

Pediatrics HIV and Asymptomatic Malaria Parasitemia (AMP) Co-Infection

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Abstract : Background: Pediatrics HIV viral suppression remains a major challenge across Africa. In this study, we sought to establish the relationship between AMP and sustained plasma HIV viremia among a population of pediatric clients on Antiretroviral Therapy (ART). We also seek to determine the prevalence of AMP among the study population. Methods: 180 pediatrics clients on ART at four (4) Comprehensive Hospitals in Jos, Nigeria, participated in this study between the months of October to December 2022. The mean age of the study participants was 13 years. Venous blood was drawn from the participants after consent was sought, and ethical approval was obtained from the Plateau State Specialist Hospital (PSSH) Research and Ethics Committee. All samples were screened for AMP using the CareStart® HRP2 Malaria kit. The Absolute and % CD4 values of the clients were obtained using the BD Presto® CD4 Analyzer. The separated plasma samples were assayed for HIV viral load using the Roche Cobas C4800® system. Obtained data were analyzed using simple descriptive statistics. Results: From the 180 participants in this study, 12.8% (23) have AMP. 90.6% (163) were virally suppressed (<1000 copies/ml), while 9.4% (17) were virally unsuppressed (>1000 copies/ml). 11.7% (19/163) of the virally suppressed population have AMP, with mean absolute and % CD4 values of 648 and 31%, respectively. The virally suppressed population without AMP has mean absolute and % CD4 values of 719 and 32%, respectively. 24% (4/17) of the virally unsuppressed population have AMP, with mean absolute and % CD4 values of 514 and 26%, respectively. The virally unsuppressed population without AMP has mean absolute and % CD4 values of 292 and 16%, respectively. Conclusion: Our study shows that there is a high prevalence of AMP among the study populations (11.7% and 24%, respectively). The high prevalence of AMP among the virally unsuppressed with mean absolute and % CD4 values of 514 and 26% alludes to the fact that malaria co-infection with HIV fosters a dysregulated immune complex response which favors an increased HIV plasma viremia. We thus recommend the routine use of Malaria IPT in pediatric HIV clients.

Keywords : pediatrics, HIV, Malaria, viral suppression

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