Lecture (10)

Leishmaniasis

Objectives:

- Not given

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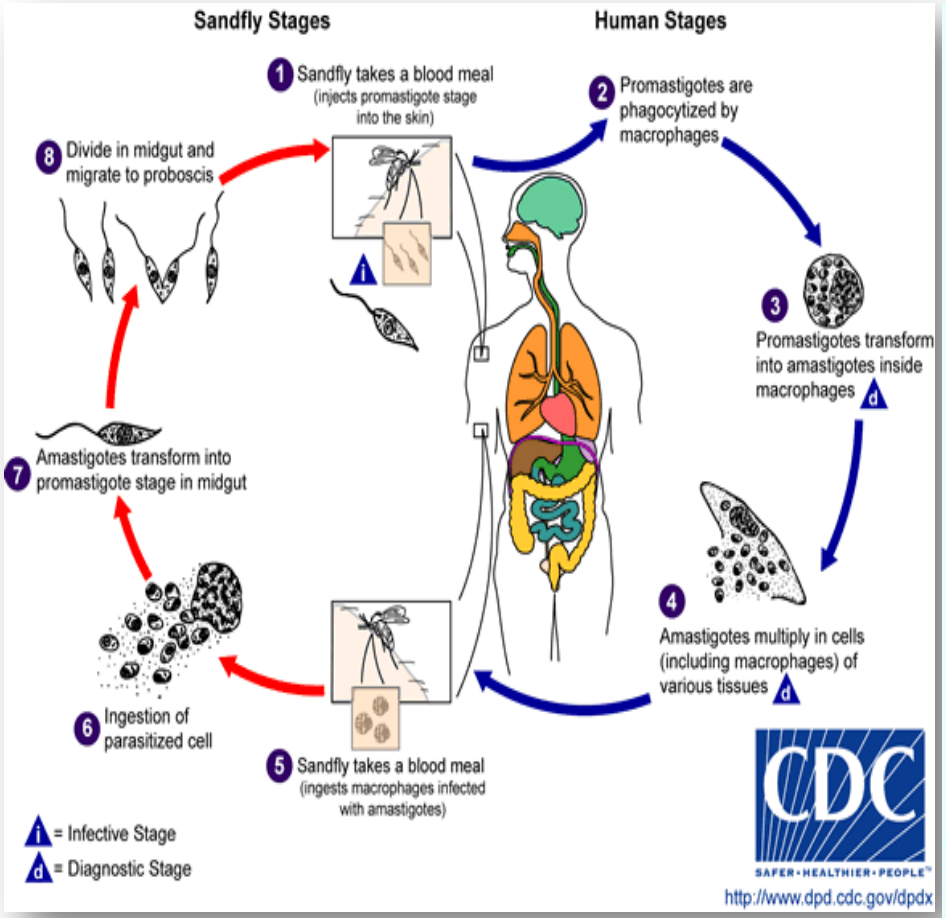
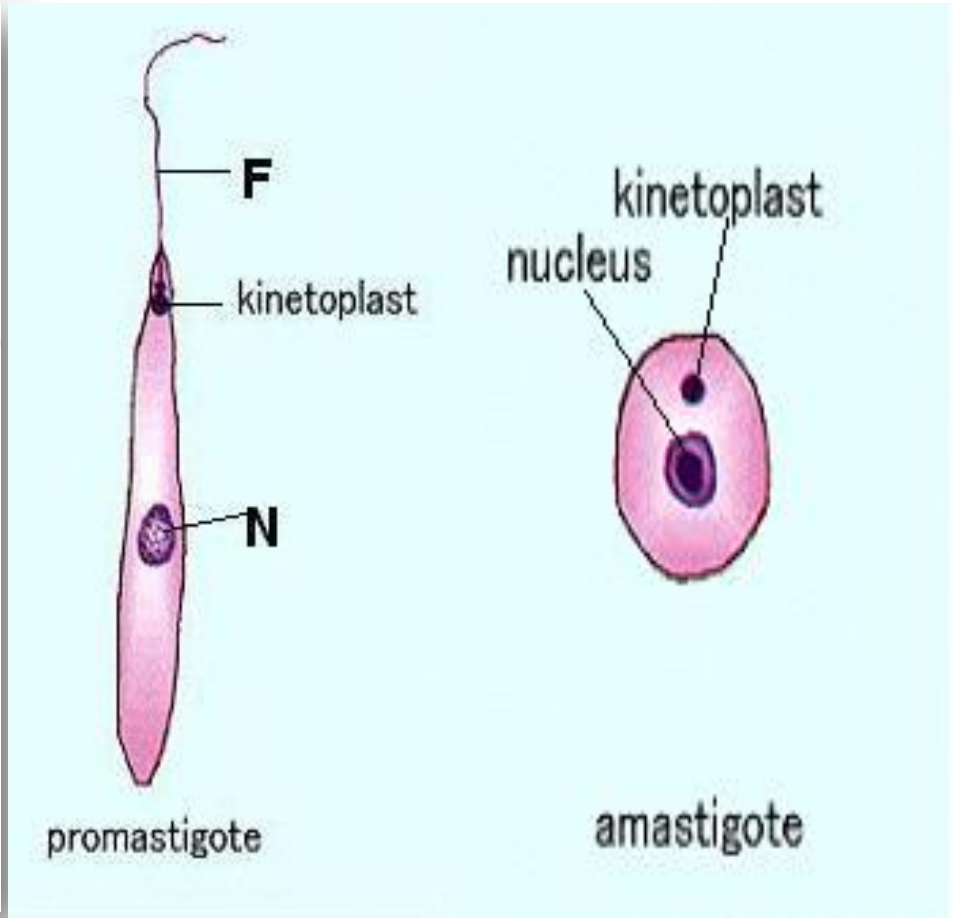
MIND MAP

