

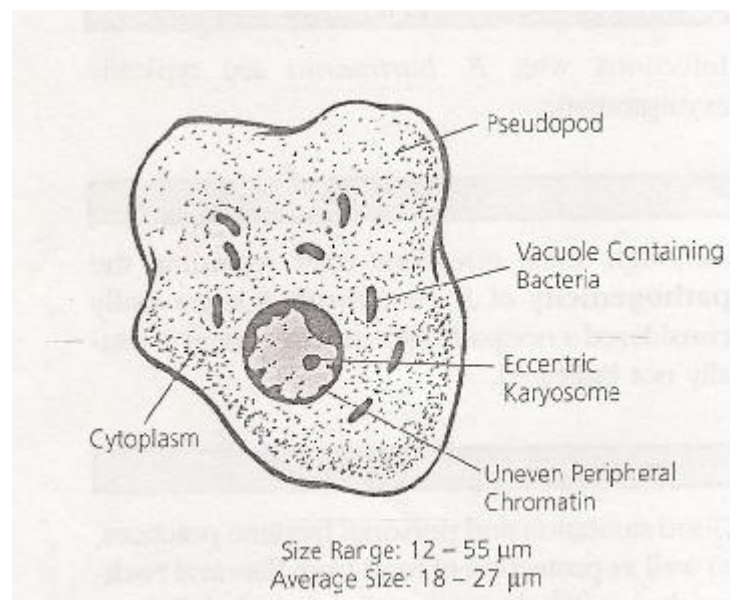
Lecturer : Nerran K.F.AL- Rubaey
Practical parasites
Lab - 2 -

Genus : *Entamoeba coli*

It is considered to be a nonpathogenic with world wide distribution. That frequently exists as a commensal parasite in the human gastrointestinal tract. As with the other intestinal amoeba , *E. coli* is transmitted through the ingestion of the infected cyst through contamination food or water or drink . Its life cycle is similar to that of *E. histolytica* but it does not have an invasive stage and does not ingest red blood cells. There is no clinical symptoms during and after infection by this parasite . This parasite have two stages :

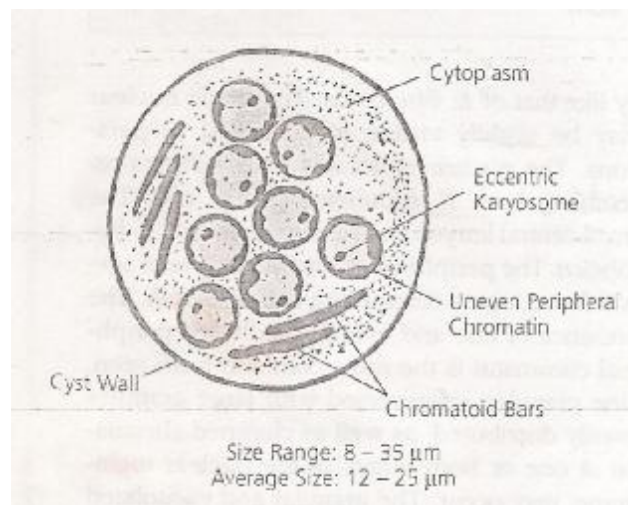
1 – Trophozoite stage : The typical characteristics of this stage are :

Have blunt pseudopodia and exhibits sluggish , non progressive motility . The single nucleus is consist of large irregular shape and eccentric karyosome . The cytoplasm is coarse and contain food vacuoles filled with bacteria , yeast cells , but no red blood cells .



2- Cyst stage : The typical characteristics of this stage are :

It is round to spherical in shape , surrounded by thick cell wall
The cytoplasm contain (1 – 8) nuclei . Occasionally , the large cyst may be containing (16) or more (32) nuclei with eccentric karyosome. The peripheral chromatin is coarse and unevenly distributed .
The granular cytoplasm may contain thin chromatoid bars with pointed end and glycogen mass may also present .



Laboratory Diagnosis :

Microscopic examination of stool samples for the recovery of trophozoites and cysts stages , is made by finding the characteristic cysts in an iodine stained, formol-ether concentration method or by detecting the characteristic trophozoites in a wet preparation or a permanent stained preparation.

