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## The possible role of prostaglandin $D_2$ in malaria pathogenesis

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Prostaglandin $D_2$ ($PGD_2$) is the most crucial prostanoid produced in the brain and involved in pain responses. Moreover, $PGD_2$ is a key factor derived from malaria within erythrocytes and might influence to parasite growth. The aim of the study was to preliminarily investigate the role of $PGD_2$ in malaria pathogenesis. Blood samples were collected from patients with *Plasmodium vivax* and *Plasmodium falciparum* (moderate and high parasitemia: 1000-50000 and >50000/µl, respectively) infections, patients with fever associated with other infections and healthy subjects of both genders and all age groups. $PGD_2$ concentrations were determined using Prostaglandin $D_2$-MOX express EIA kit (Cayman Chemical, USA). Median (range) of plasma $PGD_2$ concentrations in patients with fever associated with other infections, patients with *P. vivax* and patients with *P. falciparum* infections and healthy subjects (control) were 60 (11-525), 34 (22-130), 28 (16-38), 22 (13-75) and 16 (6-30) pg/ml, respectively. The median (range) plasma $PGD_2$ concentrations in patients with fever associated with other infections was significantly higher than those with *P. vivax* ($p<0.05$), *P. falciparum* infections with moderate parasitemia ($p<0.0001$) and healthy subjects ($p<0.0001$). The concentrations in patients with *P. vivax* infection was significantly higher than those with *P. falciparum* with moderate parasitemia ($p<0.0001$) and healthy subjects ($p<0.0001$). Results of this preliminary study may suggest at least in part, an involvement of $PGD_2$ in fever-associated infections including malaria. Confirmation of this finding is required with a larger sample size.

### Biography

Pimwan Thongdee has completed her PhD from Thammasat University, Thailand. She is a Product Specialist at i+MED Laboratories Company Limited. She has published 3 papers in reputed journals.

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