

Evaluation of Two Transfusion Transmitted Malaria Screening Methods at Kenyatta National Hospital, Kenya

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ABSTRACT

Malaria is a disease responsible for morbidity and mortality in Sub-Saharan Africa. The primary mode of transmission is through the bite of an infected female Anopheles mosquito. There is transfusion transmitted malaria following blood transfusion in medical facilities. Specific objectives: This study was designed to determine the prevalence of malaria parasite among voluntary blood donors and to evaluate the performance characteristics of Quantitative buffy coat and Rapid diagnostic technique using CareStart™ malaria cassette from Access Bio manufacture were compared. Microscopy was used as the gold standard. Design: Cross sectional descriptive study. Subjects: Voluntary blood donors. Results: A total of 155 blood donors were recruited in this study and blood samples were screened for malaria parasites. The prevalence of malaria parasite using microscopy, rapid diagnostic test and quantitative buffy coat was 5/155 (3.2%), 8/155 (5.2 %) and 6/155 (3.9 %). The sensitivity of rapid diagnostic test and quantitative buffy coat was 80% and 100% while the specificity was 99% and 97%. The positive predictive values for rapid diagnostic test and quantitative buffy coat were 50 % and 83% while the negative predictive values were 99% and 100 %. Conclusion: This study concluded that some blood donors have malaria infection since prevalence of malaria parasite in blood donors was 3.2 %. Quantitative buffy coat technique was more sensitive and with higher specificity. Recommendations: This study recommends that blood and its products for transfusion should be screened for malaria parasites. The quantitative buffy coat technique should be used for malaria diagnosis.

Keywords: transfusion transmitted malaria, quantitative buffy coat, rapid diagnostic technique

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