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((علم الطفيليات))

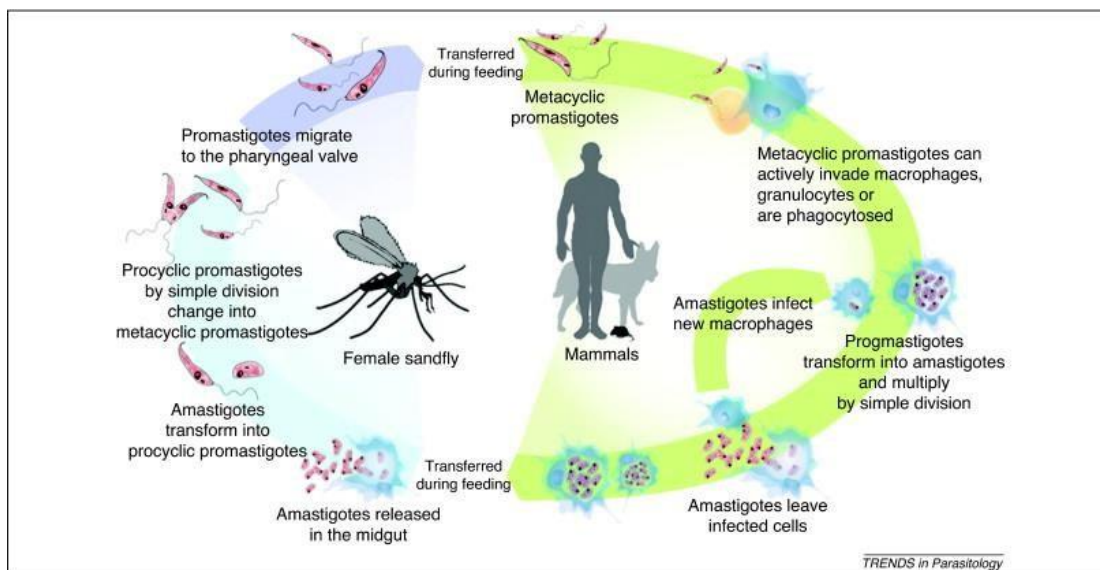
2 stage

المحاضرة الثالثة

**Leishmania and Trypanosoma are
Hemoflagellate**

By

ا.د خيري عبدالله داود



Genus : *Leishmania* \ Species : *L. tropica* , *L. donovani* , *L. infantum*

Disease is called *Leishmaniasis* is an infection in skin forming ulcer ,called *Cutaneous Leishmaniasis* / If in infection in organs *Visceral Leishmaniasis* . This diseases distributed in Tropical and Subtropical countries.

Leishmania is a Protozoan (uni – cellular organism) have : Two stages – 1Promastigote 2 – Amastigote

There are Two host : 1 – Human 2 – Sand fly (*Phlebotomus*)

Transmission : 1 - Two hosts in life cycle Human and Sand fly (*Phlebotomus*) , This fly inject *Leishmania* in blood of human during their feeding , 2 - but there are other animals as a reservoir hosts such as dogs cats Foxes and Jackal (No Parasitic development in these animals. (

3. Infection can be transmitted by blood transfusion or by contaminated needle or from mother to her fetus during pregnancy

Leishmania Tropica (*Cutaneous Leishmaniasis*)



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Distribution:

1. It is recorded in 90 countries all over the world \ south and middle America , in Texas state , Oklahoma state , Mexico \ mediterranean countries , Italy , Spain , Morocco Algeria , Spain , middle east countries , Lebanon , Syria , Iraq , Central Asia countries

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2. This parasite distributed in Rural areas / Urban areas.

3. Old world Leishmaniasis (in eastern hemisphere)

4. New world Leishmaniasis (in western hemisphere. (

Cause a disease called Cutaneous Leishmaniasis

Pathological Effects:

- 1Cutaneous Ulcer / severe ulcer , stay for a weeks , Lesion of ulcer near nose , near mouth on the cheeks , in throat \ this lesion may be fatal if it is not treated.

2.Redness and Swelling nodule at the site of sand fly bite.

