Phylum : Sarcomastigophora

Subphylum : Mastigophora

Class :Zoomastigophora

Class: Flagellates

Hemoflagellates (Leishmania and Trypanosoma)

Members of the clinically significant group of parasites located in the blood and tissue that move by means of flagella.

There are four morphologic form of clinical significance associated with these hemoflagellates:

1- Amastigote 2- promastigote 3- epimastigote 4- trypomastigote.

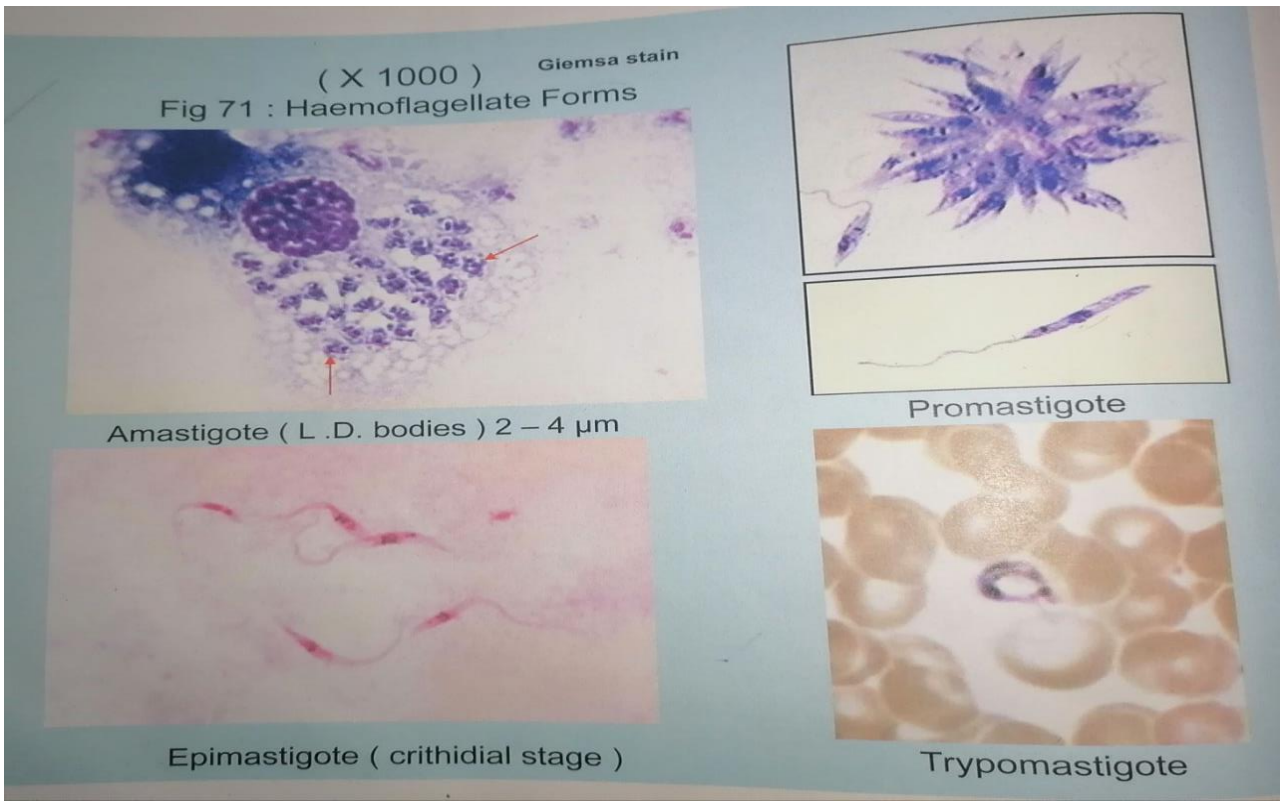
Amastigotes: It is round to oval shape amastigote, one nucleus usually off-center located.

Promastigotes : It is long and slender in appearance. The larg single nucleus is located in or near the center. Kinetoplast located in the anterior end, single free flagellum projects from the anterior end.

Epimastigotes: The body is slightly wider than that of promastigote. The large single nucleus is located in posterior end.

The kinetoplast located anterior Undulating membrane extending half of the body length.

Trypomastigotes: It is C or U shape in stained blood films. One nucleus located anterior to the kinetoplast. The kinetoplast is located in the posterior end of the orgamism. Undulating membrane extending entire body length.



Genus : Leishmania

Leishmania Species :

The species of leishmania exit in two forms, amastigote (aflagellar) and promastigote (flagellated) in their life cycle.

1- Leishmania donovani → Causative agent for Veseral leishmaniasis (also known as kala-azar (black fever).

Laboratory diagnosis of L. donovani

1- Giemsa-stained slide of blood, bone marrow, lymph node aspirates and biopsies of the infected areas for the diagnosis of amastigote forms.

2- Culture of blood, bone marrow and other tissue these samples the promastigote forms.

3- Serological tests.

2- Leishmania tropica → Causative agent for Cutaneous leishmaniasis (Baghdad boil)

Laboratory diagnosis of L. tropica

1- Microscopic examination of giemsa- stained slide of aspiration of fluid underneath the ulcer bed for typical amastigotes.

2- Culture of the ulcer tissue may also reveal the promastigotes form.

3- Serological tests.

3- Leishmania. braziliensis complex .

It is the causative agent for Mucocutaneous leishmaniasis ·

Laboratory diagnosis of L.braziliensis.

1-The specimen of choice for identify the amastigote is a biopsy of the infected ulcer .

2- Giemsa-stained slide of blood of the infected areas for the diagnosis of amastigote forms.

3- Culture of infected material these samples the promastigote forms.

4- Serological tests.