THE EFFECT OF MIMICKING FEBRILE TEMPERATURE AND ITS REGULATION ON *PLASMODIUM FALCIPARUM* GROWN UNDER DRUG STRESS

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ABSTRACT

Malaria is one of the most important tropical diseases especially caused by *Plasmodium falciparum*. The malaria parasite life cycle is exposed to wide temperature fluctuation and had clinical represent to repeated occurrence of fever. We have examined the effect of febrile temperature by mimicking patient in treatment failure and patient before uptake antimalarial that can regulate this parasite. The results show febrile temperature is capable of markedly inhibiting the growth of five isolates *P. falciparum* while K1 and 3D7 can survive. These parasites, K1 and 3D7, under heat shock (HS) develop greater than non-HS and reinfection rise to 2-fold when compare with non-HS. Temperature does not effect to drug sensitivity (CQ, MQ, QN and ARS) in new cycle of parasites but after heating, all parasite at control group died except K1. Moreover, when culture parasite with antimalarial compared with control group, all parasite show higher died parasite except K1 on condition of chloroquine that show number of survive parasites equal to control. Additionally, all of conditions show expression of *pf*Hsp70s while K1

under HS with CQ show another interacting three bands identified by MALDI-TOF as elongation factor-1α, pf*Hsp*84 and phosphoethanolamine N-methyltransferase.

KEY WORDS: *PLASMODIUM FALCIPARUM*, FEBRILE TEMPERATURE EFFECT, DRUG EFFECT AND HEAT SHOCK PRETEINS
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