

P1368 **Whole blood stimulation assay to detect asymptomatic *Leishmania* infection in HIV patients**

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**Background:** Leishmaniasis and human immunodeficiency virus (HIV) are found in several sub-tropical and tropical countries around the world. Asymptomatic *Leishmania* infections remain poorly understood but it is known population acts as an enhancer of the viral replication of HIV and favors a rapid evolution to defining states of AIDS. In this population who are co-infected, complex mechanisms involving cytokine secretion and cellular-signalling events play pivotal roles in the *Leishmania*-mediated activation and pathogenesis of HIV. In this context, the aim of this study was to identify cellular biomarkers in order to detect the coinfection *Leishmania infantum*-HIV in field.

**Materials/methods:** Cell proliferation assay (CPA) with soluble *Leishmania* antigen (SLA) was used as a reference test to detect asymptomatic *Leishmania* infection in HIV (AS-HIV) patients. Blood from fourteen AS-HIV patients and 20 negative controls (NVL) were tested using whole blood assay. Briefly, 500 µl of blood was placed on its own in a tube (negative control), and another in a tube containing SLA, and incubated at 37°C for 24 h. We have explored the production of interferon-γ (IFN-γ), interleukine-2 (IL-2), tumor necrosis factor (TNF-α), interleukine-10 (IL-10), IFN-γ-induced protein 10 (IP-10/CXCL10), the monokine induced by IFN-γ (MIG/CXCL9) and monocyte chemoattractant protein-1 (MCP-1/CCL2) in SLA-stimulated whole blood. The levels of analytes in SLA-stimulated plasma were detected by Cytometric Bead Array.

**Results:** In AS-VIH patients from *Leishmania infantum* area, IFN-γ, IL-2, CXCL10 and CXCL9 in SLA-stimulated plasma were found in much higher concentrations than in the respective negative controls (p<0.0001). Sensitivity and specificity ranged for this cytokines/chemokines was 85-93% and 95-100%, respectively. On the other hand, TNF-α, IL-10 and CCL2 in SLA-stimulated plasma did not show significant differences between both study groups.

**Conclusions:** IFN-γ, IL-2, CXCL10 and CXCL9 in SLA-stimulated whole blood have proven to be goods biomarkers to detect asymptomatic infection in HIV patients. This minimally invasive, non-sensitizing, simple assay could be of great value in epidemiological studies performed in the field. Further studies are needed to explore the potential of this cytokines/chemokines for the detection of asymptomatic *Leishmania* infection in HIV patients with the perspective to develop and immunocromatographic test for field assay.