ENTAMOEBA HISTOLYTICA

PRESENTED BY-AKANKSHA

GROUP NUMBER-192B

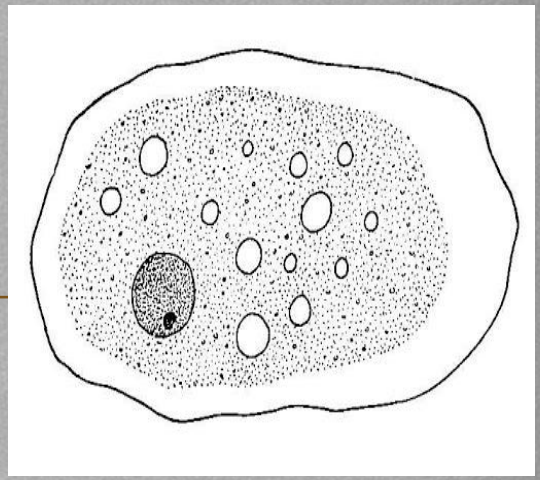
SUPERVISOR-SVETLANA SMIRINOVA

DATE-01.06.2020

TAXONOMY CLASSIFICATION

Kingdom Protozoa
Phylum Protozoa
Subphylum Sarcodina
Superclass Rhizopoda
Class Lobosa – amoebas, amibes
Order Amoebida
Family Entamoebidae
Genus Entamoeba
Species Entamoeba histolytica Schaudinn, 1903

SOME IMORTANT POINTS

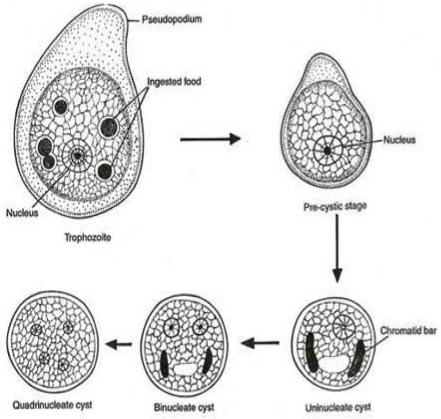


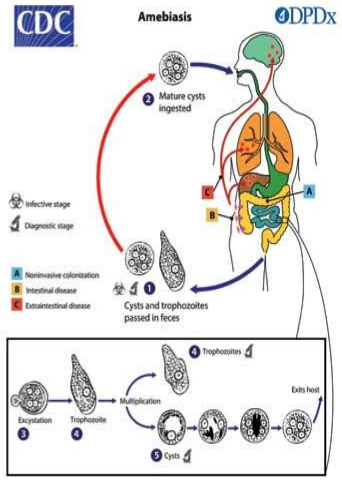
Entameoba histolytica is a common parasite in the large intestine of humans & other piramates.

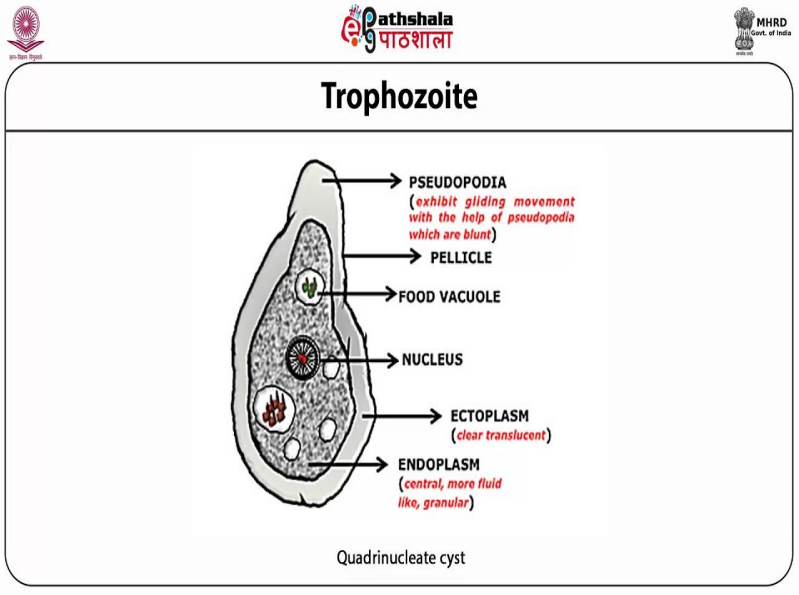
BASIC CHARACTERS:

