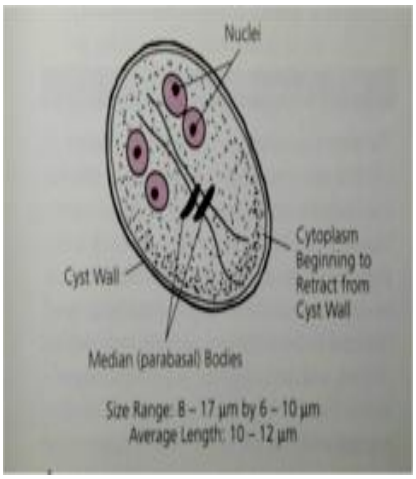
Morphology of Trophozoite:

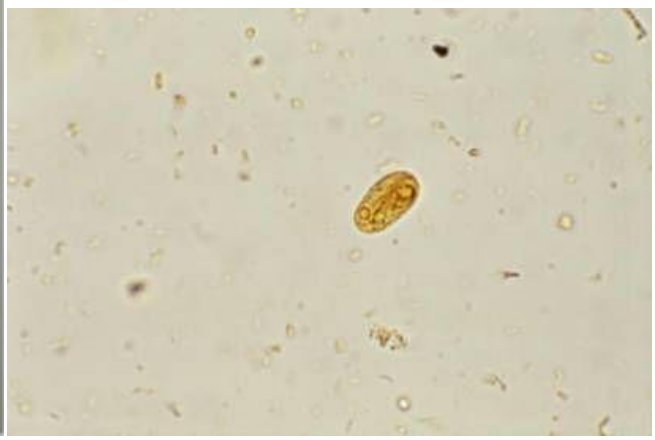
It is flattened pear shaped with two nuclei ,two slender axostyles and eight flagella (four pairs of flagella).They attach themselves to the surface of jejuna or duodenal mucosa by their disc like suckers wich are found on their ventral surface.



Cyst:

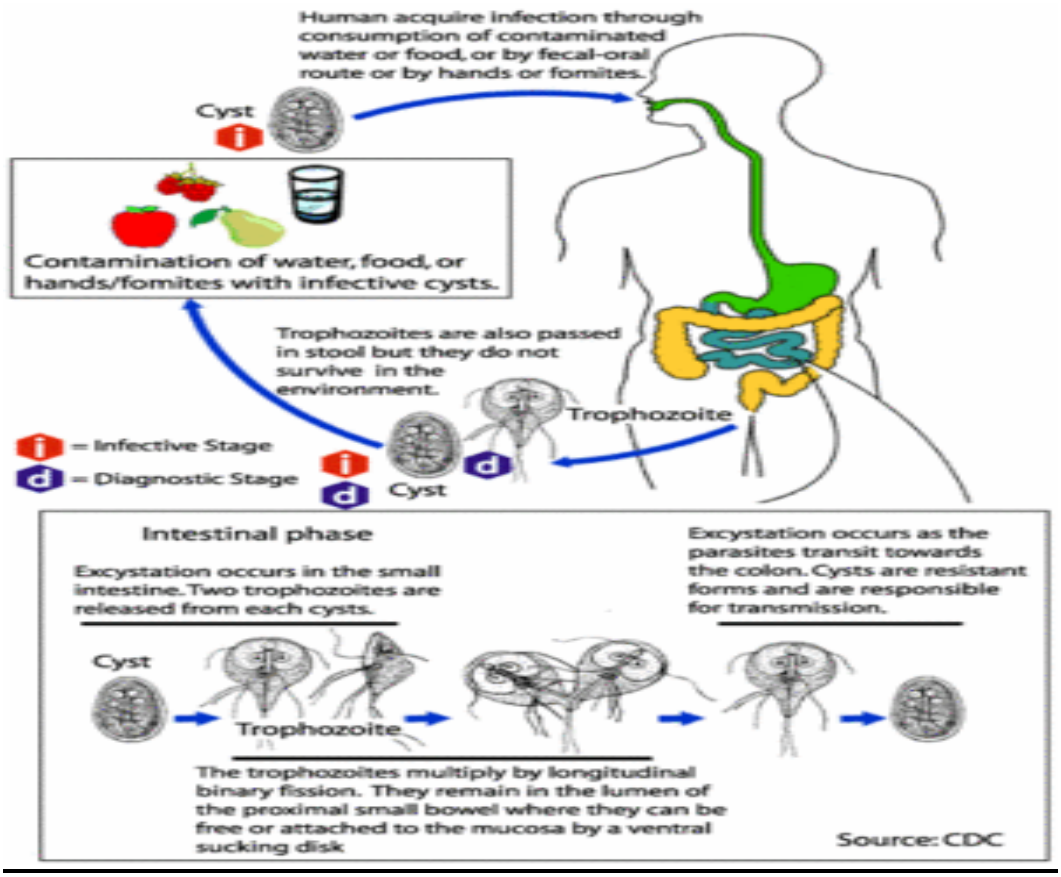
It is ellipsoid in shape, contain four nuclei. Longitudinal fibrils consisting of the remains of axonesmes and parabasal bodies may also seen.





