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## Gene expression of P-selectin in malaria infection

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Platelet selectin (P-selectin or CD62P) is an intercellular adhesion molecule with a strategic role in malaria. Homogenous sampling of subjects with normal hemoglobin (Hb AA), Sickle Cell Trait (Hb AS) and Sickle Cell Anemia (Hb SS) subjects was carried out in the ratio of 50:30:20 and by real time PCR, the normalized transcript level of P-selectin (SELP-ncn) were measured in malaria infections compared to non-infection control group within the sampled population. I also established malaria infection by standard PCR method, blood film microscopy and rapid diagnostic testing (RDT). Hemoglobin levels and age distribution of the participants across the different genotype groups were analyzed. The results show that the ABI-1 quantity passed normality test (Kruskal Wallis test, P=0.0403) but did not differ significantly when compared across groups indicating good sample quality. SELP-ncn showed no significant difference across all Hb genotypes studied (Kruskal Wallis test, P=0.2796) suggesting that P-selectin is expressed in both normal and sickle hemoglobin. Though the SELP-ncn did not differ significantly when compared across the groups studied, targeting it may help reduce the complications of malaria. RDT showed moderate sensitivity (41%; 95% CI: 21%-64%) and a high specificity (98%; 95% CI: 89.7%-99.9%). Blood film microscopy had a moderate sensitivity (68%; 95% CI: 52%-81%) and specificity (90.3%; 95% CI: 74%-97.6%) when PCR was considered as the gold standard. Median Hb concentrations of M-AA and M-SS; M-AA and NM-SS; M-AS and NM-AS; M-SS and NM-AA; M-SS and NM-AS; NM-AA and NM-SS; M-AA and NM-SS (Kruskal Wallis test, P=0.0001). Median age of participants across groups differed significantly between M-AA and M-SS; M-AA and NM-SS (Kruskal Wallis test, P=0.0020).

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