

Epidemiology of visceral leishmaniasis in Georgia

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Objective

The purpose of this study was to describe the epidemiology of visceral leishmaniasis in Georgia and to define new control measures.

Introduction

Visceral leishmaniasis (VL) is a zoonotic, protozoal infection that is endemic in Georgia, which commonly affects young children. In recent years, the incidence of VL has increased sharply and the geographic distribution has increased. Recently, VL moved to highly populated areas as new foci appeared from 2010-2015, during which, 610 laboratory confirmed cases of VL were registered in Georgia. The majority of cases were found in East Georgia (94.2%) and 5.8% of cases in West Georgia (representing new foci of VL in Georgia).

Methods

Blood samples from 2,100 individuals suspected to have VL were tested using the rk39 based VL rapid diagnostic test, an enzyme-linked immunosorbent assay (ELISA). Also, 1,575 randomly selected dogs (stray and pet) and 77 wild canids were tested for VL using the same ELISA. Confirmed human cases were followed up for 9-12 months.

Results

The most affected age group was 0-5 years (72.2%). Of the patients, 13.9% were HIV positive and lethal outcomes were observed in 2.1% of patients. Mortality was associated with delayed diagnosis and HIV co-infection. Relapse developed in 6.4% of cases. Among HIV positive patients, secondary prophylaxis was conducted with liposomal amphotericin B, which decreased the number of relapses by 76% in 12-24 month follow-ups. A high incidence of VL in humans was associated with a high prevalence of leishmaniasis in stray and domestic dogs. Leishmania antibodies were found in 23.7% of stray and domestic dogs and 2.6% of wild animals screened in Tbilisi.

Conclusions

Overall, the VL situation in Georgia is concerning and new control measures are needed. Our study revealed a high prevalence of VL in humans and dogs in East Georgia. Early and accurate diagnosis/treatment and effective control measures should be conducted regularly to prevent the spread of VL in Georgia. In addition, secondary prophylaxis in HIV infected patients is also recommended.

Keywords

Epidemiology; Zoonotic; Visceral Leishmaniasis; One Health

Acknowledgments

Participation in this conference was made possible by financial support provided by the US Defense Threat Reduction Agency. The findings, opinions and views expressed herein belong to the authors and do not reflect an official position of the Department of the Army, Department of Defense, or the US Government, or any other organization listed.

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