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ADIPOCYTE FATTY ACID BINDING PROTEIN (A-FABP) AND MALARIA: EVALUATION OF INFLAMMATION AND LIPID PARAMETERS DURING *PLASMODIUM SPP*. INFECTION IN BRAZILIAN AMAZON

Adipocyte Fatty Acid Binding Protein 4 (A-FABP) is predominantly expressed in adipocytes and macrophages, and elevated circulating levels have been associated with several inflammatory and metabolic diseases. Despite its potential relevance to malaria immunopathology, few studies have investigated A-FABP during *Plasmodium spp.* infections. Therefore, this study aimed to explore associations between circulating A-FABP and other immunological and metabolic markers in individuals from Brazilian Amazon. The individuals (n=130) were recruited from Brazilian endemic areas: 37 infected with *P. falciparum* (PF), 38 infected with *P. vivax* (PV), 39 uninfected cohabitants (CH), and 16 non-endemic controls (NEC). Plasmatic A-FABP levels were measured by ELISA; Th1, Th2, and Th17 cytokines were quantified using cytometric bead array (CBA);

and cholesterol, triglycerides, and C-reactive protein (CRP) were assessed by colorimetric assays. A-FABP ranged from 9.7ng/mL to 23.8 ng/mL, however no significant differences in plasma concentrations were observed among the study groups. However, A-FABP levels were positively correlated with the pro-inflammatory cytokine IL-6 in the PV group and negatively correlated with the anti-inflammatory cytokine IL-4 in the CH group. As expected, CRP levels were increased in infected individuals. Regarding lipid parameters, the PF group exhibited significantly lower cholesterol levels compared with the PV group, while triglyceride levels did not differ significantly between infected groups. Overall, these findings provide novel evidence linking A-FABP to IL-6 in uncomplicated *P. vivax* malaria and to IL-4 in individuals previously exposed to *Plasmodium spp.*, thereby contributing to the understanding of malaria immunopathology. Further studies are warranted to confirm and expand these associations.