

A 019

Association between resetting of *Plasmodium falciparum* parasite isolates and haematological parameters of *P. falciparum* infected patients

Resetting is a phenomenon in which, *Plasmodium falciparum* parasitized erythrocytes bind to two or more unparasitized erythrocytes, and resetting of parasite isolates from 22 uncomplicated (UC) and 9 severe complicated (SC) malaria patients were investigated in this study, in relation to haematological parameters of patients. The analysis of haematological parameters, total haemoglobin level, MVC (mean corpuscular volume),

MCH (mean corpuscular haemoglobin) and MCHC (mean corpuscular haemoglobin concentration), and percentage rosetting ability correlations between these parameters and percentage of rosetting. However, in the case of parasite isolates from SC category, statistically significant negative correlations were found between percentage rosetting and MCV ($r=0.738$, $p=0.023$), MCH ($r=0.824$, $p=0.006$) and MCHC ($r=0.753$, $p=0.019$). no correlation was however found between rosetting percentage of parasite isolates from SC patients and total haemoglobin level. The results further indicated that along with the shifting of haematological parameters MCV, MCH and MCHC in *P.falciparum* SC patients below their normal ranges (MCV 80-96 fl, MCH 27-33 Pg, MCHC 32-35 g/dl) significantly higher levels of rosetting in *p. falciparum* parasites was observed ($p=0.003$, $p=0.003$ and $p=0.014$ respectively).

These results may point to the fact that there may be considerably higher contribution of haematological parameters of MCV MCH and MCHC towards inducing severe pathology of *P. falciparum* disease rather than the total haemoglobin level itself.