

PA-006 **PF3D7_1343700 KELCH PROPELLER (K13-PROPELLER) POLYMORPHISMS AND ARTESUNATE MONOTHERAPY EFFICACY IN UNCOMPLICATED MALARIA TREATMENT IN MALI**

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Background Several mutations in the PF3D7_1343700 kelch propeller (K13-propeller) were recently described as associated with artemisinin resistance *in vivo* and *in vitro* in Southeast Asia. In Mali, a preliminary study on artesunate efficacy in 2011 found no delay in parasite clearance. A larger study including two sites in Mali is conducted here in the context of regular monitoring of artemisinin resistance.

Methods From October 2015 to March 2016, we conducted a prospective study on artesunate monotherapy in Bougoula-Hameau and Faladje on uncomplicated malaria patients aged more than 6 months. Patients were treated for 7 days and followed up for 28 days. Blood smear was performed for parasite evaluation every 8 hours until three consecutive slides were negatives. MSP2, Ca1 and TA99 polymorphisms were used to distinguish new infections from recurrent parasites. The PfK13 mutations were genotyped using direct sequencing of PCR amplicons from dried blood spots of pre and post-treatment *falciparum* parasites. The results were compared with the studies conducted in a same area on 2011.

Results A total of 100 and 120 patients were enrolled in Bougoula-Hameau and Faladje, respectively. The uncorrected adequate clinical and parasitological responses (ACPR) were 92.0% in Bougoula-Hameau and 78.3% in Faladje. After molecular correction, we obtained 100% cACPR in both sites. The prevalence of the non-synonymous single nucleotide polymorphisms (SNPs) K13 was 2% in Bougoula (found only at enrolment) but null in Faladje. However SNPs were 3% and 7% in Bougoula-Hameau and Faladje, respectively.

Conclusions Artesunate monotherapy remains effective on *P. falciparum* in Mali and there are only low levels of PfK13 mutations.