Prevalence and determinants of hyperlactatemia among HIV-infected patients on combination anti-retroviral therapy in Ahero and Thika District Hospital

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ABSTRACT

Nucleoside reverse transcriptase inhibitors (NRTIs) form the backbone of highly active antiretroviral therapy (HAART) in resource limited settings. Nucleoside reverse transcriptase inhibitors are preferred for use due to their low cost, ease of availability in fixed dose combination, ease of administration, and minimum interaction with food. However, they have been shown to cause mitochondrial toxicity resulting in drug toxicities including peripheral neuropathy, lipodystrophy and hyperlactatemia. The objective of this study was to determine the prevalence of hyperlactatemia and the associated risk factors among HIV-infected patients on combination antiretroviral therapy attending HIV clinics at Thika and Ahero District hospitals. This was a descriptive cross-sectional study and systematic sampling technique was used where all the eligible patients attending the two HIV clinics during the study period who consented to the study participated. A structured questionnaire was administered before collection of a blood sample to measure the lactate level. The overall prevalence of hyperlactatemia (lactate ≥ 2.5 mmol/l) in the population of HIV-infected patients on HAART was 41% of whom 3.1% had moderate (lactate ≥ 2.5-5 mmol/l) hyperlactatemia. Using multivariable logistic regression models the risk factors for hyperlactatemia was found to be stavudine- containing regimen, female gender, BMI of ≥ 24, a CD4 count of less than 200 at initiation of HAART and being on NRTIs for a period of more than 24 months. The study found that 80% of the patients with hyperlactatemia were symptomatic. The signs and symptoms included fatigue, muscle aches, abdominals symptoms, headache, and paraesthesia which were not significant. Because of the high prevalence of hyperlactatemia and the non-specificity of the clinical presentation, lactate meters should be availed to aid in accurate diagnosis of hyperlactatemia.