Exploring prognosis in chronic relapsing visceral leishmaniasis among HIV-infected patients: circulating *Leishmania* DNA

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*Leishmania*-DNA detection using peripheral blood polymerase chain reaction (PCR) has recently been explored as a possible tool for predicting visceral leishmaniasis (VL) relapse in HIV-infected patients. This study aimed to describe the clinical and parasitological (peripheral blood PCR-assessed) evolution of patients infected with HIV after treatment for VL. During a one-year follow-up period, 16 of 32 patients presented with VL relapse. None of the relapsing patients achieved normalization of all signs and symptoms attributed to VL confirming the existence of a chronic relapsing condition. Relapsing (R) and non-relapsing (NR) patients had similar antiviral therapy use rates, CD4 lymphocyte count medians and HIV load levels at VL diagnosis. However, the time between HIV and VL diagnoses was longer in the R than NR-group. A significantly higher proportion of NR-patients had cleared *Leishmania*-DNA two months after the end of treatment. Half of the NR group remained free of relapse without secondary prophylaxis, even those patients with CD4 between 200-350 cells/mm³ who deliberately decided to interrupt prophylaxis. At the 12-month follow-up, R-patients presented a significantly lower CD4 lymphocyte count than NR-patients, although no difference in HIV load control was identified between groups. The presence of circulating *Leishmania*-DNA in the previous 4 months was associated with VL relapse. We observed two *Leishmania*-HIV co-infected patient groups with distinct clinical prognosis unpredicted by their CD4 count at the moment of VL diagnosis and not related to their HIV load control. Previous long-term exposure to HIV may be the main factor involved with an ineffective immune response against *Leishmania* and with a chronic course of VL.

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