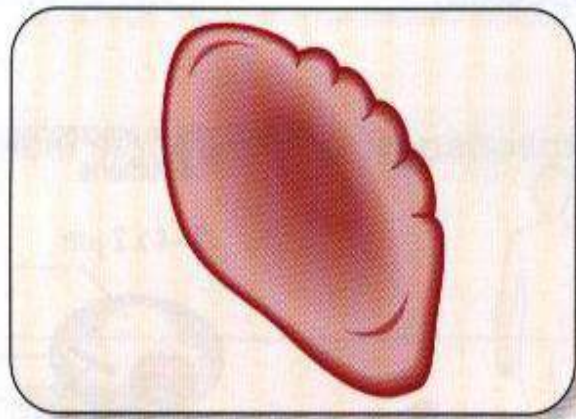


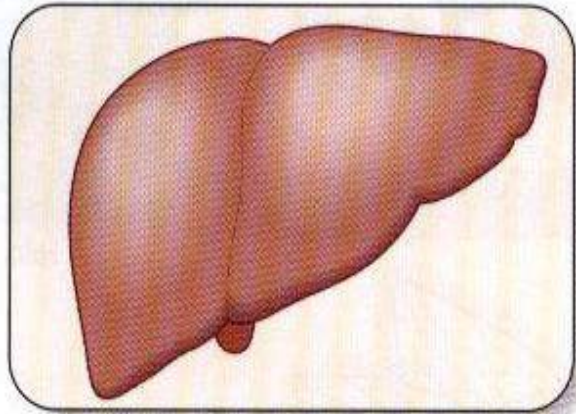


## Spleen



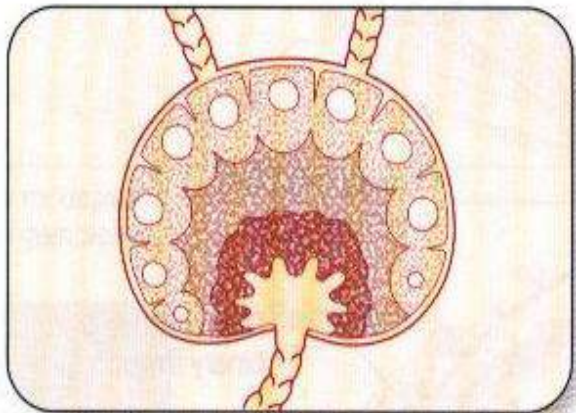
- Parasitized macrophages and endothelial cells
- Splenomegaly, pain from perisplenitis
- Spleen appears congested, dark red, soft and friable. Markedly enlarged
- The capsule is thickened and, later, infarcts and fibrosis occur

## Liver



- Hepatomegaly
- Liver appears enlarged, fatty congested and later may become cirrhotic
- Parasitized proliferated Kupffer cells with atrophy of the liver cells and later fibrosis

