Entamoeba histolytica

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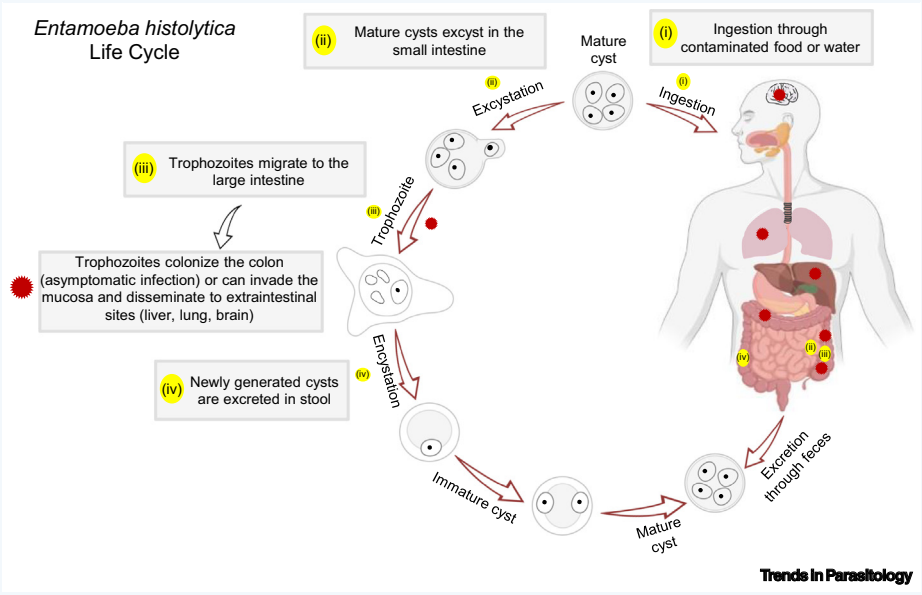
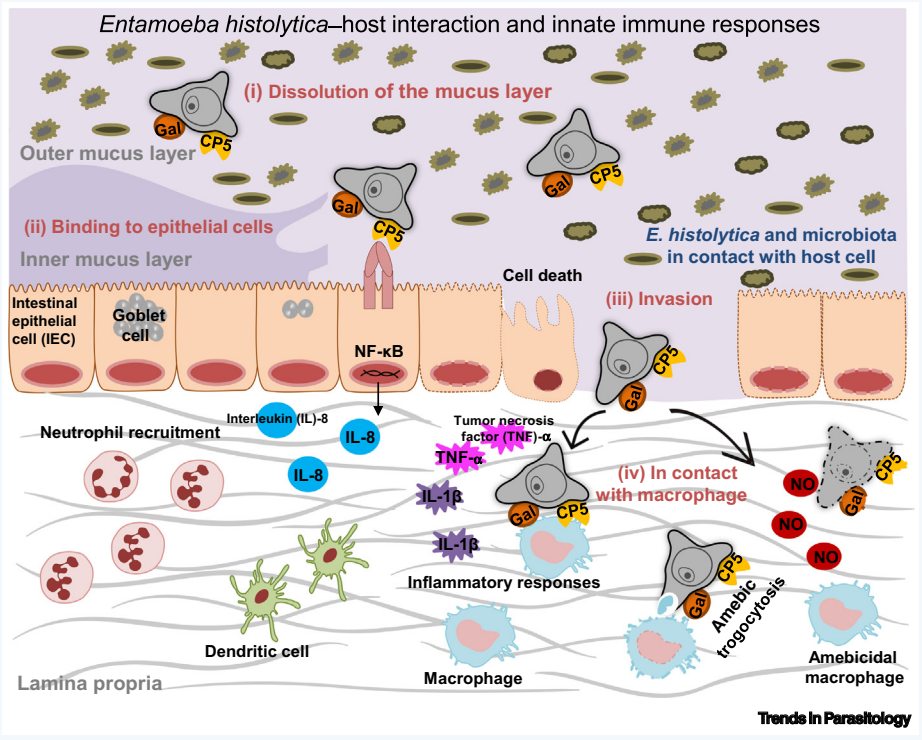


Entamoeba histolytica is a human enteric protozoan parasite responsible for the disease amebiasis. Infection starts through the ingestion of *E. histolytica* cysts contaminating food or water. The vast majority (90%) of infected individuals are asymptomatic carriers in which the parasite resides firmly within the lumen of the colon and excrete cysts in stool to complete the direct life cycle. In 10% of infected cases (symptomatic), *E. histolytica* breaches the intestinal mucosa and invades the underlying lamina propria where it interacts with host immune cells, triggering a raging proinflammatory cytokine response resulting in tissue damage and the hallmark amebic 'flask-shaped ulcer' formation. It is not known why a large proportion of *E. histolytica*-colonized individuals do not progress to invasive disease. Several parasite virulence factors along with host genetics, microbiota, and immune responses, are likely to drive the complex pathogenesis.



KEY FACTS:

Friedrick Lösch discovered *E. histolytica* in 1873 and was the first to describe the relationship between the parasite and disease, although reports of bloody diarrhea, consistent with amebiasis, date back to 1000 BC.

E. histolytica is morphologically identical to the noninfectious *Entamoeba dispar* which lacks key cysteine proteinases that are important for pathogenesis.

E. histolytica exists as an infectious cyst with four nuclei. Upon ingestion, it excysts in the terminal ileum to give rise to disease-causing motile trophozoites through its pseudopodium.

Virulence factors allow the parasite to colonize colonic mucus and to overcome innate epithelial barrier function.

DISEASE FACTS:

E. histolytica is prevalent in developing countries due to poor sanitation and hygiene but it has also emerged globally from returning travelers and is spread by sexual transmission through oral–anal contact.

~100 million cases occur annually. In 2013, 11 300 deaths from amebiasis ranked it the fourth leading cause of parasitic death.

Infection can lead to mild to bloody diarrhea, cramping and fever, abdominal pain, and weight loss. If left untreated, it may contribute to extraintestinal amebiasis, mostly liver abscess.

Stool sample analysis for cysts or trophozoites, PCR, ELISA, and serological evaluation for diagnosis.

Nitroimidazoles: metronidazole, are the mainstay drug therapy for invasive amebiasis.

TAXONOMY AND CLASSIFICATION:

PHYLUM: Amoebozoa
CLASS: Lobosea
ORDER: Amoebida
FAMILY: Entamoebidae
GENUS: *Entamoeba*
SPECIES: *E. histolytica*

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Declaration of Interests

The authors declare no competing interests.

Resources

https://amoebadb.org/
www.who.int/ith/diseases/amoebiasis/en/
www.cdc.gov/parasites/amebiasis/index.html

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