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IgG antibody and cytokines in *Plasmodium vivax* infected individuals living in a low malaria transmission area in Amazon region, Pará state, Brazil
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**Introduction:** The acquired antibody immune response in malaria has been reported to antigens from asexual stage of the *Plasmodium*. Among the best characterized antigens of this stage is the Merozoite Surface Protein 1 (MSP1). However, few studies have evaluated the acquisition of IgG antibody and cytokines in *Plasmodium vivax* malaria.

**Objective:** This study was conducted to analyze the IgG antibody response and TNF-α, INF-γ and IL-10 cytokines levels among infected individuals living in low malaria transmission area, where *P. vivax* is the most prevalent species.

**Methods:** The IgG antibodies against MSP119 and cytokines were evaluated by ELISA in sera from 99 malaria patients living in Pará state, Brazil. The median age was 35 years, 70% male and the median parasitaemia was 6,140 parasites/µl. The samples sera were collected on the day of parasite detection by thick blood smear (day0, n=99), and day14 (n=63). At the moment of diagnosis all patients received treatment.

**Results:** The percentage of sera that recognized the recombinant protein (PvHis6MSP119) was 96% (day0) and 98% (day14). At day0 we detected IL-10 and INF-γ, but not TNF-α. After treatment (day14), only INF-γ was detected, but the levels decreased in comparison to patent infection. The levels of this cytokine (pg/ml) were 31.64±74.94(day0) and 17.80±57.19 (day14). Both IgG and INF-γ response were detected in the sera before and after treatment.

**Conclusion:** The MSP1 was immunogenic and antibody response occurred together with INF-γ production. It suggests that INF-γ can participate in effector mechanisms mediated by IgG antibodies in *P. vivax* malaria.

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The role of IL-17 in *Trichinella spiralis* infection
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Differentiation of Th cell subsets influences one another. During nematode infection, Th2 immune response becomes dominant, therefore Th1 and Th17 cells are considered to play only limited role against nematode infection. In order to investigate the role of IL-17 in the protection against nematode infection, we infected mice lacking Th2 immune response (STAT6 KO) with an intestinal nematode, *Trichinella spiralis*. IFN-γ-deficiency resulted in Th17 cell differentiation (Immunol Lett 127, 55-9, 2009), therefore STAT6 and IFN-γ receptor (GR) double KO (DKO) mice were compared to STAT6 KO littermates. Recovery of muscle larvae in DKO mice infected with muscle larvae were decreased compared to STAT6 KO mice. IL-17 production from the mesenteric lymph nodes was higher in DKO than in STAT6 KO mice. Mucus production and pathological change in the small intestine were now being investigated. Further experiments should be necessary also using GR KO and IL-17 KO mice.