## Lymph nodes



- Lymphadenopathy
- Reactive hyperplasia with parasitized macrophages

# Post Kala-azar dermal leishmaniasis (PKDL)





*L. tropica*

**Cutaneous leishmaniasis**

**Baghdad boil , Oriental**

**sore**



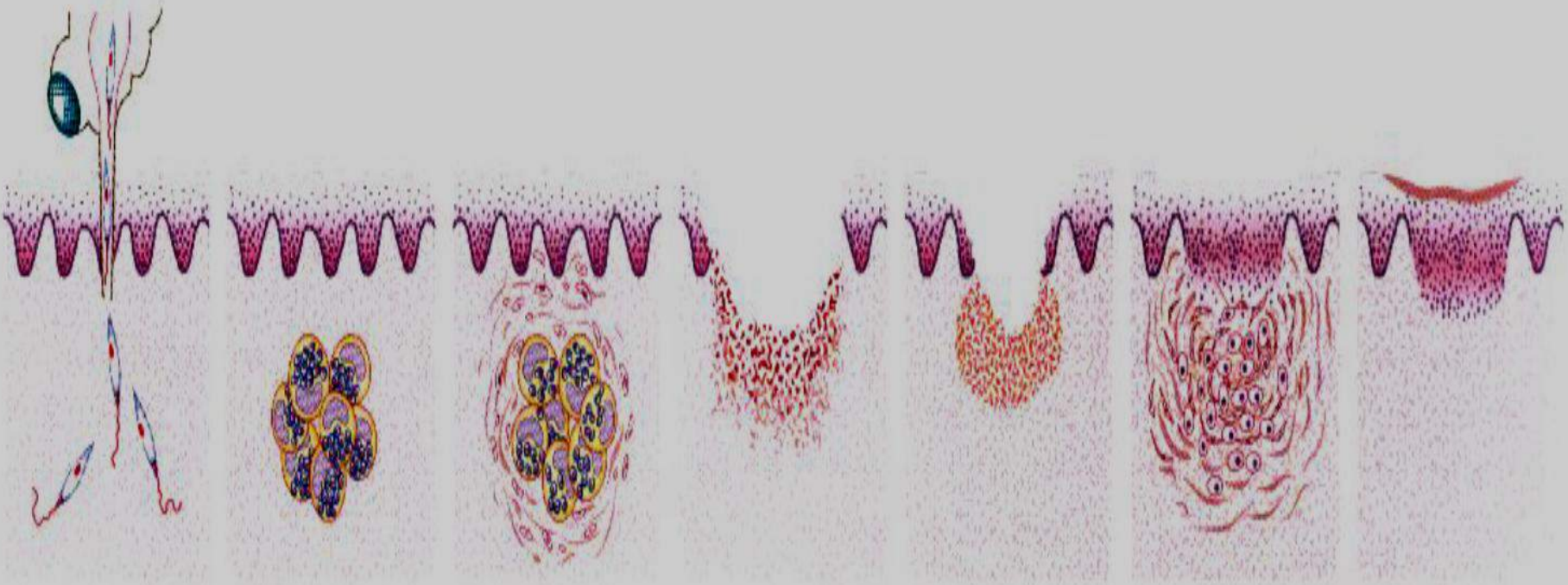
Courtesy: Amer Al-Jawabreh  
Jericho-Palestine



courtesy: A. Al-Jawabreh

# Cutaneous leishmaniasis

Caused by *Leishmania tropica*, *L. major*, *L. aethiopica*, *L. infantum*, *L. braziliensis* complex



Blocked sandfly injects promastigotes

Core of cells parasitized by amastigotes formed

Acanthosis cellular infiltration

Necrosis and ulceration

Secondary infection

Granulation

Healing (2-12 months) with depressed pigmented scar

Remains localized to skin

Ulcer with sharp cut edges and surrounding induration

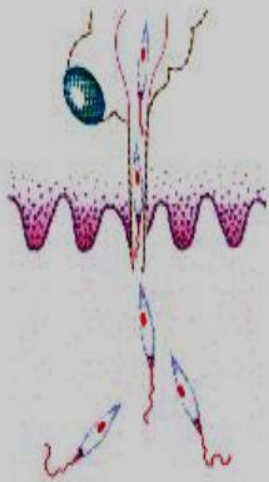




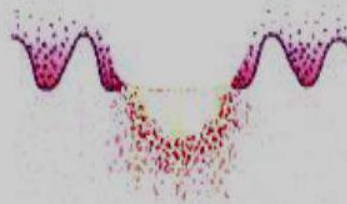
# Muco- cutaneous lei.

## Mucocutaneous leishmaniasis (espundia)

Caused by some infections with *L. braziliensis* (Central and South America), *L. aethiopica* (Ethiopia), *L. mexicana*