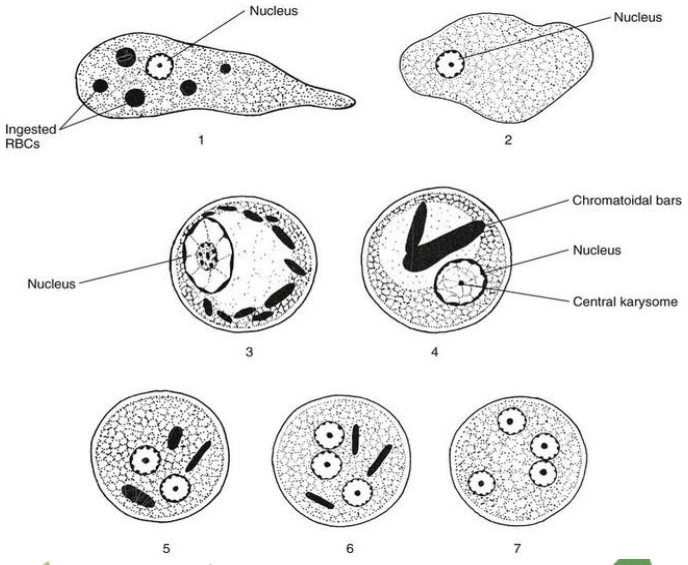
- Geographical Distribution : Cosmopolitian
- Morphological structure: includes three stages
- 1.Active amoeba
- 2.Inactive cyst
- 3.Intermediate precyst

