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Transmission of leishmaniasis in Ethiopia: Zoonosis vs anthroponosis

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Leishmaniasis represents an important public health problem in Ethiopia with heterogeneous clinical manifestations ranging from self healing cutaneous form (CL), mutilating mucocutaneous (MCL) and metastasizing diffused lesions (DCL) to a life-threatening visceral leishamaniasis (VL). Leishmania aethiopica is a usual etiological agent of CL while L. donovani is considered the sole agent of VL in the country. The main transmission mode of these protozoan parasites is by the bite of infected female phlebotomine sand fly in the genus Phlebotomus. Even though Ethiopian CL is believed to be zoonotic with rock hyraxes as main reservoirs of the parasite, the transmission cycle of VL remains unclear and traditionally believed to be anthroponotic. As part of a study on the ecology and transmission dynamics of VL in Ethiopia, we investigated the role of domestic (E.g cattles, dogs) and wild (e.g rodents) animals in leishmaniasis cycle at endemic and non-endemic settings. Molecular techniques targeting two genes (kDNA and ITS1) of the parasite were used to determine natural infection. Moreover, serological procedures (anti-L. donovani IgG and anti-sand fly saliva antibodies in peripheral blood) were used as a marker of exposure to the parasite and probable vectors. Our findings could open insight in the involvement of animals for epidemiology of Ethiopian leishmaniasis at certain sort of reservoir system or as potential blood source for sand fly vectors.

Biography

Kassahun A is a PhD student at Charles university in Prague, department of Parasitology. He is evolved in various activities focusing on leishmaniasis researches. He published more than 10 papers in a peer-reviewed journals through his postgraduate studies.

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