

AMEBIAS (amebic dysentery, amebic hepatitis)

Domin: Eukaryota

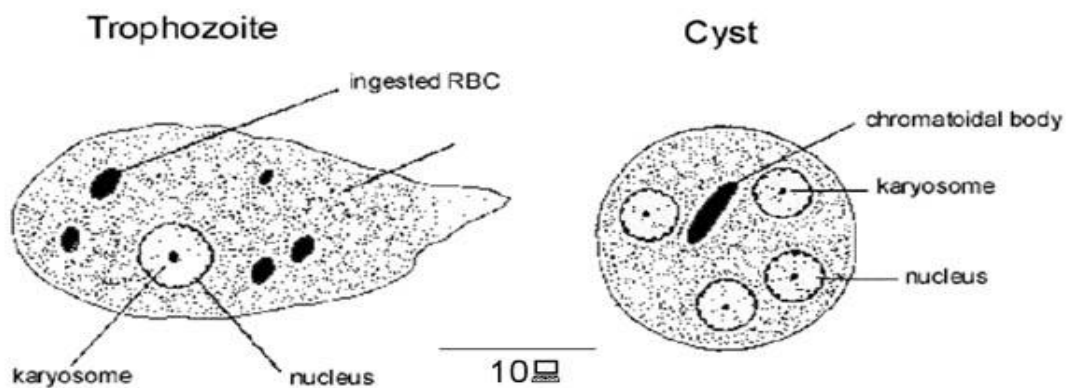
Subphylum: Amoebozoa

Class: Archamoebae

Family: Entamoebidae

Genus: Entamoeba

Species: *E. histolytica*



Etiology

E. histolytica is the major cause of amebic dysentery.

Epidemiology

0.5 to 50% of the population world wide harbors *E. histolytica* parasites with the higher rates of infection being in underdeveloped countries. Humans are the principal host, although dogs, cats and rodents may be infected.

Morphology

Trophozoite: This form has an ameboid appearance and is usually 15-30 micrometers in diameter

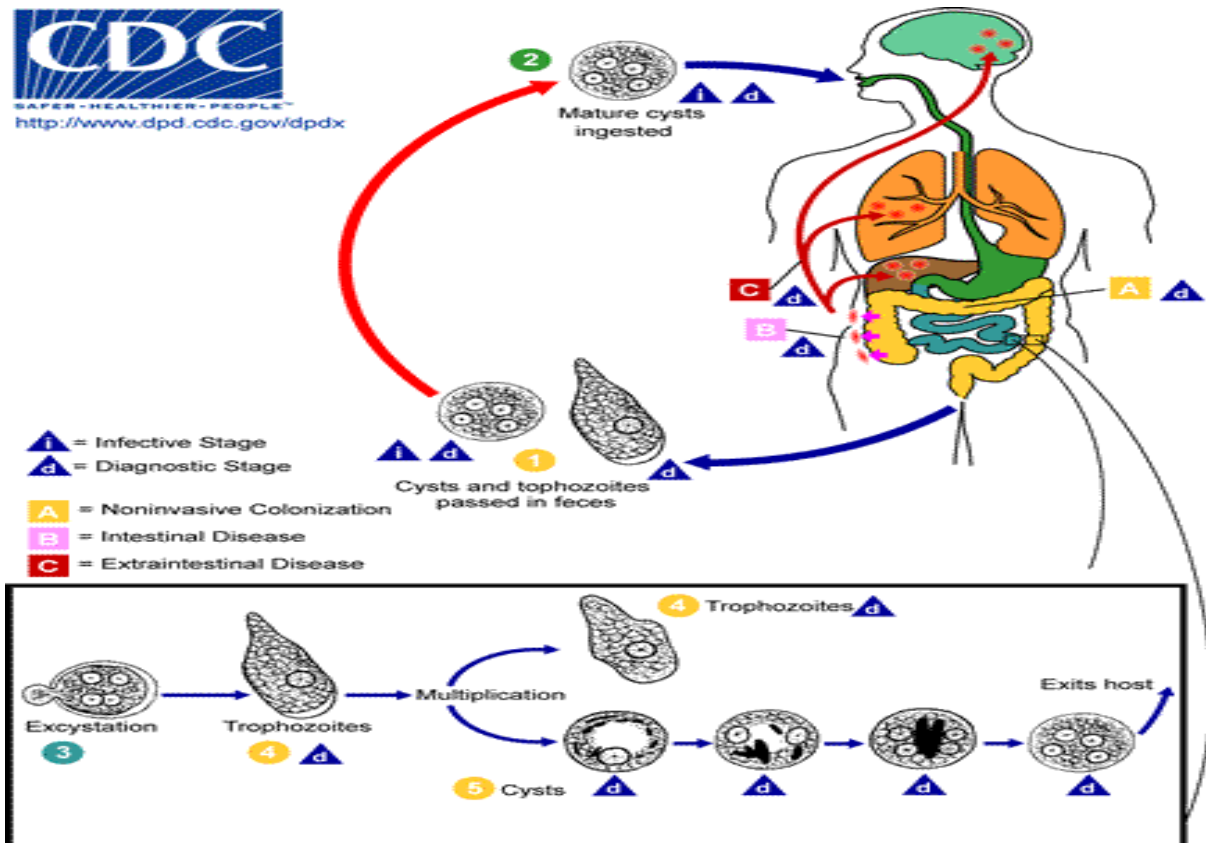
The organism has a single nucleus with a distinctive small central karyosome).

The nuclear chromatin is evenly distributed along the periphery of the nucleus.

Cyst:

Entameba histolytica cysts are **spherical**, with a refractile wall;

the cytoplasm contains dark staining chromatoidal bodies and **1 to 4 nuclei** with a central karyosome and evenly distributed peripheral chromatin



Life cycle of *Entamoeba histolytica*

Infection by *Entamoeba histolytica* occurs by **ingestion of mature cysts**

- (1) in fecally contaminated food, water, or hands. Excystation
- (2) occurs in the small intestine and trophozoites
- (3) are released, which migrate to the large intestine. The trophozoites multiply by binary fission and produce **cysts**
- (4) , which are passed in the feces.

Because of the protection conferred by their walls, the cysts can survive days to weeks in the external environment and are responsible for transmission.

. In some patients the trophozoites invade the intestinal mucosa or, through the blood stream, extraintestinal sites such as the liver, brain,.

Symptoms

Acute: Frequent dysentery with necrotic mucosa and abdominal pain.

Chronic: Recurrent episodes of dysentery with blood and mucus in the feces.

. Cysts are found in the stool. The organism may invade the liver, lung and brain where it produces abscesses that result in liver dysfunction.

Diagnosis

Symptoms, history and epidemiology are the keys to diagnosis. In the laboratory, the infection is confirmed by finding cysts in the stool

Treatment

Iodoquinol is used to treat asymptomatic infections and metronidazole is used for symptomatic and chronic amebiasis, including extra-intestinal disease.