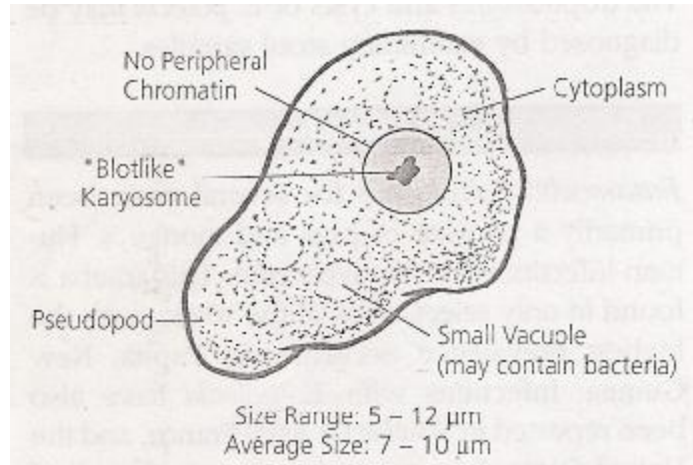
Genus : *Endolimax nana* (dwarf cysted parasite)

This parasite is considered as nonpathogenic and it is commensally in the lumen of cecum and lower parts of the large intestine .The ingestion of this parasite indicate that polluted materials has been ingested . This parasite has two stages :

1- Trophozoite stage : The typical characteristics of this stage are :

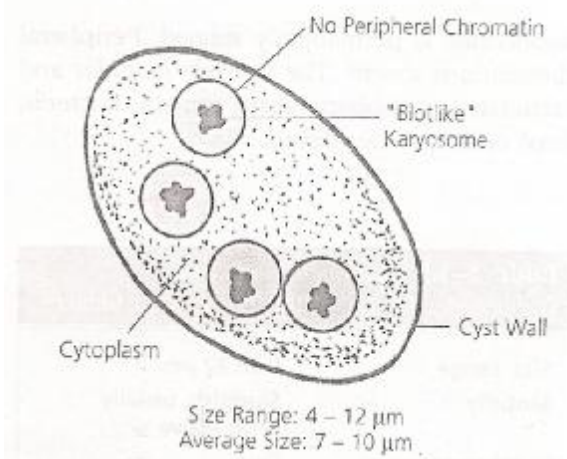
It is exhibit sluggish non progressive motility .Have blunt pseudopodia.

The cytoplasm is granular , vacuolated and usually contain bacteria , it has foggy appearance , so it contain one nucleus which have large irregular karyosome described as (blot like) or (ink spot) in appearance .The absence of peripheral chromatin is a key characteristics in the trophozoite's identification .



2 – Cyst stage : The typical characteristics of this stage are :

It is ovoid to spherical in shape . It is the smallest cyst among amoebas parasite .Containing (1 – 4) nuclei , diffuse glycogen mass may be present in the cytoplasm of young cyst .The cytoplasm contain granules of chromatin material or non descript small oval mass Chromatin bars are not present .A large (blot like) karyosome usually centrally located and the absence of peripheral chromatin .



Laboratory Diagnosis :

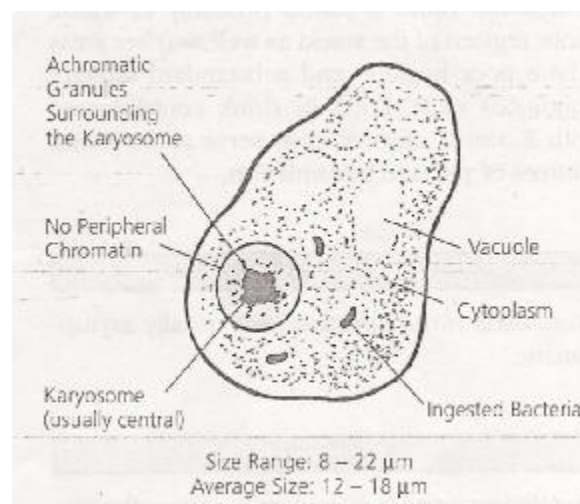
Microscopic examination of stool samples for the recovery of trophozoites and cysts stages .

Genus : *Iodamoeba butschlii*

It is harmless , commensally parasite living in the cecum and colon of human . This parasite has two stages :

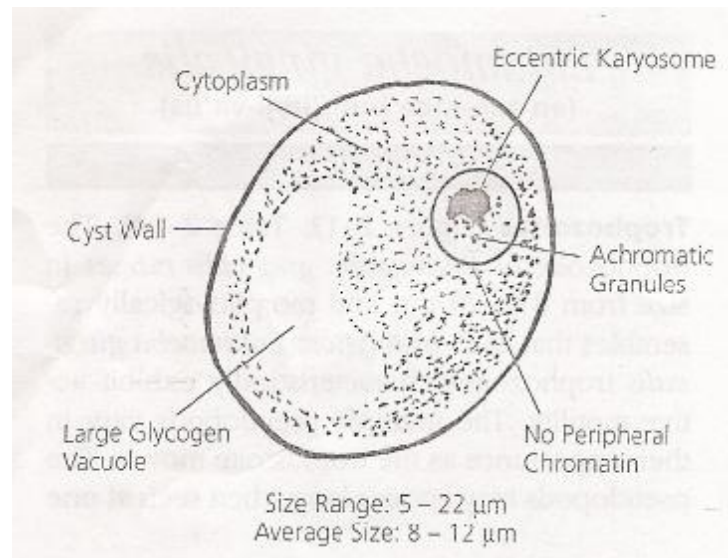
1 – Trophozoite stage : The typical characteristics of this stage are :

