PARASITO2025
29º CONGRESSO BRASILEIRO DE PARASITOLOGIA

ABSTRACT TEMPLATE

FATTY ACID BIDING PROTEIN-2 (FABP2) PLASMATIC LEVELS AND ITS RELATIONSHIP WITH TH1, TH2 AND TH17 CYTOKINES DURING *P. FALCIPARUM* AND *P. VIVAX* INFECTION IN INDIVIDUALS LIVING IN BRAZILIAN AMAZON

CINTHIA MAGALHÃES RODOLPHI[1], DORCAS IDOWU OJEYINKA[2], ISABELA FERREIRA SOARES[1], ANA LUIZA CARNEIRO ALENCAR[1], BÁRBARA OLIVEIRA BAPTISTA[1], JULIANA ALINE DE SOUZA LEMOS[1], CAROLINA DE SOUZA FARIA PEREIRA[1], HUGO AMORIM DOS SANTOS DE SOUZA[1], RODRIGO MEDEIROS DE SOUZA[3], PAULA LUCA DE MELLO[1], RODRIGO NUNES RODRIGUES-DA-SILVA[1], ALVARO LUIZ BERTHO[1], LILIAN ROSE PRATT-RICCIO[1], PAULO RENATO RIVAS TOTINO[1], GUY CALJON[2], JOSUÉ DA COSTA LIMA-JUNIOR[1].

[1]OSWALDO CRUZ FOUNDATION, RIO DE JANEIRO, BRAZIL, [2]UNIVERSITY OF ANTWERP, ANTWERP, BELGIUM, [3]FEDERAL UNIVERSITY OF ACRE, ACRE, BRAZIL.

Abstract

Fatty Acid-Binding Protein 2 (FABP-2) is involved in fatty acid metabolism and is proposed as a biomarker of intestinal integrity and inflammation; however, little is known about its participation in inflammation during plasmodium infection. Therefore, we assessed serum FABP-2 levels in individuals with *P. vivax* and *P. falciparum* infections, investigating correlations with malaria history, genotype distributions, and inflammatory cytokine profiles. Participants were categorized into four groups: *P. vivax*-infected (PV), *P. falciparum*-infected (PF), endemic cohabitants (CH), and non-endemic controls (NEC). FABP-2 levels were measured via ELISA, and the Ala54Thr polymorphism was analyzed. Cytokine levels (IL-2, IL-4, IL-6, IL-10, IL-17A, TNF-α, and IFN-γ) were quantified. Our preliminary results indicate no significant differences in FABP-2 levels among groups ($p = 0.2609$) or based on malaria history. The Thr54 allele was present in 25% of participants, with genotype distributions following Hardy-Weinberg equilibrium ($p = 0.485$). The gastrointestinal symptoms in 54 infected individuals were not associated with FABP-2 concentrations. However, the cytokine profiling showed significant differences in IL-4 ($p = 0.05$), IL-6 ($p < 0.001$), and IL-10 ($p < 0.001$) among groups, with increased IL-6 and TNF-α in infected individuals. PCA indicated clustering of pro-inflammatory cytokines (TNF-α, IFN-γ, IL-6) in infected groups and a positive correlation between FABP-2 and IL-2. Moreover, FABP-2 correlated ($p<0,05$) with IL-6 ($r = 0.40$, PV; $r = 0.49$, PF), TNF-α ($r = 0.50$, PV; $r = 0.47$, PF), and IL-10 ($r = 0.38$, PV), but not in the CH group. In conclusion, FABP-2 levels did not significantly differ among malaria-infected, endemic, and non-endemic individuals. However, the positive correlations with IL-6 and TNF-α suggest its participation in immune activation in infected groups. Further research is needed to clarify FABP-2's and other FABPs role in malaria-related inflammation.

Supported by: CNPq, CAPES, FAPERJ.

Keywords: malaria, fabp2, cytokines.