PA-050 ANTIBODY RESPONSES TO SURFACE ANTIGENS OF *PLASMODIUM FALCIPARUM* GAMETOCYTE-INFECTED ERYTHROCYTES AND THEIR RELATION TO GAMETOCYTAEMIA

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Background An essential element for continuing transmission of *Plasmodium falciparum* is the availability of mature gametocytes in human peripheral circulation for uptake by mosquitoes. Natural immune responses to circulating gametocytes may play a role in reducing transmission from humans to mosquitoes.

Methods Here, antibody recognition of the surface of mature intra-erythrocytic gametocytes produced either by a laboratory-adapted parasite, 3D7, or by a recent clinical isolate of Kenyan origin (HL1204), was evaluated longitudinally in a cohort of Ghanaian school children by flow cytometry.

Results This showed that a proportion of children exhibited antibody responses that recognised gametocyte surface antigens on one or both parasite lines. A subset of the children maintained detectable anti-gametocyte surface antigen (GSA) antibody levels during the five week study period. There was indicative evidence that children with anti-GSA antibodies present at enrolment were less likely to have patent gametocytaemia at subsequent visits (OR=0.29, 95% CI: 0.06–1.05; p=0.034).

Conclusions Our data support the existence of antigens on the surface of gametocyte – infected erythrocytes, but further studies are needed to confirm whether antibodies against them reduce gametocyte carriage. The identification of GSA would allow their evaluation as potential anti-gametocyte vaccine candidates and/or biomarkers for gametocyte carriage.