It is oval in shape , exhibit sluggish , non progressive motility Have single nucleus , which consist of large of centric or eccentric karyosome surrounded by refractive chromatin granules, which are often not distinct . Peripheral chromatin is absence .The granulated and vacuolated cytoplasm may contain bacteria, yeasts cells or other debris , so the cytoplasm contain glycogen mass .



2 – Cyst stage : The typical characteristics of this stage are :

It is vary in shape (ovoid , ellipsoidal , triangular and other shapes) .It is contain one nucleus with large karyosome seen in eccentric position , peripheral chromatin is absence , and a chromatin granules are present .Cytoplasm is granular and contain one large glycogen mass.



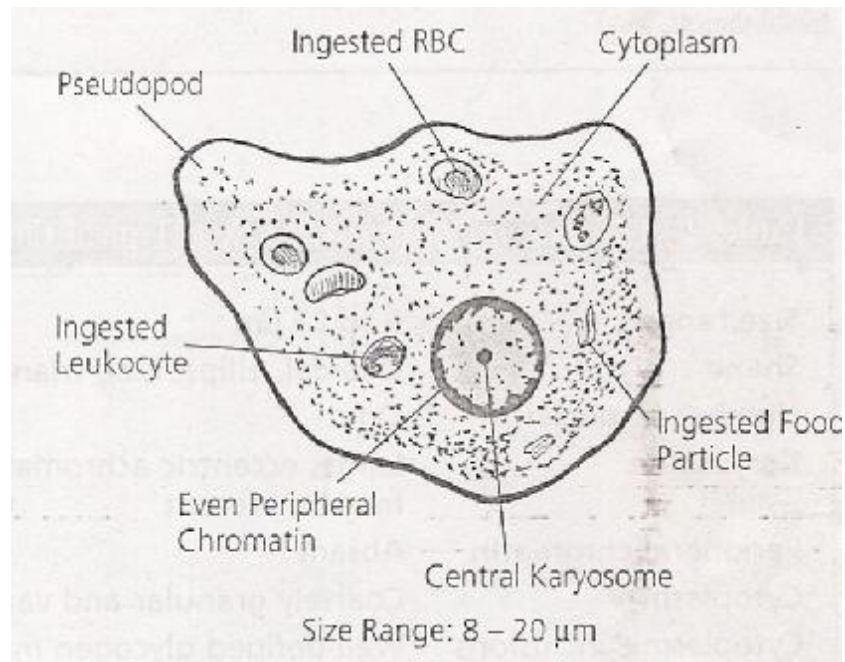
Laboratory Diagnosis :

Microscopic examination of stool samples for the recovery of trophozoites and cysts stages .

(Aerial Species)

Genus : *Entamoeba gingivalis*

It is the first amoeba recovered from a human specimen , discovered in 1849 . Infection of *Entamoeba gingivalis* occurring both in the mouth and in the genital tract . Non pathogenic , there is no clinical symptoms during and after infection by this parasite . Trophozoites are frequently recovered in patients suffering from pyorrhea alveolaris . Infection of *E. gingivalis* are contracted via mouth to mouth (kissing) and droplet contamination , sex intercourse and by use of (IUDS) = intrauterine devices , which may be transmitted through contaminated drinking utensils . There is no known cyst stage of *E. gingivalis* presence only trophozoite stage .



Laboratory Diagnosis :

Examination of mouth scraping , particularly from the gingival area. Also material from the tonsillar crypts and pulmonary abscess as well as sputum may also be examined .

In addition the examination of vaginal / cervical material may be performed to diagnose *E. gingivalis* present in the vaginal / cervical area .

Notes :

- ✓ Both *E. histolytica* and *E. gingivalis* may be found in the sputum and in pulmonary abscess.
- ✓ *E. gingivalis* may also be found in the mouths of individuals who practice good oral hygiene.
- ✓ There is no clinical symptoms during and after infection by *E. gingivalis* .