M0RPHOLOGICA L VIEW

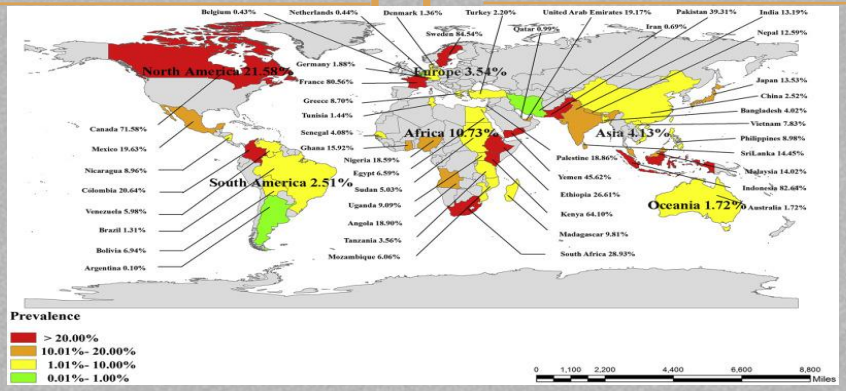


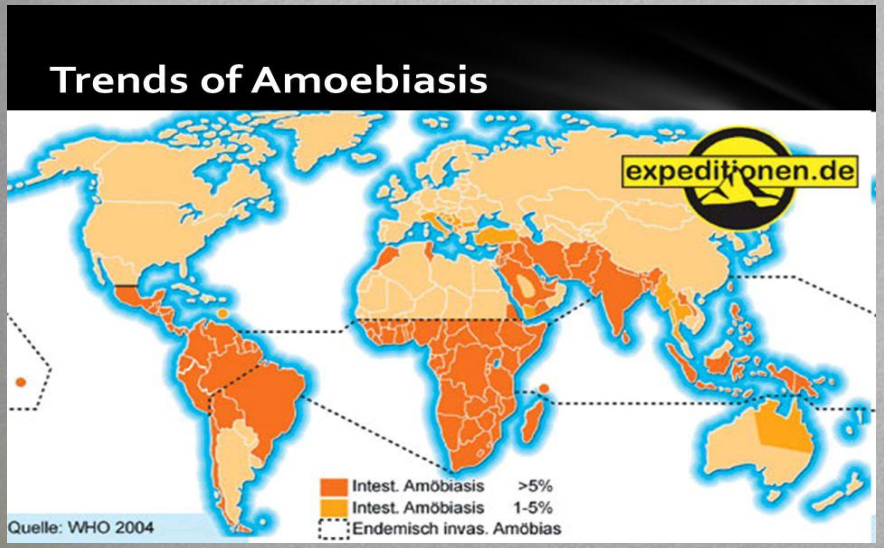




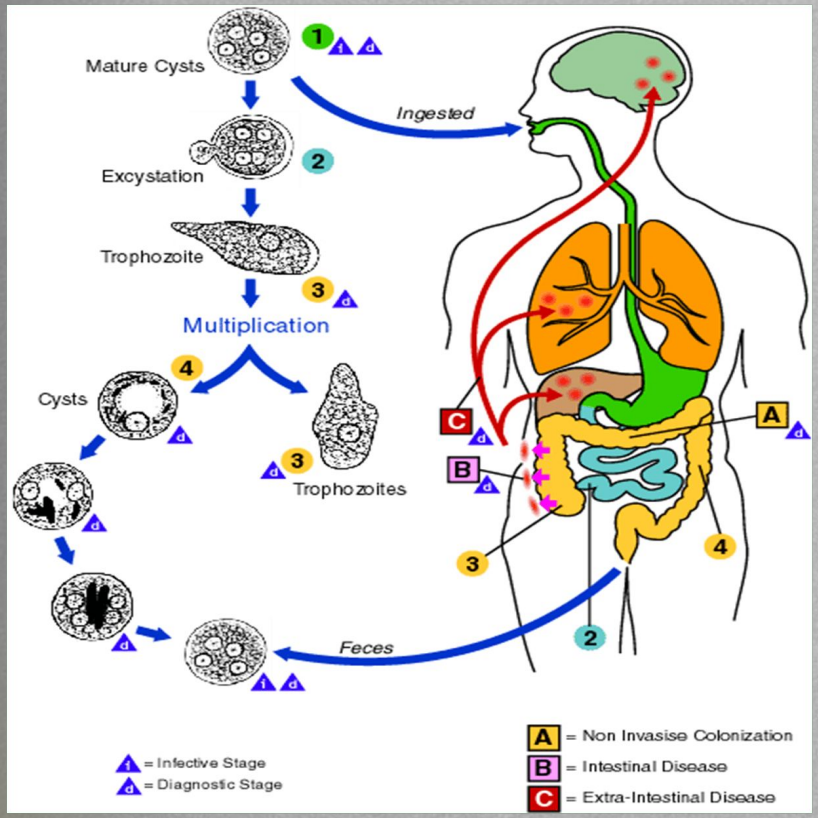


GEOGRAPHICAL DISTRIBUTION

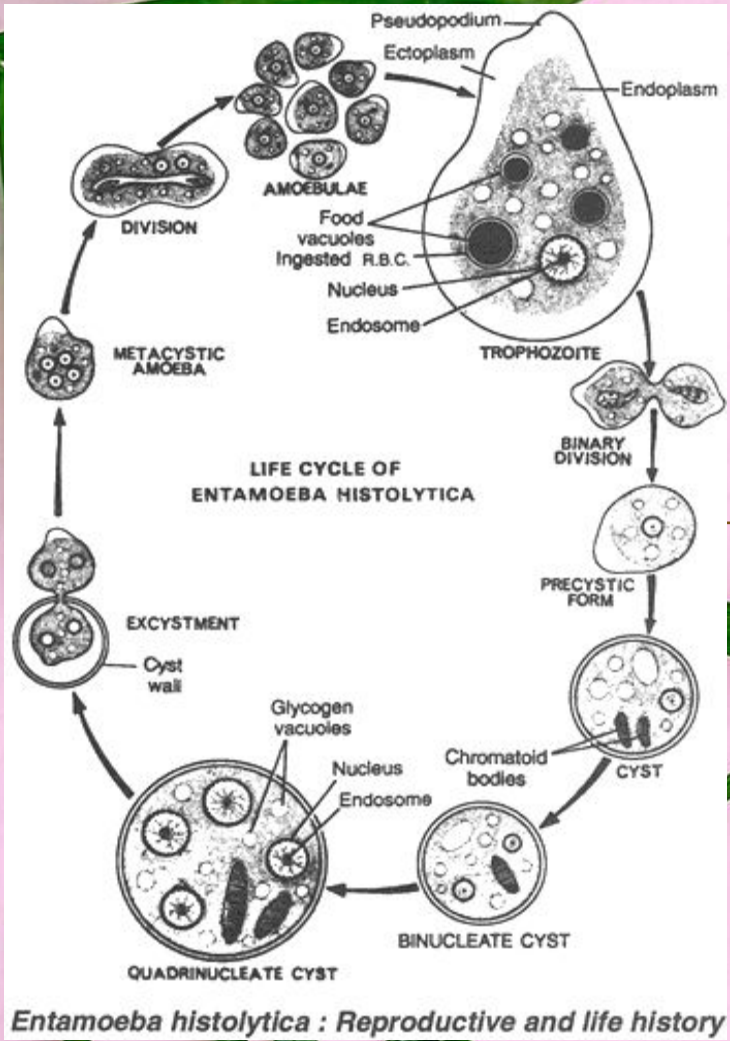




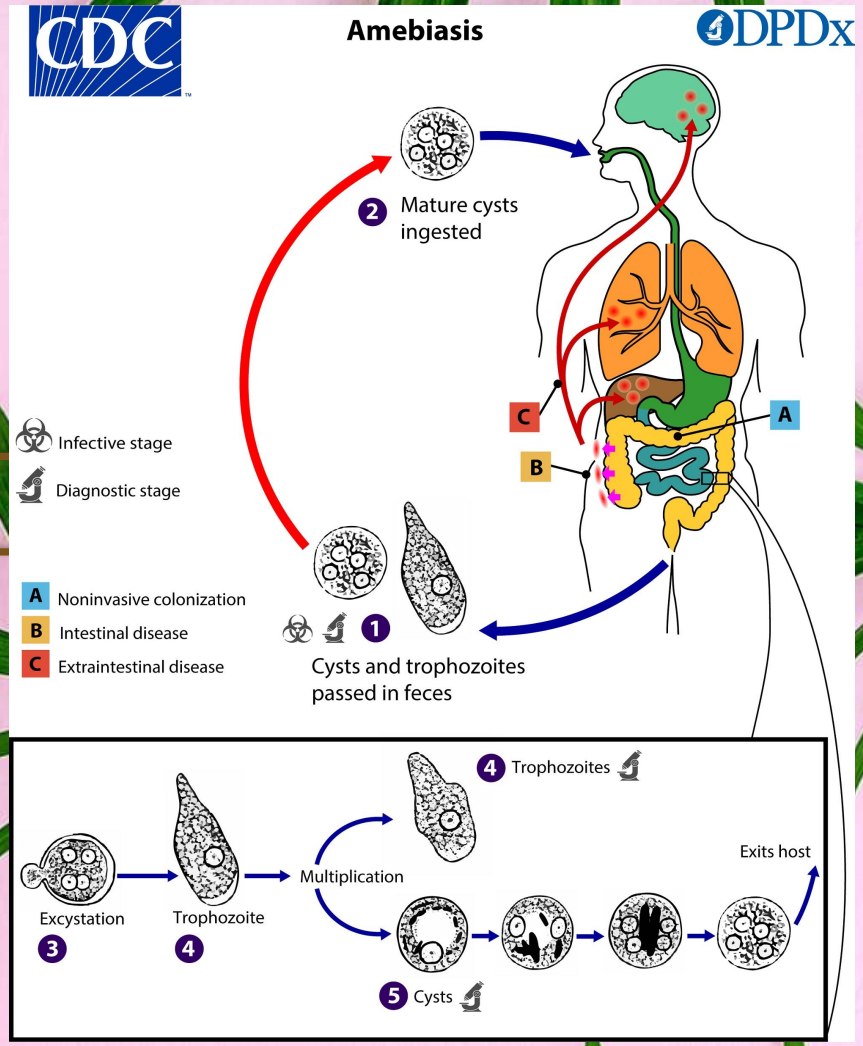
LIFE CYCLE:



Cysts and trophozoites are passed in feces (1). Cysts are typically found in formed stool, whereas trophozoites are typically found in diarrheal stool. Infection by Entamoeba histolytica occurs by ingestion of mature cysts (2) in fecally contaminated food, water, or hands. Excystation (3) occurs in the small intestine and trophozoites (4) are released, which migrate to the large intestine. The trophozoites multiply by binary fission and produce cysts (5), and both stages are passed in the feces (1). Because of the protection conferred by their walls, the cysts can survive days to weeks in the external environment and are responsible for transmission.



