EVALUATION OF SOLUBLE MEDIATORS DURING SYMPTOMATIC AND ASYMPTOMATIC *Plasmodium vivax* INFECTION

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Introduction: *Plasmodium vivax*, the protozoan that causes malaria, is distributed worldwide and is responsible for a high morbidity rate in endemic areas of tropical and subtropical countries. Individuals with symptomatic *P. vivax* infection (SY) often seek out health facilities for treatment. However, some infected individuals present the asymptomatic form (ASY) characterized by very low parasitemia, undetectable by conventional tests. It is believed that these individuals perpetuate transmission by acting as parasite reservoirs. The immunological mechanisms involved in asymptomatic malaria are not fully elucidated. In SY, there is intense production and secretion of soluble mediators into the bloodstream. However, in ASY not much is known about changes in the levels of soluble factors in the circulation. **Objective:** This study evaluates the profile of circulating soluble mediators in SY and ASY individuals infected with *P. vivax* and in uninfected individuals (CTL). **Methods:** Plasma samples were collected in a malaria-endemic area and stored at -80ºC. Soluble mediators were quantified using the Luminex Bio-Plex Pro Human Cytokine 27-plex assay and include chemokines (CCL2, CCL3, CCL4, CCL5, CCL11, CXCL8 and CXCL10), growth factors (FGF-basic, PDGF-bb, VEGF, G-CSF, GM-CSF, IL-2 and IL-7) and cytokines (IL-1β, IL-6, IL-12, IL-15, IL-17A, IFN-γ, TNF, IL-1RA, IL-4, IL-5, IL-9, IL-10, IL-13). **Results:** Infected individuals, SY and ASY, showed an increase in IL-1β, IFN-γ and FGF-basic, and reduced levels of IL-7 and IL-13, compared to CTL. SY individuals showed an increase in several mediators (IL-1RA, IL-5, IL-6, IL-10, IL-15, CCL2, CCL3, CCL4, CXCL8, CXCL10 and G-CSF) and a reduction in PDGF-bb. ASY individuals showed similar levels of mediators when compared to CTL individuals, however, they exclusively showed an increase in CXCL8, and a reduction in IL-10, IL-12 and TNF. In addition, SY showed a network of interactions with more correlations between mediators than ASY and CTL, and ASY showed more correlations than CTL. Using a predictive decision tree model, the mediators IL-10, CXCL10, IL-1RA, IFN-γ, IL-6 and CCL3 stood out as the most important variables for separating the three study groups. **Conclusion:** Thus, even a low parasite load triggers the production of ASY-soluble mediators, making it possible to distinguish between symptomatic and asymptomatic infected individuals and uninfected individuals.[1]

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