

Lecture 9



Haemoflagellates
Leishmania & Trypanosomes

- Additional Notes
- Important
- Explanation
- Examples

Leishmania

	Cutaneous L.	Mucocutaneous L.	Visceral L.
Life cycle	Sand fly bits human → take from human blood & excrete in feces Promastigote → Macrophages in human phagocyte the promastigote → become in the macrophage amastigote → multiply → brain, liver lungs → rupture		
Diagnostic stage	Macrophages with amastigote		
Infective stage	Promastigote		
Vector	Sand fly		

	Cutaneous L.	Mucocutaneous L.	Visceral L.
Causative Leishmania	<ul style="list-style-type: none"> L.Major → Zoonotic → severe reaction L.Tropica → Anthropic → Dry lesion with ulcer <p>Oriental store (most common)</p>	L. braziliensis	<p>Leishmania infantum → children</p> <p>Leishmania donovani → adults</p>
Clinical picture	<p>Common type: Painless papula → ulcer → hard margins →</p> <ul style="list-style-type: none"> Some remain & heal fast → Dry lesion Spread & heal slowly → wet lesion <p>Uncommon type: 1. Diffused cutaneous L (DCL) consists of nodules and a thickening of the skin, needs numerous parasites. 2. recidiva (lupoid) Severe immunological reaction → dry skin lesion and caused by few parasites.</p>	<p>pustular swelling in the mouth → Ulcerative lesion → naso-pharyngeal mucous membrane</p> <p>Secondary infection → destruction of the nasal cartilage & the bone</p>	<p>kala-azar disease symptoms:</p> <ul style="list-style-type: none"> Early → low grade fever with malaise and sweating . Late → intermittent fever , hepato-spleno-megally Anaemia <p>If untreated → post kala-azar dermal leishmaniasis (PKDL)</p>
Diagnosis	<p>Leishmanin test (skin test)</p> <p>NNN medium for promastigotes. → skin biopsy</p> <p>Smear: Giemsa stain – microscopy</p>		<p>1 Parasitological : Bone marrow aspirate → microscopy or NNN media</p> <p>2 Immunological: leishmanin test or serological tests</p>
Treatment	self-healing lesions - Medical: Pentavalent – surgical		<p>Pentavalent</p> <p>Amphotericin B</p> <p>Treatment of complications:</p>

Trypanosomiases

	African trypanosomiasis	American trypanosomiasis
Region	West and Central Africa	central and south America
Lead to	Sleeping sickness	Chaga's disease
Vector	Tsetse fly	Reduviid bug
Causative trypanosome	Trypanosoma brucei gambiense	Trypanosoma cruzi.
Diagnosis	Lumber puncture	Blood film , serology & xenodiagnosis
Clinical picture	<p>Chancre (skin reaction for 2-3 weeks) → systemic haemato-lymphatic stage (winterbottom's sign) intermittent fever → CNS stage (meningoencephalitis) tremors ,convulsions → coma</p>	<p>Focal lymphangitis and oedema at the site of parasites entry (chagoma) →</p> <ul style="list-style-type: none"> swallowing of eyelid with conjunctivitis (ROMANA'S sign) Cardiac muscles cells → cardiomyopathy → cardiac failure.
Infective stage	Tryptomastigot	
Diagnostic stage	In blood stream → TRYPTOMASTIGOT, but in the tissue it become in form of amastigote	
Treatment	<p>Early → pentamidine Late → eflornithine</p>	Benznidazole