(Leishmaniasis)

- Pathogens
- Types
- Diagnosis
- Treatment

Disease	Species
Cutaneous leishmaniasis	**Leishmania tropica*** **Leishmania major*** Leishmania aethiopica Leishmania mexicana
Mucocutaneous leishmaniasis	Leishmania braziliensis
Visceral leishmaniasis	**Leishmania donovani*** **Leishmania infantum*** Leishmania chagasi
* Endemic in Saudi Arabia	





Morphology:

Leishmaniasis disease caused by lishmania parasites , and transmitted by sand fly bite as promastigotes (infective stage)

inside humand they found in macrophages (intracellular) and tissue as Amastigotes (diagnostic phase)

Disease	Cutaneous leishmaniasis "more common than visceral"

Type

1) Clinical types of cutaneous leishmaniasis

Protozoa important	Leishmania major	Leishmania tropica
transmission	Zoonotic	Anthroponotic
Clinical findings	wet lesions with severe reaction	Dry lesions called Oriental sore (most common) with minimal ulceration self-limited ulcer

2) Uncommon types:

a) Diffuse cutaneous leishmaniasis (DCL)

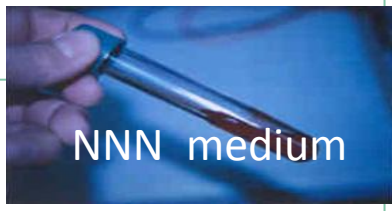
Caused by L. aethiopica, diffuse nodular non-ulcerating lesions. Low immunity to Leishmania antigens, numerous parasites

b)Leishmaniasis recidiva (lupoidleishmaniasis):

Severe immunological reaction to leishmania antigen leading to persistent dry skin lesions, few parasites.

Diagnosis

- **Smear:** Giemsa stain – microscopy for LD bodies (amastigotes)
- **Biopsy:** microscopy for LD bodies or culture in NNN medium for promastigotes .



