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Zinc, copper, CD4 T- cell count and some hematological parameters of HIV infected subjects in southern Nigeria

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Background: Low concentration of trace elements has been associated with poor prognosis and mortality in HIV infection.

Methods: A cross sectional study was conducted among 100 HIV-seropositive subjects (70 were on ART treatment while 30 were ART naive). 50 apparently healthy controls were enrolled. Concentration of serum levels of zinc and copper was done using atomic absorption spectrometric method while complete blood count was determined using automated blood analyzer. CD4⁺ T-cell count was done using CyFlow cytometer.

Result: Mean serum Zn, Cu/Zn ratio, CD4⁺ T-cell count, Hb, PCV, RBC, MXD, were significantly (p<0.05) raised in the HIV-seropositive subjects, while MCV and MCH were significantly (p<0.05) raised. The serum Cu level was comparable (p>0.05) with the control. ART treatment had no effect on all the parameters assessed except CD4⁺ T-cell count. 25%, 3% and 56% of the HIV-seropositive subjects were zinc deficient, copper deficient and anemic, respectively. Gender was found as a predictor of zinc deficiency. Cu and Zn showed weak positive correlation with CD4⁺ T-cell count.

Conclusion: ART treatment did not ameliorate zinc deficiency in HIV infection while improving CD4⁺ T-cell count, hence the need for supplementation.

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