

Pediatric Pathology & Laboratory Medicine

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Objective: To determine the prevalence of malaria anaemia in blood donors in Buea; and to evaluate the performance of an RDT, a malaria antibody ELISA and a LDH ELISA in the detection of malaric malaria anaemia in the age group.

Methods: In a cross-sectional study performed between September 2015 and June 2016, 1240 venial blood donors were enrolled. The donors were screened for malaria anaemia by Giemsa micrograph (GM) and RDT. A total sample of 184 comprising 88 positive and 96 negative samples were selected for the evaluation of the LDH ELISA and the antibody ELISA. The Chi-square test, correlation analysis were all performed as statistical analyses. $P < 0.05$.

Results: The prevalence of malaria anaemia in this study was 8.1% (95% CI: 6.6-9.7). The prevalence was not significantly different between the age groups. The RDT demonstrated high sensitivity (88.0%), specificity (99.1%) and negative predictive value (99.0%) which was higher than the ELISA. The performance of the LDH ELISA which demonstrated the highest sensitivity (91.6%) was generally comparable to the RDT. The sensitivity of the antibody ELISA (69.9%), which also demonstrated the highest false positive and false negative rates in the detection of the LDH (3 anaemia / 1) was 100%. The RDT (50-60 anaemia / 1). Non-significant correlation was observed between the anaemia detected and the LDH in the malaria antibody test.

Conclusion: Overall, the RDT and the LDH ELISA demonstrated a few correlated age groups with GM mean while the antibody ELISA was a sub-optimal. The LDH is therefore recommended for malaria screening of blood donors in the study area. It is hence feasible, an RDT will be.

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