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Parasitology

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South American Trypanosomes

Stercorarian trypanosomes.

Trypanosoma cruzi.
*Trypanosoma rangelli. **

The metacyclic trypanosomes occupy a posterior position in the gut of the insect vector and are passed out in the faeces - infection is therefore contaminative.
The above are the aetiological agents of South American trypanosomiasis and *T. rangeli* is only found in very rare cases.
The South American trypanosomes are transmitted by Triatomid and Reduvid bugs.
The completion of the cycle results in metacyclic trypanosomes being present either in the gut of the vector.

Clinical Disease

Many people infected with T. cruzi remain asymptomatic and free from Chagas disease or experience only an acute infection without progressing to the chronic stage. Multiplication of T. cruzi at the site of infection can produce an inflamed swelling (chagoma) which persists for weeks. If in the eye then the conjunctiva becomes inflamed (Romana's sign).

In the acute stage of infection trypomastigotes can be found in the blood. Symptoms may pass unnoticed, there may be fever, malaise increased pulse rate and enlargement of lymph glands, liver and possibly spleen. Blood films often resemble glandular fever. The acute form is most often seen in young children and occasionally can cause serious damage to the heart and other complications leading to death.

Chronic manifestations include signs of cardiac muscle damage with a weak and irregular heartbeat, oedema and heart enlargement leading to heart failure. About 10% of persons infected with T. cruzi develop chronic Chagas cardiopathy.

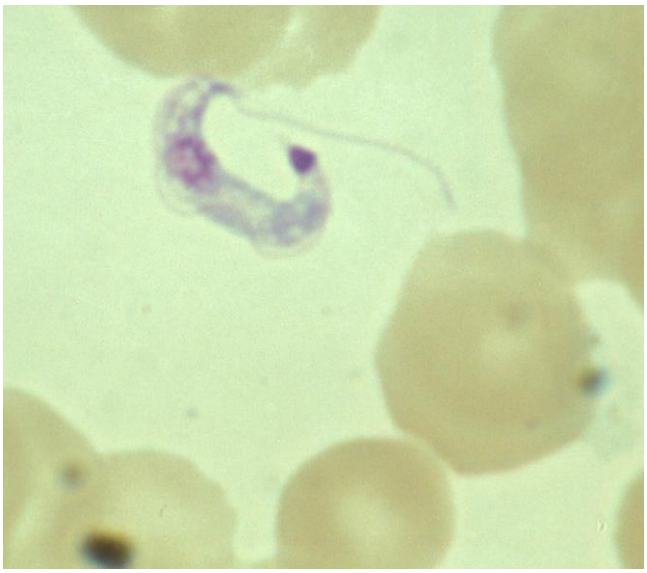
Laboratory Diagnosis of South American trypanosomiasis

a. **Trypanosomes** of **T. cruzi** in **blood** (early acute)
    1) careful examination of fresh blood for motile trypanosomes as wet prep.
    2) **Capillary tube** (microhaematocrit) **concentration** technique. Rapid and sensitive.
b. **Xenodiagnosis** in chronic and sub acute (low parasitaemia).
c. **Blood culture** for parasite when (b) not available.
d. **Serology** - **T. cruzi antibodies** - distinguish between IgM (infant) and IgG (crossing placenta). Serology tests include:
    (1) **IFAT** indirect fluorescence antibody test
    (2) **CFT** complement fixation test
    (3) **IHAT** indirect haemaglutination test
    (4) **ELISA** enzyme linked immunoabsorbent assay

Other lab findings include:

Raised ESR, marked lymphocytosis with atypical mononuclear lymphocytes

NB. In certain areas of S. America where Trypanosoma rangeli (non pathogenic species transmitted by Rhodnius bug) is found with T. cruzi all positive preps should be checked to confirm T. cruzi.



Note that the South American trypanosomes are shorter and fatter than the African Trypanosomes with a larger kinetoplast.