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Monitoring of anti *Leishmania* antibody responses for early diagnosis and prognosis of visceral leishmaniasis in Dinder National Park, Sudan

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Introduction: Visceral leishmaniasis is a serious health problem endemic in many regions of Sudan. The outcome of leishmania infection depends on the infecting leishmania species and the host immune response. It is known that the majority of leishmania infected hosts remain asymptomatic. There is a little information available on the seroconversion and the outcome.

Materials and Methods: A longitudinal prospective study was conducted for 12 months in Dinder National Park in central Sudan. The area is known to be highly endemic for VL. Wild Animal Guards in the Park were consented and recruited to the study. A total of 110 guards were tested in two surveys for detection of anti leishmania antibodies IgG, IgM, IgG1, 1gG2, 1gG3 and IgG4 were measured in serum sample collected from the participants using DAT and ELISA. Attempts to detect circulating leishmania DNA were done using PCR amplification of leishmania kDNA. Paired sample were obtained from 31 participants.

Results: Forty-six guards were IgG positive during the period of the study using DAT while eighty-five were positive using ELISA. Two guards had antileishmania IgM detected by ELISA. Of the participants who were positive in IgG had dominate IgG subclasses sixteen had IgG1 ELISA, 38 had IgG2 ELISA, 12 had IgG3 and 3 had IgG4 ELISA

Conclusion: The majority of individuals exposed to leishmania infection develop asymptomatic infection. The infection induces IgM and IgG antibody responses.

The role of the induced humoral response in protection and susceptibility against leishmania is not well defined. Further studies needed to investigate the evolution of antibody responses in leishmania.

Biography

Husam has completed his M.Sc in Immunology from Institute of Endemic Diseases University of Khartoum. He is the lecture of Immunology at Faculty of Medicine and Health Sciences, Blue Nile University, he has joined Malaria and Leishmania research group at Institute of Endemic Diseases, University of Khartoum since 2007.

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