



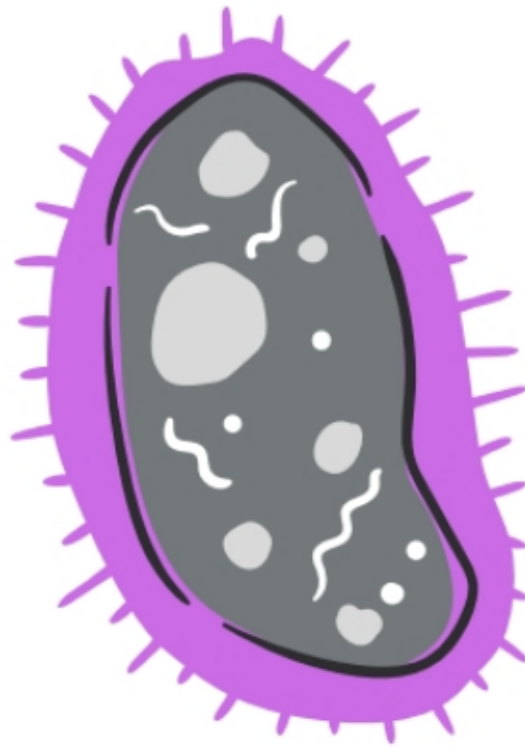
GIS




Sheet no. **2**

Microbiology

LAB



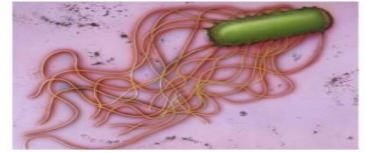
Done by: Noor Ashraf
Correction: Lana Khabbas
Doctor: Hanan AlAmin



*Underlined: slides

Proteus →

- Gram negative rods, non-lactose fermenter.
- Swarming motility (flagellated).
- Prevent swarming: by culturing it on CLED or MacConkey media.
- Very common in specimens
- This is a blood agar media which is considered as an enrichment media (filled with nutrients), cultured with proteus.
- It grows on the blood agar plate in successive waves to form a thin filmy layer of concentric circles to form a phenomena called swarming (because proteus is flagellated and highly motile)
- Note the colony shape → swarming like a carpet



Parasites that are pathogenic to GI system:

- Any disease that affects GI system can be due to the presence of parasitic infection besides the bacterial or viral infection.
 - ❖ Super important notes: for all the following pictures you should know the appearance of each parasite + the identified parts are **not required** + اللي محددين + some of the following parasites weren't covered in theory lectures but we need to identify them 😊
(يعني لازم تميز انه هاد cyst أو trophozoite ل Giardia مثلاً)
- ✓ Few points the doctor mentioned:
 - When examining the parasite, the specimen should be taken from the MUCUS NOT THE STOOL because in the stool eggs are more predominant.
 - Entamoeba Coli
 - 1.Can't be differentiated from Entamoeba Histolytica in the lab.
 - 2.It is not a big problem when the parasitic infection is mistaken for Entamoeba Coli instead of Entamoeba Histolytica because the treatment is the same for both.
 - 3.Cysts can be differentiated from trophozoites by the number of nuclei
 - Taenia Saginata +Taenia Solium
 1. Fortunately, not found in Jordan
 - 2.Common in people from East Asian countries because they frequently eat undercooked beef or pork.
 - Giardia lamblia: the symptoms of it are worse the Entamoeba Histolytica, very common, related to contaminated lettuce and arugula.
 - Enterobius vermicularis :pinworm, common in children.

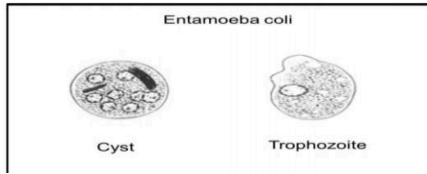
Entamoeba Coli

Trophozoite



- trophozoites
- 20-25 μm
- broad blunt pseudopodia

Cyst



- cysts
- 15-25 μm
- 8 nuclei (mature)
- pointed chromatoid bodies (less prominent)

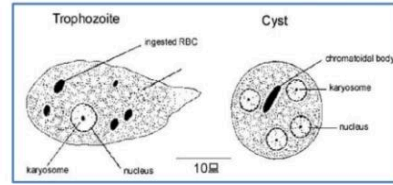
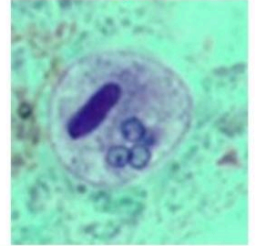
Entamoeba histolytica

Trophozoite



- trophozoites
- 15-20 μm
- extended pseudopodia
- progressive movement

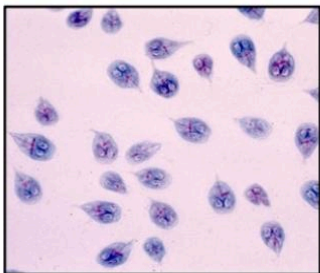
Cyst



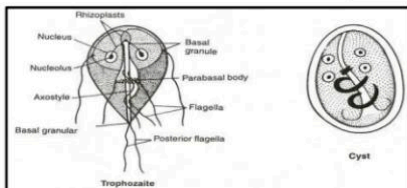
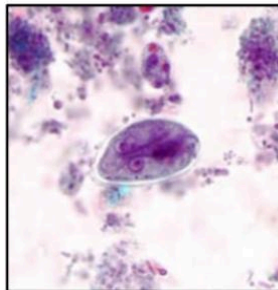
- cysts
- 12-15 μm
- 4 nuclei (mature)
- blunt chromatoid bodies