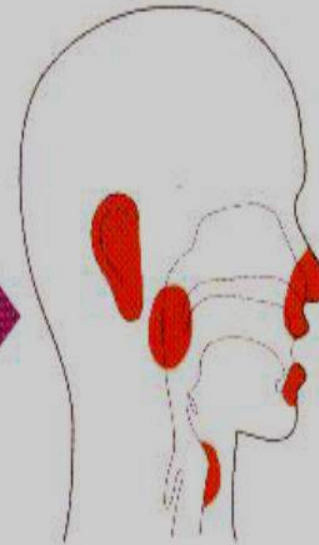


Blocked sandfly injects promastigotes



Cutaneous manifestations like oriental sore but often weeping ulcers

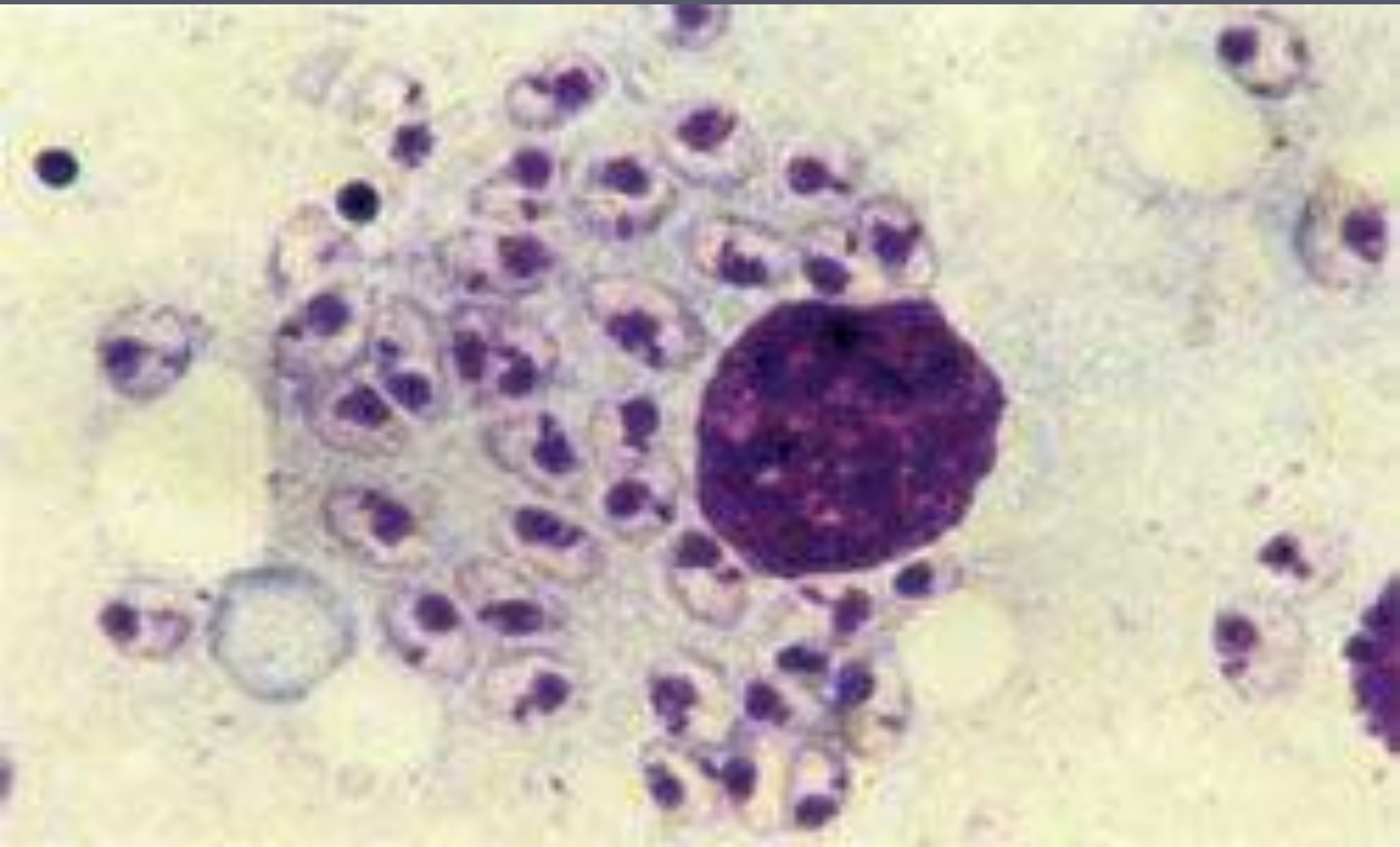
Spread to mucosae of mouth, nose, larynx, pharynx, ear



Parasitized cells  
Inflammatory infiltration  
Necrosis  
Later reactive fibrosis

