

The Effect of Malaria Parasitaemia on Serum Reproductive Hormonal Levels of Asymptomatic HIV Subjects in Nauth Nnewi, South Eastern Nigeria

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Abstract : This study was designed to assess the effect of malaria parasitaemia on serum reproductive hormone levels of asymptomatic HIV adult subjects. A total of 271 participants aged between 17 and 58 years were conveniently recruited. 135 asymptomatic HIV-infected subjects participated in the study; 67 of them had malaria parasitaemia. 136 HIV seropositive control subjects, 68 of them had malaria parasitaemia. Blood samples were collected from the participants for the determination of HIV status by immunoassay and immunochromatography. Enzyme-linked immunosorbent assay (ELISA) was used to assay for serum LH, FSH, Estrogen, testosterone, progesterone, prolactin, and PSA levels, CD4+T cell counts by Cyflow method, thick and thin films determination of malaria parasitaemia count and density by WHO. Student's t-tests and ANOVA were used to compare means. $P < 0.05$ was considered statistically significant. The results showed significant differences in serum levels of LH, FSH, PSA, estrogen, progesterone, and testosterone amongst the groups at $P < 0.05$, respectively. The serum levels of LH, FSH, and PSA were significantly higher in malaria-infected asymptomatic HIV subjects than in asymptomatic HIV subjects with malaria parasitaemia ($P < 0.05$ in each case). Also, the serum levels of LH, FSH, PSA, estrogen, and progesterone were significantly higher in malaria-infected asymptomatic HIV subjects compared with malaria-infected HIV seronegative subjects ($P < 0.05$, respectively). The mean MP counts and MP density were significantly higher in asymptomatic HIV subjects compared to HIV seronegative subjects ($P < 0.05$, in each case). The mean serum levels of testosterone were significantly lower in both malaria-infected and malaria uninfected HIV seronegative subjects ($P < 0.05$, in each case). In conclusion, Malaria and HIV co-infection might increase the burden of hypogonadism as well as primary testicular failure, hyperprogesteronaemia, elevated levels of estrogen, and PSA in adult males asymptomatic HIV subjects.

Keywords : malaria parasitaemia, HIV, CD4, reproductive hormones

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