Leishmania Viannia guyanensis

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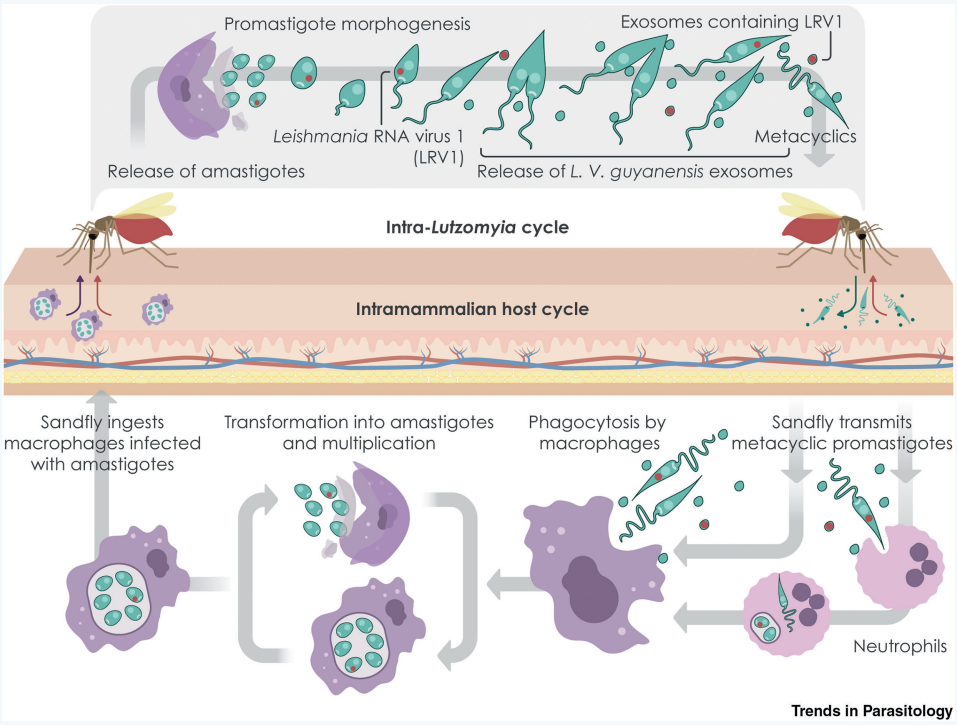
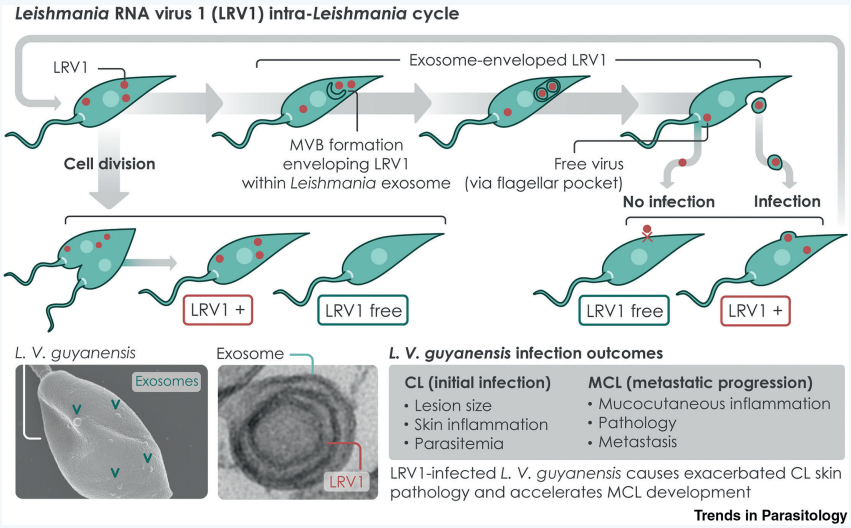


Leishmania of the Viannia subgenus, including *Leishmania Viannia guyanensis*, is the agent responsible for cutaneous and mucocutaneous leishmaniasis (CL and MCL) in the Americas from the USA to Argentina. 48 000 new cases of Cl and MCL are reported yearly, among which 1/10 are associated to *L. V. guyanensis* infection transmitted by female *Lutzomyia* sandflies during the blood meal. Inoculated metacyclic promastigotes, coupled with *Leishmania* exosomes, will infect various inflammatory cells at inoculation sites, where they rapidly transform into amastigotes. Parasites divide and progress in the intramacrophage form, leading to an initial CL skin ulceration. Depending on the inoculation site and host health condition, parasites may metastasize to the nasopharyngeal tissues within a few months. *L. V. guyanensis* is occasionally infected with *Leishmania* RNA virus 1 (LRV1) that can be enveloped by exosomes and is believed to accelerate MCL development.



KEY FACTS:

L. V. guyanensis infection is mainly found in the amazon basin of South America, including Bolivia, Brazil, and Peru.

The primary hosts are the two-toed sloth, the lesser anteater, and the opossum.

After being inoculated into the skin by female *Lutzomyia* sandflies, themetacyclic promastigotes infect phagocytes at the injection site, leading to localized skin lesions that can evolve to MCL.

Some *guyanensis* strains are infected by LRV1 endovirus, causing a potentially more aggressive form of MCL. LRV1 is not necessary for the development of MCL skin pathology.

LRV1 is maintained in *L. V. guyanensis* by cell division but has been shown to exploit *Leishmania* exosomal pathways to exit promastigotes and infect naïve *Leishmania* from the Viannia subgenus.

DISEASE FACTS:

MCL outcomes are influenced by initial CL lesion site, size, and delayed healing.

Disfiguring MCL skin pathology, which affects the mouth and nasopharyngeal tissue, may develop anywhere from several months to 10–20 years after the CL episode.

The nose is mainly affected; however, 1/3 of infected individualsmay develop invasive lesions of the pharynx/larynx and upper lip.

Final stages of MCL can lead to major disfiguration, tissue destruction, and nasal obstruction.

While CL can heal spontaneously, MCL never heals by itself.

TAXONOMY AND CLASSIFICATION:

PHYLUM: Euglenozoa
CLASS: Kinetoplastea
ORDER: Kinetoplastida
FAMILY: Trypanosomatidae
GENUS: *Leishmania*
SUBGENUS: *Viannia*
SPECIES: *L. V. guyanensis*

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Resources

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www.cdc.gov/parasites/leishmaniasis/health_professionals/index.html
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