

# Mode of infection

Mainly by

Contamination of skin abrasion  
by winged bug faeces

Rarely by

Through infected blood transfusion

Through infected mother's milk

Through the placenta

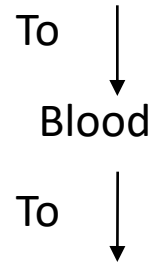


# Pathogenesis and Clinical Picture

## I- Acute Form

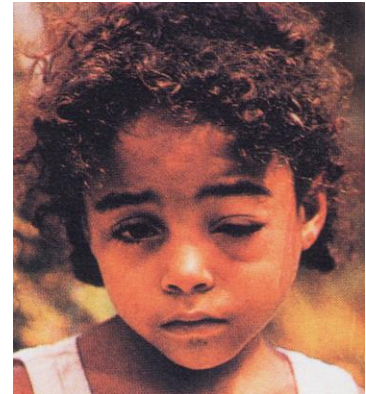
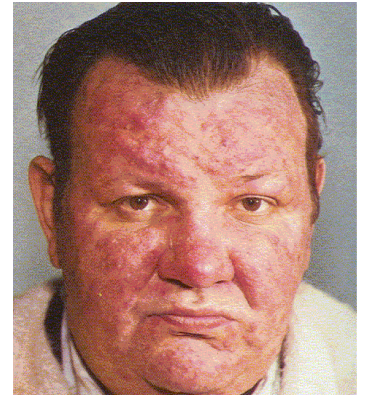
**Chagoma** occurs at the site of bite.

Parasite reaches regional lymph nodes



Organs and tissues

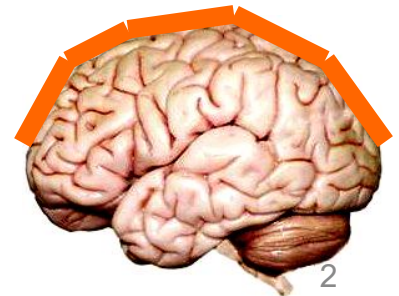
Fever, enlarged lymph nodes, skin rash, enlarged liver & spleen.



**Romana's sign** (Unilateral conjunctivitis appear suddenly togetherwith oedema of upper & lower eye lids & cheek)

Meningoencephalitis, heart failure

Death or pass to Chronic form



# Pathogenesis and Clinical Picture

## II- Chronic form

Parasite produces antigens similar to patient's self antigens:  
The body produces auto-antibodies that cause damage to:

- ❑ Heart muscle fibres:  
congestive heart failure.
- ❑ Oesophageal muscle fibres:  
megaesophagus and dysphagia.  
Destruction of Auerbach's plexus
- ❑ Colon muscle fibres:  
megacolon and constipation.
- ❑ CNS or thyroid gland  
Exacerbation of infection in immunosuppressed patients.

Amastigote form of  
*T.cruzi*



# Diagnosis

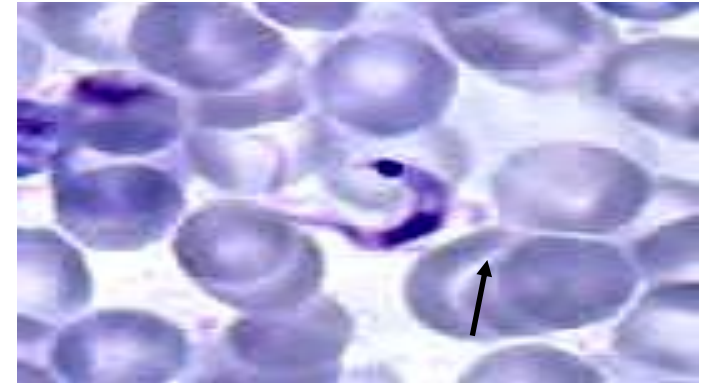
Finding the parasite in:

Blood film (C-shaped *T.cruzi*)

Biopsy from lymph node, liver or spleen (amastigotes)



Culture (Epimastigotes)