Giardia lamblia

Trophozoite

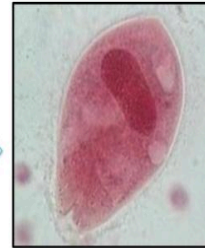


Cyst

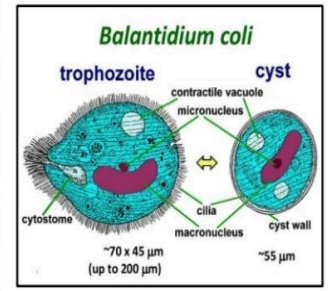
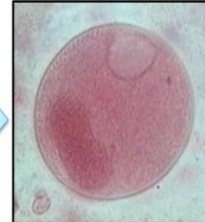


Balantidium coli

Trophozoite

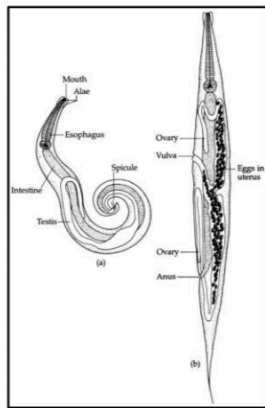


Cyst



Enterobius Vermicularis

Worm



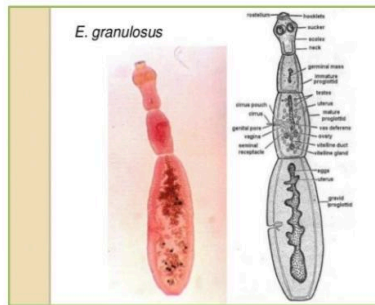
Egg



Echinococcus granulosus



Ova

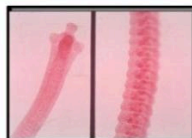


Worm

Hymenolepis Nana



Ova



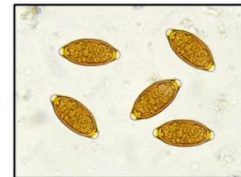
Worm

Trichuris Trichiura

Worm

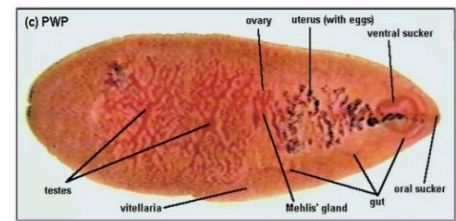


Egg



fasciolopsis buski

Worm



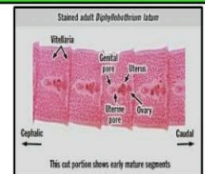
Worm



Diphyllobothrium latum

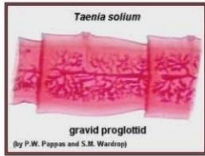


Egg

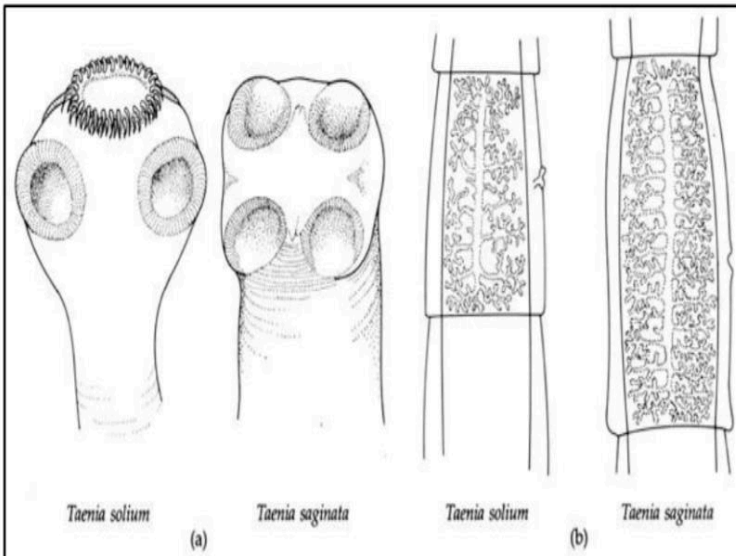
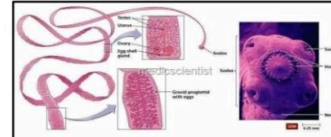
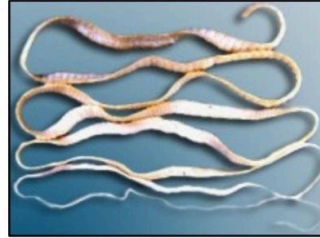


Worm

Taenia solium

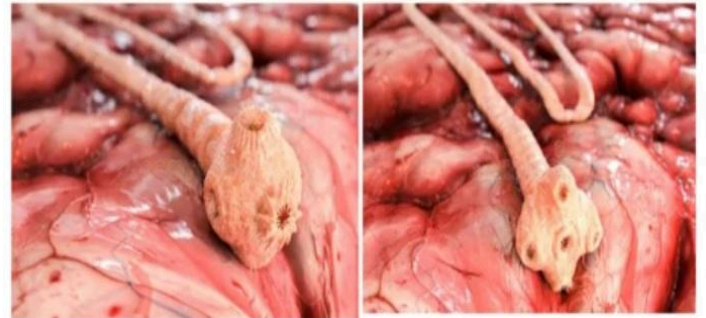


Taenia saginata



Taenia Solium

Taenia saginata



019 question

52) Patient presents with a history of watery diarrhea of several weeks' duration and the microscopic examination of stool sample showing as the picture. Which of the following is the cause?

- A) Giardia lamblia.
- B) Clostridium difficile.
- C) Entamoeba histolytica.
- D) Yersinia enterocolitica.
- E) Enterotoxigenic Escherichia coli.



Ans: A