3.After few days it change to scab and crusts,

4. Sometimes invaded by bacteria and cause pus in ulcer , may be more than one nodule then become ulcer with hard margin,

5.These lesion is called Baghdad boil , Aleppo boil , Delhi boil There are three types of diseases caused by Leishmania:

1. Cutaneous Leishmaniasis

2.Mucosal Leishmaniasis

3. Muco- Cutaneous Leishmaniasis



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Baghdad boil \ Cutaneous Ulcer



Promastigotes



Cutaneous Leishmaniasis

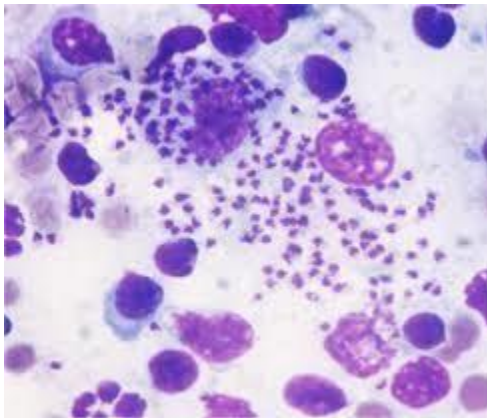




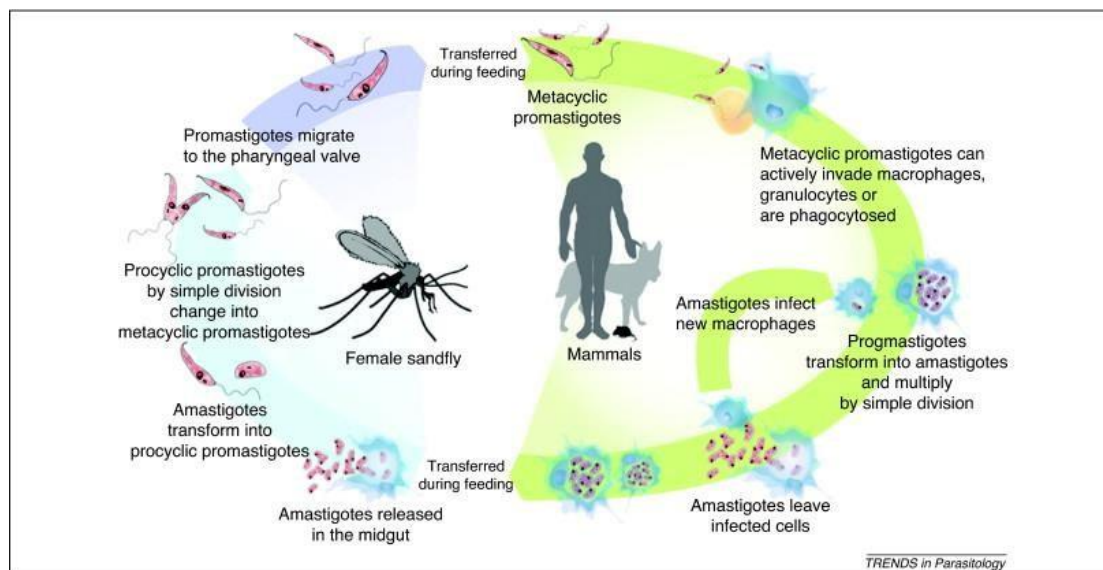
Ulcer of cutaneous Leishmaniasis \\ second picture Microscopical slide
skin in أنفلج الطفل والخلا المقاومة

آزار Visceral Leishmaniasis (Kala Azar Fever) حمى الكلا

Fatal disease occur in internal organs Amastigote in bone marrow



Sand fly sucking blood from human



Life cycle of *Leishmania* / Visceral Leishmaniasis

Symptoms and pathological effects:

1. Fever 2 – Chill's 3 – Sweats 4 - Swollen Lymph nodes
5. Enlarged Spleen and liver (Splenomegally and Hepatomegally)
6. Weight loss 7 – Fatigue and weakness 8 – Dark or discolored patches of skin.

Diagnosis:

1. Biopsy from lymph node skin biopsy , bone marrow , spleen or liver.
2. Blood sample / Serological test.



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مخطط وُضح تضخم الكبد والطحال فَّ اللشمانا الحشوة

Treatment:

1. Ointment , cream or lotions used for skin lesions.
2. If ulcer contaminated with bacteria so it antibiotic used locally

Treatment for Visceral Leishmaniasis:

1. Amphotericin 2 . Miltefosine 3 .Pentavalent such as Stibogluconate and Paromomycin.

Prevention

1. Avoid bites of sand fly by wearing clothes (no exposed skin)
2. Window screen.
3. Insect repellent.
4. Sleep under bed netting.
5. Used pray fly killer for indoor