

## Entamoeba Coli is a Real Pathogenic Microorganism

**Mohammed Hamad MN\***

Medical parasitology department, Medical Laboratory sciences department, Elsheikh Abdallah Elbadri University, Sudan

**\*Corresponding author:** Mosab Nouraldein Mohammed Hamad, Medical parasitology department, Medical Laboratory sciences department, Faculty of health sciences, Elsheikh Abdallah Elbadri University, Sudan, Email: musab.noor13@gmail.com

### Opinion

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Entamoeba coli is a commensal amoeba, which inhabit the large intestine of man and up to date it is regarded as commensal amoeba, although it feeds on bacterial flora of the large intestine which have many vital biological functions, such as synthesis of vitamin K, the most important vitamin for synthesis of special types of coagulation factors known as vitamin K dependent factors.

Then it causes serious problems affecting cardiovascular system, beside that it elevates level of cholesterol, low density lipoprotein and decrease potassium level in the blood. Collections of these harmful effect of Entamoeba coli may lead to heart failure, mainly in case of chronic infection of that amoeba.

Vitamin D level is also affected by Entamoeba coli, that may cause vitamin D deficiency and lead to many life threatening complications beginning from type2 diabetes, renal failure and ends in cancer and sterility.

This type of amoeba has a potent phagocytic activity, enable it to engulf bacterial flora, yeast cells and even other intestinal protozoa, in previous case report, scientist observed that Entamoeba coli engulf Giardia lamblia trophozoite, so that means the mechanism of pathogenicity of this type of intestinal amoeba is its strong phagocytic activity.

Entamoeba coli infection is one of the most neglected parasitic disease, although their serious consequences and harmful action of this parasite. In case of light infection it's mostly asymptomatic, but in case of moderate and heavy infection it may cause, lower abdominal pain, diarrhea or constipation, altering the mood, that alteration of the mood, must be linked to

vitamin D deficiency, which altering the behavior of the patient.

Entamoeba coli can be diagnosed by examination of stool specimen for the presence of vegetative active form (trophozoite), which is present mainly in diarrheal stool specimen and sometimes in soft stool samples. The dormant (non-feeding) stage of Entamoeba coli is mostly present in semi-formed, formed. Both of them (cyst and trophozoite) can be detected in soft fecal specimens.

The trophozoite is characterized by sluggish motility, single nucleus and eccentric endosome. While mature cyst stage is characterized by clear cytoplasm and it possess 8 nuclei and 16 nuclei in some occasions.

The nuclei of cyst stage is very transparent and cytoplasm is very clear so it's so difficult to notice and count the number of nuclei of such parasite, then iodine is used to stain the nuclei, to facilitate its observation under light microscope.

This type of amoeba required more and more studies in order to correct the common concept; of that Entamoeba coli is nonpathogenic amoeba. This parasite may increase the patients desire to defecate during the night hours, so it cause sleeping disturbances.

Diagnosis of Entamoeba coli can be done through wet mounting techniques to observe the sluggish movement of active form in fresh stool specimen.

Cyst stage can either be detected in wet mount and concentration techniques of fresh or preserved stool specimens. Both trophozoite and cyst regarded as diagnostic stage, while trophozoite is responsible from

the possible pathogenicity and cyst is responsible for the spread of this parasite among the society (infective stage).

Early diagnosis and early treatment of this parasite will prevent the complications of such infection, health education and improve level of sanitation, will prevent the spread of this fatal and neglected type of intestinal amoeba (Figures 1 & 2).

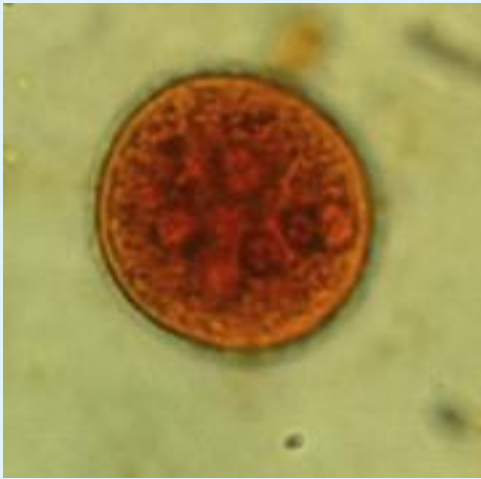


Figure 1: Entamoeba coli, cyst stage, stained with iodine.

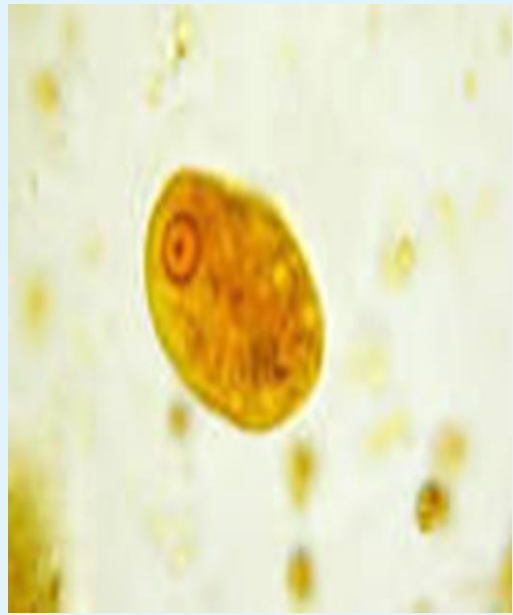


Figure 2: Trophozoite of Entamoeba coli, stained with iodine.