

A study on the visceralization potential of Cutaneous Leishmaniasis in Sri Lanka

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Introduction

Cutaneous leishmaniasis (CL) in Sri Lanka is caused by *L. donovani*, the agent of visceral leishmaniasis (VL). However, the visceralizing potential of *L. donovani* in Sri Lanka is not known.

Objectives

To investigate the sero-prevalence of anti-*Leishmania* antibodies in CL, using a serological assay developed in the home laboratory.

Methods

An ELISA was developed using local *Leishmania* antigen and local anti-*Leishmania* antibodies. A total of 101 CL patients (presented between years 2001-2008) were tested using the new ELISA. Sero-positive patients were also tested by the rk39 assay (standard assay for anti-*L. donovani* antibodies in VL patients). Clinical and socio-demographical parameters were compared with the serological findings.

Results

Sero-prevalence of anti-*Leishmania* antibodies was 14.85% (n=15/101) in the study group and 2/15 were also found to be rK39 positive. All the sero-positive cases were civilians from Southern (53.3%, n=8/15), Northern (13.3%, n=2/15) and other provinces (33.3% n=5/15). A higher proportion of females (22.7%, n=5/22) as compared to males (13.5%, n=10/74) and patients < 20 years, (23.5%, n=4/17) as compared to older age groups (13.0% n=11/84) showed a higher sero-conversion rate (SCR). Also, a higher proportion of single lesions (16.9%, n=11/65) as compared to multiple lesions (8.3%, n=1/12), lesions within 7-9 months duration (30%, n=3/10) as compared to other groups were associated with higher SCRs. In spite of small lesions (<1cm) (35.0%, n=7/20) as compared to larger lesions having a higher SCR, ulcerating nodules had the highest SCR (22.7% n=10/44) when compared with non- ulcerating types.

Conclusion

This study provides early evidence for the ability of local parasite *L. donovani* to evoke a systemic immune response, which might indicate its potential to visceralize. A study is ongoing for careful follow-up of patients to detect time of onset of sero-conversion and evidence of visceral involvement.

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