DYNAMICS OF IGM AND IGG ANTIBODY RESPONSES AGAINST *PLASMODIUM* ANTIGENS IN NEOTROPICAL PRIMATES IN THE ATLANTIC FOREST

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Zoonotic transmission of malaria, especially in the Brazilian Atlantic Forest, poses a major challenge for disease control and elimination. However, there are few studies about the immune response of naturally infected neotropical primates (NP). This study evaluated the dynamics of the immune response in NP, analyzing the reactivity of IgM and IgG antibodies against circumsporozoite protein (CSP) peptides and blood-stage proteins (AMA-1, EBP-2 and DBPII) from different *Plasmodium* species at two time points. Samples from 28 NP collected in 2011 and 2019 from free-living individuals in Joinville/SC (n=6), captive individuals from the Rio de Janeiro Primate Center (CPRJ) in Guapimirim/RJ (n=9), and in 2015 and 2017 from captive individuals at the Indaial Biological Research Center (CEPESBI) in Indaial/SC (n=13) were analyzed by ELISA. In Indaial, the small number of responding animals at baseline showed an increase in IgM reactivity against CSP and a decrease against blood-stage proteins, over an 8-year interval. In addition, IgG reactivity against CSP and against blood-stage proteins also decreased. In the same interval, in Guapimirim/RJ, there was an increase in IgM reactivity against CSP and against blood-stage proteins. IgG reactivity against CSP also increased, but little IgG reactivity against blood-stage proteins was observed. In Joinville/SC, the vast majority of animals tested showed strong reactivity of both IgM and IgG against all proteins, with little variation between time periods, the interval of which was shorter. The data presented here suggests a large variation in malaria epidemiological conditions in each region, with emphasis on Joinville, which showed greater reactivity as a reflection of the high rates of animals positive for *Plasmodium* spp infection. These results confirm the intense circulation of *Plasmodium* species among NP, reinforcing the need for epidemiological surveillance in the Atlantic Forest regions.

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