Entamoeba histolytica : Reproductive and life history



PATHOGENICITY

Facultative Pathogenicity of *Entamoeba histolytica*

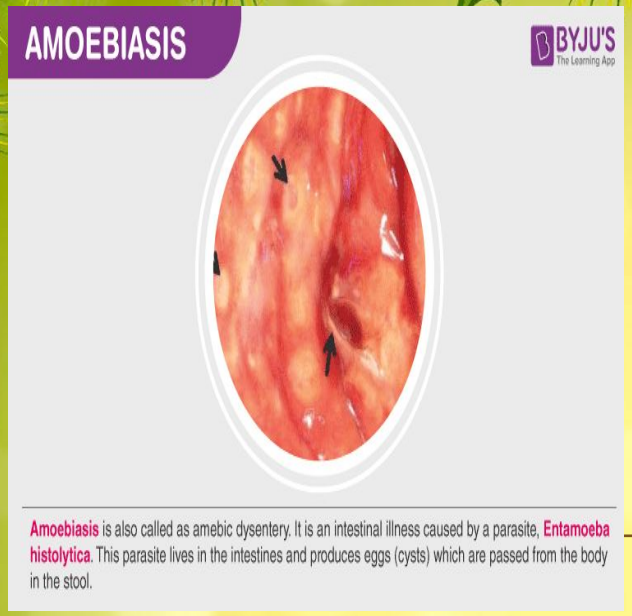
1875	Lösch correlated dysentery with amebic trophozoites
1925	Brumpt proposed two species: *E. dysenteriae* and *E. dispar*
1970's	biochemical differences noted between invasive and non-invasive isolates
80's/90's	several antigenic and DNA differences demonstrated • rRNA 2.2% sequence difference
1993	Diamond and Clark proposed a new species (*E. dispar*) to describe non-invasive strains
1997	WHO accepted two species

All pathogenic amoeba species have in common the capability to phagocytose bacteria, erythrocytes, and cell detritus. The major virulence factors are adhesins, toxins, amoebapores, and proteases, which lead to the lysis, death, and destruction of a variety of cells and tissues in the host.E. histolytica, as its name suggests (histo–lytic = tissue destroying), is pathogenic; infection can be asymptomatic or can lead to amoebic dysentery or amoebic liver abscess.

HOW ENTAMOEBA HISTOLYTICA AFFECT HUMAN BEINGS

Usually, the illness lasts about 2 weeks, but it can come back if you do not get treated.Sep 22, 2018.

Entamoeba histolytica is an ameba that feeds on cells in the human colon. It is the cause of amebic dysentery (bloody diarrhea) as well as colonic ulcerations. The infection is also referred to as amebiasis.



SYMPTOMS

Amebiasis facts
loose stools,
mild abdominal cramping,
frequent, watery, and/or bloody stools with severe abdominal cramping (termed amoebic dysentery) may occur,
flatulence,
appetite loss, and.
fatigue.

TREATMENT & CARE

Metronidazole is the drug of choice for symptomatic, invasive disease; paromomycin is the drug of choice for noninvasive disease. Because parasites persist in the intestines of 40-60% of patients treated with metronidazole, this drug should be followed with paromomycin to cure luminal infection

Metronidazole & Tinidazole

Metronidazole is the drug of choice in the treatment of extraluminal amebiasis.

It kills trophozoites but not cysts of *E histolytica* and effectively eradicates intestinal and extraintestinal tissue infections.

Tinidazole, have similar activity and better toxicity profile than metronidazole.

PREVENTION & CONTROL

Prevention & Control

Primary prevention
- Safe excreta disposal
- Safe water supply
- Hygiene
- Health education

Secondary
- Early diagnosis
- Treatment

Improved sanitation will help to reduce the liklihood of transmission. Travelers to endemic areas can reduce the risk of infection by drinking bottled water, not using ice cubes in drinks, and washing fruits and vegetables with clean water (or by peeling them yourself).

CLINICAL FEATURES

Clinical aspect

***Asymptomatic infection.**

The infected persons are usually healthy carriers who excrete millions of cysts / day without any clinical symptoms. Very dangerous as a source of infection and spread.

***symptomatic infection:**

1- Intestinal Amoebiasis

A- acute dysentery (diarrhea alternating with constipation, tenesmus with blood & mucucs in stool).

B- chronic non-dysenteric amoebiasis.

2- extra-intestinal amoebiasis:

The trophozoites may disseminate via blood to other extra-intestinal sites e.g. in the liver, lung, brain … etc.

THANKYOU FOR YOUR ATTENTION!!!