

Molecular Survey on Detection of Leishmania Infection in Rodent Reservoirs in Jahrom District, Southern Iran.

[Davami MH¹](#), [Motazedian MH²](#), [Kalantari M³](#), [Asgari Q²](#), [Mohammadpour I²](#), [Sotoodeh-Jahromi A¹](#), [Solhjoon K¹](#), [Pourahmad M⁴](#).

Abstract

BACKGROUND:

Zoonotic Cutaneous Leishmaniasis (ZCL) is endemic in many parts of Iran. Recently its incidence is considerable in different parts of Jahrom district, in Fars Province, southern Iran.

The aims of our study were to investigate the prevalence of leishmania infection, and identify and characterize the Leishmania species present, among the rodents by molecular methods in a new endemic focus of ZCL, in an urban and rural area of the Jahrom district, Fars Province, southern Iran.

METHODS:

From May to November 2010, 55 rodents in four regions of Jahrom focus were caught and checked for leishmania infection by the microscopical examination of liver, spleen, ears, and footpads' smears.

RESULTS:

Overall 18 *Meriones persicus*, 15 *Tatera indica*, 14 *Mus musculus*, and 8 *Rattus rattus* were caught. Totally, four (16.5%) and two (13.3%) of the *Me. persicus* and *Ta. indica*, but only one of *Mu. musculus* and *Ra. rattus* were found smear-positive for leishmania amastigotes, respectively. In the nested-PCR assay 8 (14.6%) smears were found positive for *Leishmania major*, none was found positive for any other *Leishmania* species. Sequencing based detection of *Leishmania* confirmed the microscopic and PCR findings. All positive specimens were shown 95-96% similarity with *L. major* Friedlin.

CONCLUSION:

Tatera indica and *Me. persicus* are incriminated as the main 'reservoir' hosts of *L. major* in the rural area of Jahrom, moreover, *Mu. musculus* and *Ra. rattus* have the minor but remarkable role in the maintenance of the disease in the urban regions of Jahrom focus.

KEYWORDS:

Iran; Leishmania; PCR; Rodent; Sequencing