

Selected micronutrients and response to highly active antiretroviral therapy (HAART) among HIV/AIDS patients attending St. Paul's General Specialized Hospital, Addis Ababa, Ethiopia

Amare Eshetu

Addis Ababa University, Ethiopia

Poor micronutrient levels are associated with an increased risk of progression to AIDS and are also suggested to influence outcome of HAART. No published data are available on micronutrient levels in Ethiopian HIV/AIDS patients taking HAART. The objective of the study was to determine the association of micronutrient levels and response to HAART (as measured by CD4⁺ T cell count) among adult HIV/AIDS patients attending St. Paul's General Specialized Hospital. CD4⁺ T-cell counts and micronutrients (retinol, zinc and iron) levels for 169 subjects were determined using standard procedures. Some proportions of the study participants were found deficient for retinol (14.03%), zinc (47.3%) and iron (2.8%). Among these, patients who were deficient in retinol had a significantly lower median CD4⁺ T cell counts ($P=0.002$) compared to non-deficient subjects. Association of micronutrient quartiles with CD4⁺ T cell count was assessed using adjusted multivariate regression by taking the upper quartile (quartile four) as a reference category. Accordingly, patients who had retinol levels in the upper quartile (quartile 4) had a significantly lower mean CD4⁺ T cell count compared to quartile 3 ($P=0.02$). The significantly higher CD4⁺ T cell counts in patients who were non-deficient in retinol implies the role of retinol in improving the production of CD4⁺ T cell counts. Both lower and higher retinol levels were associated with suppressed immunity ($CD4 < 200$ cells/mm³), suggesting an adverse effect of higher retinol levels. Thus, retinol may be potentially harmful depending on the dose, emphasizing the need for optimized level of retinol in nutrient supplements.

Biography

Amare Eshetu has completed his B.Sc. degree in Biology from Jimma University and his M.Sc. degree in Biomedical Sciences from Addis Ababa University. He has served as a Lecturer of Parasitology and Immunology in Wollo University. Currently, he is a Ph.D. student in the field of Biomedical Sciences at Addis Ababa University. He has presented his papers in national and international conferences. His research interest is on nutritional immunology especially on the link between micronutrients and antiretroviral therapy.

amex_etu@yahoo.com