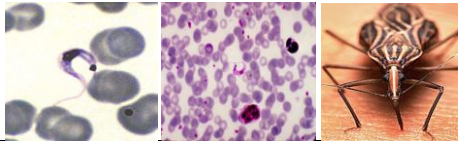


WORM of the WEEK

Chagas Disease *Trypanosoma cruzi*

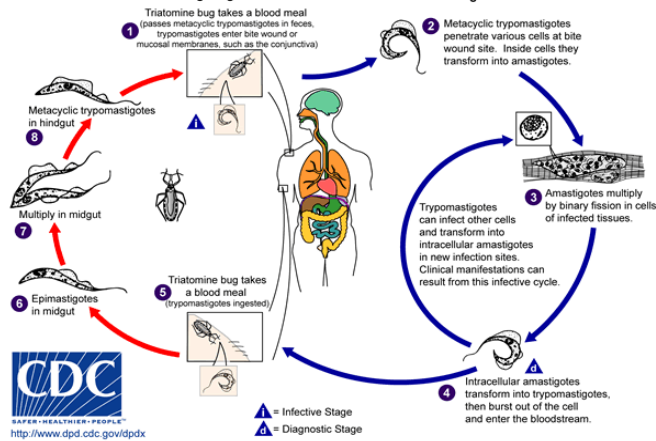
Organism

Chagas disease is caused by *Trypanosoma cruzi*, a protozoan parasite (**technically not a worm!**) in the Kinetoplastid family. *T. cruzi* is closely related to the organisms which cause African Sleeping Sickness and Leishmaniasis. Parasites are transmitted by the reduviid bug (aka “kissing bug”, “chirimacha”, “vincucha”, or “chinche”, depending on where you happen to be).



Triatomine Bug Stages

Human Stages

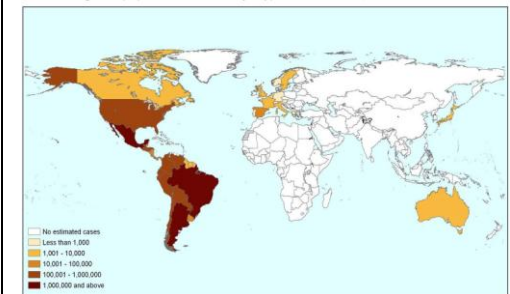


Clinical Presentation

Acute infection usually presents as a mild illness significant for fever, malaise, generalized lymphadenopathy, and hepatosplenomegaly, resolving over the course of weeks to months. After a subsequent asymptomatic, or “indeterminate” phase (lasting up to decades), **up to 50% of infected individuals develop chronic Chagas disease**, characterized by gastrointestinal “mega” disease (dilated colon, esophagus) and/or life-threatening cardiac arrhythmias with dilated cardiomyopathy.

Populations/Countries Affected

Estimated global population infected by *Trypanosoma cruzi*, 2009



Diagnosis

- Blood smear (only during acute infection)
- Xenodiagnosis, Ab-based test, or PCR
- There is a great need for more sensitive and field-adapted diagnostics for detection of chronic Chagas disease

Treatment

Currently there are two drugs available to treat Chagas disease: **nifurtimox** and **benznidazole**. Both have significant side effects and only limited efficacy during chronic infection.

Prevention and Control

In endemic areas, spraying with insecticide to eliminate vector has been successfully used as a prevention strategy. This was exemplified by the “Southern Cone Initiative”, which was responsible for significantly reducing Chagas disease incidence in several South American countries. Unfortunately, Chagas disease remains a major public health concern in many countries, primarily in poor communities where inadequate housing materials permit easy entry of the disease vector.