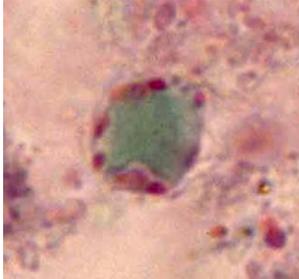


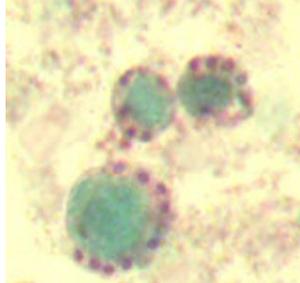
Blastocystis spp. (Pathogen)

Organism:

This organism belongs to the amebae (may be reclassified into its own group), is a potential pathogen in some patients, and can cause disease. The central body form is most commonly seen (usual size, 6-40 µm) and can be found in clinical specimens. **What is called “*Blastocystis hominis*” is a group of approximately 17 subtypes (strains, species), about half of which are pathogenic and half are nonpathogenic. Pathogenicity differences cannot be determined on the basis of morphology.**



Permanent stained slide: Central Body form



Iodine: Central Body form



Life Cycle:

Intestine, organisms passed in feces

Acquired:

Fecal-oral transmission via central body form; contaminated food and water

Epidemiology:

Worldwide, primarily human-to-human transmission

Clinical Features:

Infection with *Blastocystis* may be the cause of diarrhea, cramps, nausea, fever, vomiting, and abdominal pain and may require therapy. The incidence of this organism appears to be higher than suspected in stools submitted for parasite examination; it is considered the most common protozoan worldwide (review of published literature). In symptomatic patients in whom no other etiologic agent has been identified, *Blastocystis* should certainly be considered the possible pathogen. When a symptomatic infection responds to therapy, the improvement may also represent elimination of some other undetected pathogenic organism (*E. histolytica*, *G. lamblia*, *D. fragilis*).

Clinical Specimen:

Intestinal: Stool

Laboratory Diagnosis:

Intestinal: Ova and Parasite examination (concentration, permanent stained smear); identification based on morphology; fecal immunoassay currently under development.

Organism Description:

Central body form: Central clear area (can be clear, or stain red/green/blue with trichrome stain); small nuclei are around the outside of the clear area.

Laboratory Report:

Blastocystis spp. (indicate quantity: rare, few, mod, many); quantity may be linked to presence or absence of symptoms; quantitation should be performed on the permanent stained slide.

Report Comment:

The name *Blastocystis hominis* contains approximately 17 different subtypes, none of which can be differentiated on the basis of organism morphology; some are pathogenic and some are non-pathogenic. If no other pathogens are found, *Blastocystis* spp. may be the cause of patient symptoms

AND

Other organisms capable of causing diarrhea should also be ruled out.

Treatment, additional Information

Garcia, L.S. 2016. Diagnostic Medical Parasitology, 6th ed., ASM Press, Washington, D.C.

Garcia, L.S. 2021 Practical Guide to Diagnostic Parasitology, 3rd ed., ASM Press, Washington, D.C.

Control:

Improved hygiene, adequate disposal of fecal waste, adequate washing of contaminated fruits and vegetables

Comments:

With approximately 17 subtypes identified (half pathogenic, half nonpathogenic), this may provide an explanation for why some patients are symptomatic and some are asymptomatic. This is probably the most common intestinal parasite found in humans (worldwide), and is often seen in a higher percentage of patients (as compared with other intestinal protozoa). Percent positive patients usually higher than either *Giardia lamblia* (*G. duodenalis*, *G. intestinalis*) and/or *Dientamoeba fragilis*. *Giardia* and *Dientamoeba* are often rotate between number 2 and number 3 in terms of positive patients, with *Blastocystis* continuing to be number 1.