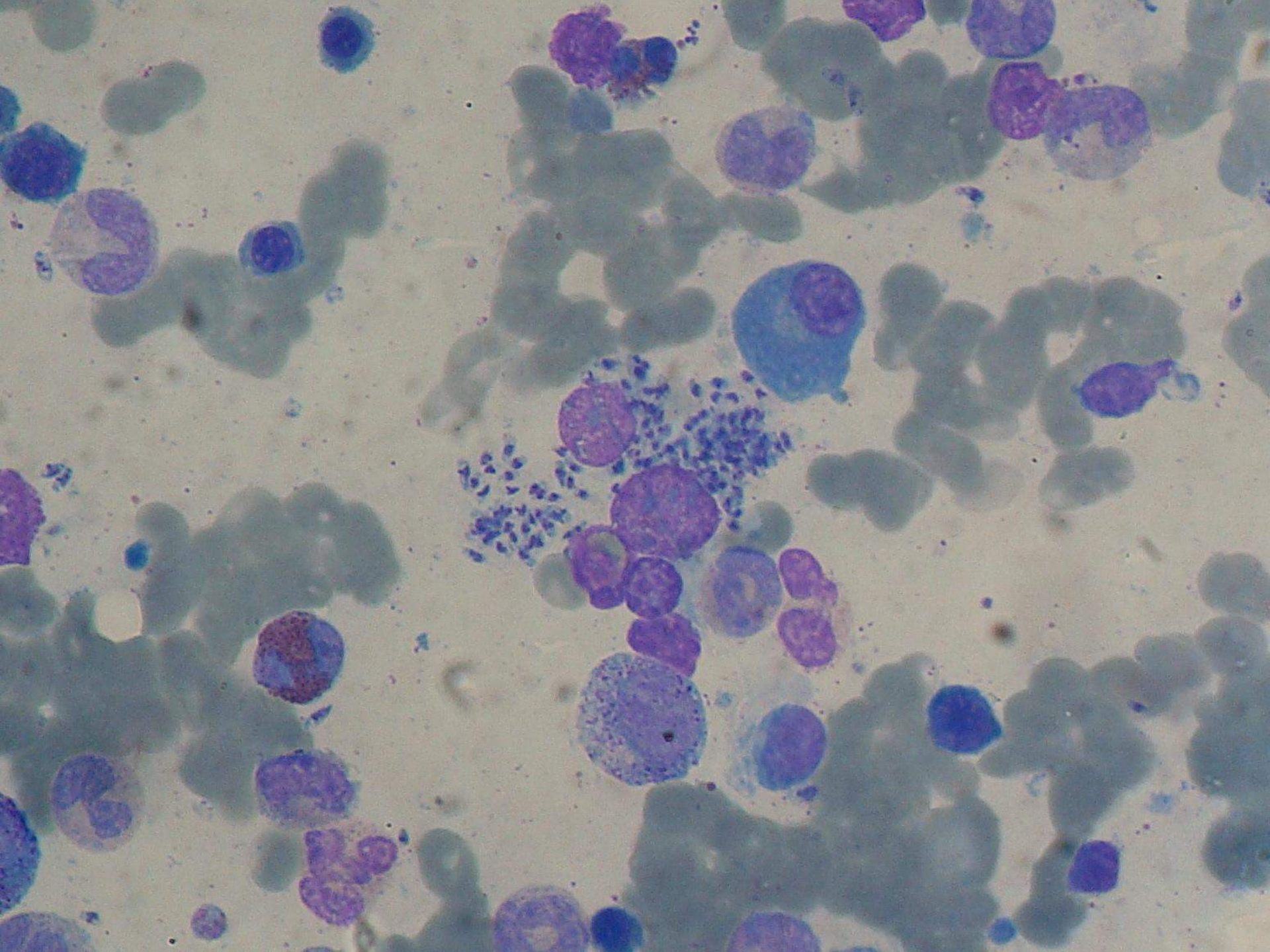


# Diagnosis









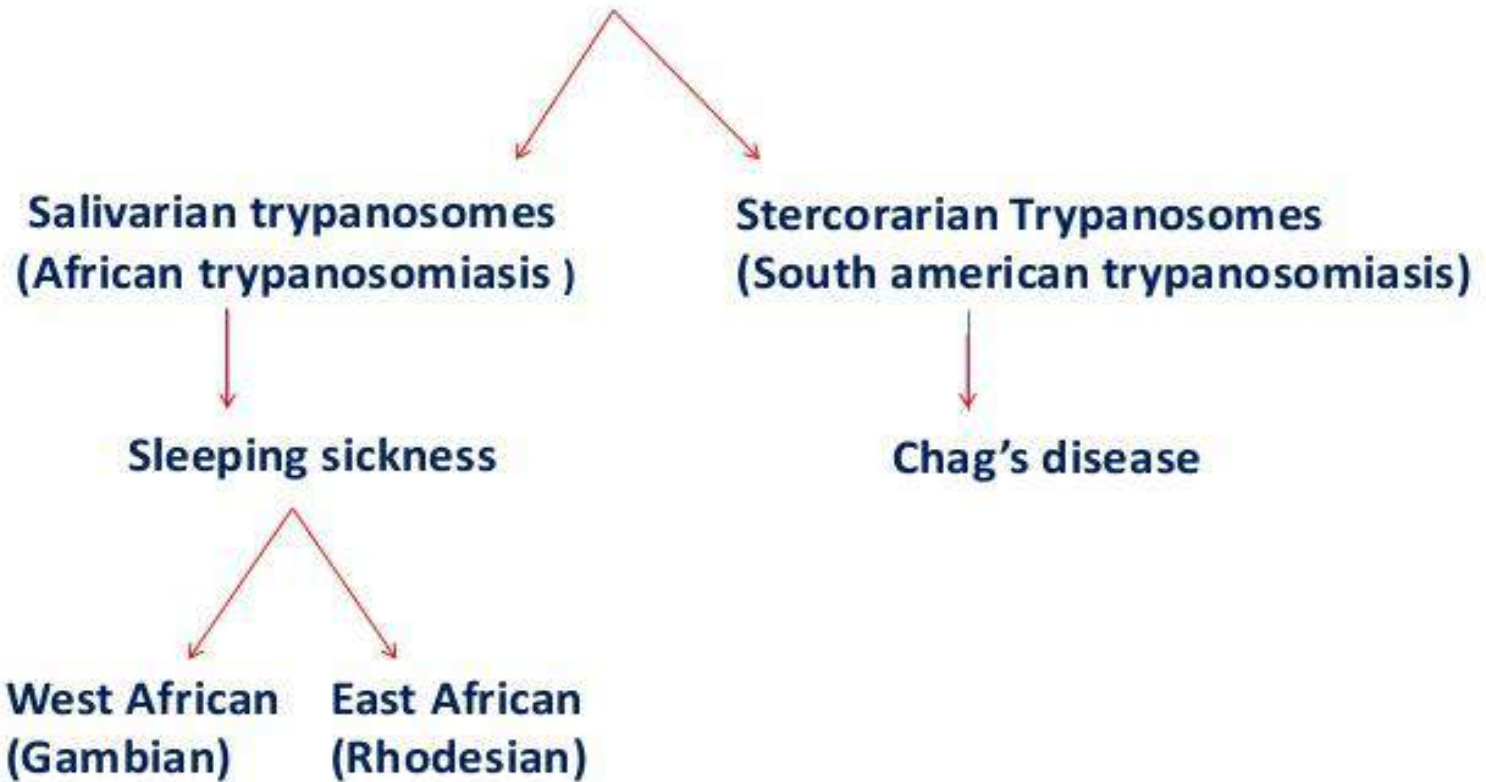




# Haemoflagellates

*Trypanosoma brucei*

# Trypanosomes





1- *Trypanosoma brucei gambiense* (West African)

2- *Trypanosoma brucei rhodesiense* (East African)

- **Definitive Host:** Humans, Not pathogenic to any other species. Native ruminates serve as reservoirs for *T.b.rhodesiense* , but not *T.b.gambiense*.
- **Intermediate Host:** Tsetse fly (*Glossina*)
- **Mode of transmission:** Bite of infected tsetse fly.



Tsetse fly (*Glossina*)

# Geographic Distribution

## *T. b. gambiense* :

Found in west central and central Africa.

## *T. b. rhodesiense* :

Found in central and east central Africa

