Frequency of ABO blood group system polymorphisms in *Plasmodium falciparum* malaria patients and blood donors from the Brazilian Amazon region

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Received February 25, 2010
Accepted May 10, 2010
Published July 27, 2010
DOI 10.4238/vol9-3gmr803

**ABSTRACT.** We investigated the ABO genotypes and heterogeneity of the O alleles in *Plasmodium falciparum*-infected and non-infected individuals from the Brazilian Amazon region. Sample collection took place from May 2003 to August 2005, from *P. falciparum* malaria patients from four endemic regions of the Brazilian Amazon. The control group consisted of donors from four blood banks in the same areas. DNA was extracted using the Easy-DNA™ extraction kit. ABO genotyping was performed using PCR/RFLP. There was a high frequency of ABO*O01O01. ABO*AO01 was the second
most frequent genotype, and the third most frequent genotype was $ABO^*BO01$. There were low frequencies of the $ABO^*O01O02$, $ABO^*AA$, $ABO^*AB$, $ABO^*BB$, and $ABO^*O02O02$ genotypes. We analyzed the alleles of the O phenotype; the $O^{1\text{var}}$ allele was the most frequent, both in malaria and non-malaria groups; consequently, the homozygous genotype $O^1O^1$ was the most frequently observed. There was no evidence of the homozygous $O^2$ allele. Significant differences were not detected in the frequency of individuals with the various alleles in the comparison of the malaria patients and the general population (blood donors).

**Key words:** Malaria; *Plasmodium falciparum*; ABO blood system; Brazilian Amazon region; Genetic polymorphism