***Giardia lamblia* cyst**

life cycle:



Symptoms:

are abdominal pain, flatulence and watery diarrhea no blood no mucus is normally seen.

Laboratory diagnosis:

1-Trophozoites and cyst are found by examination of saline wet preparation of fresh diarrheic stool.

2- duodenal or jejuna aspirate

3-Elisa to detect IgM in serum provides the evidence of current infection.

4- Biobsy from the upper intestine

Trichomonas vaginalis

It exists only in trophozoite form

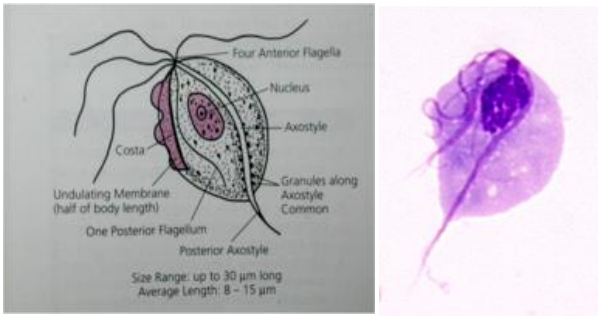
Transmission is by sexual intercourse

Disease name: Trichomoniasis

Site of infection: the urethra &vagina of women and the urethra & prostate gland of man

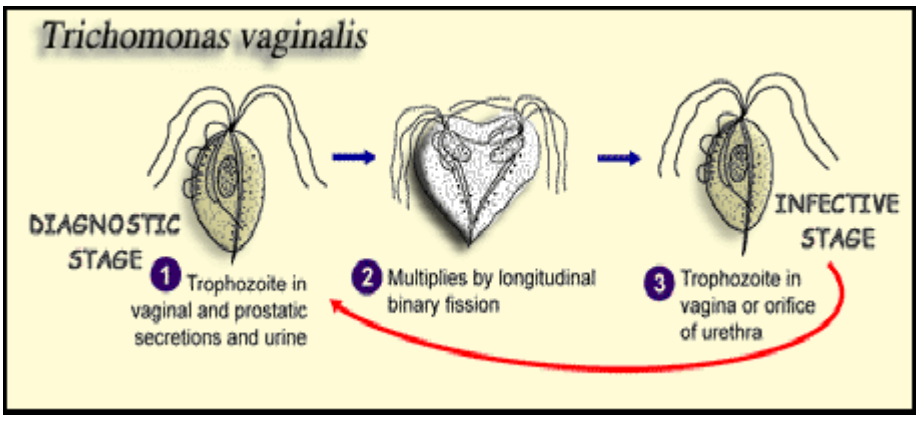
Morphology:

Pear shaped organisim with central nucleus and four anterior flagella and Undulating membrane extends about two-thirds of its length.



***Trichomonas vaginalis* trophozoite**

Life cycle:



Symptoms:

Women

- **A vaginal discharge is common. This is typically greeny-yellow and may be 'frothy'. The discharge usually has an unpleasant smell.**
- **Vagina iching and uncomfortable.**
- **It may be sore when you pass urine.**
- **No symptoms occur in some women. However, they can still pass on the infection even if you have no symptoms.**

Men

- **Discharge from the penis is common.**
- **It may be sore when you pass urine.**
- **You may pass urine frequently (due to irritation inside the penis).**
- **No symptoms occur in most infected men. However, you can still pass on the infection even if you have no symptoms.**

Diagnosis:

- **cell cultures**
- **antigen tests (antibodies bind if the *Trichomonas* parasite is present, which causes a color change that indicates infection).**
- **tests that look for *Trichomonas* DNA**
- **examining samples of vaginal fluid (for women) or urethral discharge (for men) under a microscope.**