Treatment

- **Pentostam (sodium stibogluconate) for treatment of all types of leishmaniasis**
- **No treatment – self-healing lesions " if it is local and not progressing "**
- Medical:"if needed " *** Pentavalent antimony (Pentostam),**
  *** Amphotericin B, Antifungal drugs**
  * +/- Antibiotics for secondary bacterial infection
- Surgical: - Cryosurgery "is the application of extreme cold to destroy abnormal or diseased tissue "
  - Excision "Surgical removal by cutting "
  -Curettage "Surgical scraping, usually of the lining of a body cavity, to clean it of foreign matter, to remove tumours or other growths or diseased tissue"

Zoonotic = Anthroponotic

Disease	Visceral leishmaniasis Also called (kala-azar) more sever than cutaneous

Type

Protozoa important	Leishmania donovan	Leishmania infantum
Affects	adults	children

Untreated disease can be fatal After recovery it might produce a condition called post kala-azar dermal leishmaniasis (PKDL).

Presentation

Fever , Splenomegaly , hepatomegaly hepatosplenomegaly , wight loss, Anemia , Epistaxis , Cough, Diarrhea

Diagnosis

1)Parasitological diagnosis:

a)Bone marrow aspirate (the best diagnosis but less sensitve)
b) Splenic aspirate (More sensitive but very dangerous, bleeding)

1. microscopy
2. culture in NNN medium

2) Immunological Diagnosis:

- Specific serologic tests: Direct Agglutination Test (DAT), ELISA, IFAT
- rK39 antigen-based immunochromatographic test . "become more popular in some areas "

▪ **LIMITATIONS FOR SEROLOGIC TESTS:**

1)Do not diagnose relapses. , 2)In endemic areas it is sometimes +ve in healthy individuals.

Treatment

Recommended treatment varies in different endemic areas:

1) Pentavalent antimony- sodium stibogluconate (Pentostam) , 2) Amphotericin B

Treatment of complications:

1) Anaemia, 2) Bleeding , 3) Infections

SUMMARY

disease	Cutaneous leishmaniasis "Cutaneous is more common than visceral	Visceral leishmaniasis also called (kala-azar) "more sever than cutaneous"
Types and pathogen	**1.Clinical types of cutaneous leishmaniasis** a)Leishmania major: Zoonotic cutaneous leishmaniasis: wet lesions with severe reaction b) Leishmania tropica: Anthroponotic cutaneous leishmaniasis: Dry lesions with minimal ulceration **2. Uncommon types:** a) Diffuse cutaneous leishmaniasis (DCL) b) Leishmaniasis recidiva (lupoidleishmaniasis)	**a)Leishmania donovan : mainly affects adults** **b)Leishmania infantum : mainly affect children**
Diagnosis	**1)Smear: Giemsa stain – microscopy for LD bodies (amastigotes)** **2)Biopsy:microscopy for LD bodies or culture in NNN medium for (promastigotes)**	**1)Parasitological diagnosis:** • **Bone marrow aspirate (the best diagnosis but less sensitve)** • Splenic aspirate (More sensitive but dangerous) **2) Immunological Diagnosis:** a) Specific serologic tests , b) rK39
Presentation		Fever , Splenomegaly , hepatomegaly hepatosplenomegaly , Wight loss, Anemia , Epistaxis , Cough, Diarrhea
Treatment	1) Medical: Pentavalent antimony (Pentostam), 2) Amphotericin B	1. Pentavalent antimony- sodium stibogluconate **(Pentostam)** 2. **Amphotericin B**

QUESTIONS

Q1) male 52 years old come to ER with fever , diarrhea , hepatosplenomegaly , anemia and epistaxis what is the what is the most accurate diagnosis according to symptoms ?

A) Cutaneous leishmaniasis
B) Mucocutaneous leishmaniasis
C) Visceral leishmaniasis
D)NON

Q2) Regarding to previous question what is causative organism ?

A) Leishmania donovan
B) Leishmania infantum
C) Leishmania major
D) Leishmania tropica

Q3) What is the best method to diagnose the pervious case ?
A) Bone marrow aspirate
B) Giemsa stain
C) culture in NNN medium
D) Splenic aspirate

QUESTION	ANSWER
1	C
2	A
3	A

FOR ANY SUGGESTIONS AND PROBLEMS PLEASE CONTACT:
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