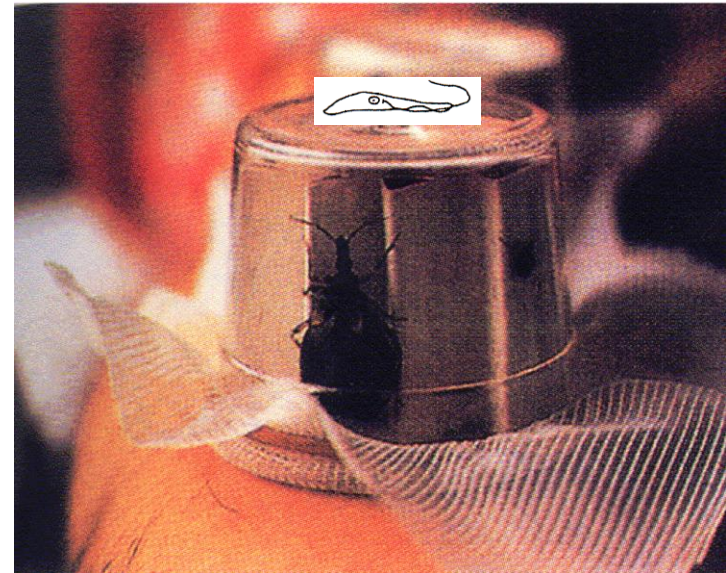


## Xenodiagnosis

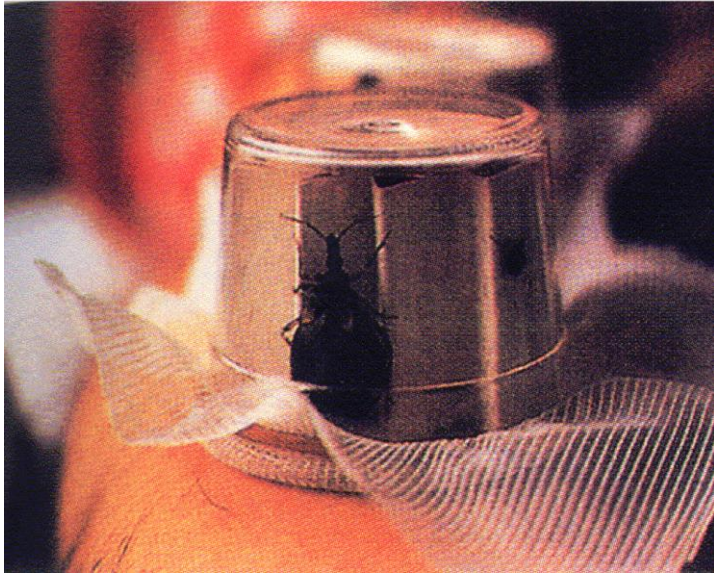
Serological tests

Cruzin test (I.D.)

Molecular techniques



# Diagnosis (Xenodiagnosis)



Highly efficient – demonstrate low level of parasite in blood

## Method:

A Laboratory bred winged bug is starved for 2 weeks then fed on suspected patient's blood – 30 days later, it faeces & gut examined for trypanosomes.

# Diagnosis

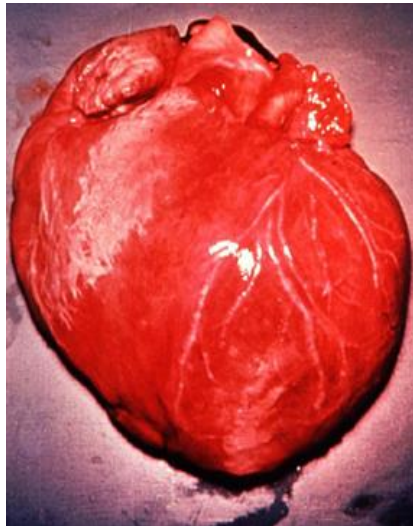


Amastigote

Trypomastigote



Winged Bug



# Treatment

## Sleeping Sickness

In early stage of the disease:

Pentamidine OR Suramin

In late stages of the disease:

Tryparsamide

For both early and late stages of  
the disease:

Eflornithine (DFMO) Ornidyl

## Chagas Disease

**Nifurtimox**

- inhibits intracellular development .
- Drug of choice in acute and early chronic

OR

Primaquine

destroys **Trypanosoma** in  
blood

# Control

Sleeping Sickness

Treatment of patients

Control of vectors  
(*Glossina*)

Pentamidine as  
prophylactic drug

Chagas' disease

Treatment of patients

Control of vectors  
(*Triatoma*)

Elimination of reservoir  
hosts