

LIPODYSTROPHY IN HIV - INFECTED PATIENTS ATTENDING HIV CLINIC AT MUHIMBILI NATIONAL HOSPITAL

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ABSTRACT

Background: The use of highly active antiretroviral therapy (HAART) has decreased morbidity and mortality rate associated with HIV infection. HAART is associated with increased incidence of morphological and metabolic changes, including hyperlipidaemia and hyperglycaemia, insulin resistance. These metabolic changes may increase the risk for cardiovascular disease and the morphological changes have significant psychological impact. The prevalence of HIV lipodystrophy is not well established so far, and no data has been reported in Tanzania, therefore, there is a need to conduct a comprehensive study to determine the prevalence of lipodystrophy and serum biochemical changes in HIV infected patients who are on HAART at Muhimbili National Hospital, Dar es salaam, Tanzania. **Study objective:** To determine the prevalence of lipodystrophy and metabolic changes in HIV infected patients on HAART for at least one year at the HIV clinic in MNH.

Methodology: This was a descriptive cross sectional study at the HIV clinic at MNH, during November 2010 to December 2010. Study population included HIV infected patients attending HIV/AIDS clinic at MNH, who were on HAART for more than 1 year. The subjects were obtained by systematic random sampling technique. Data collection included interview using standardized structured questionnaire, lipodystrophy was defined as self-reporting and clinical examination, explanatory variables investigated included age, sex, duration of HIV disease, duration of HAART used, BMI, Waist-to Hip ratio, serum total cholesterol, serum triglycerides, fasting blood glucose. Data analysis was done by statistical package for social science (SPSS) version 13. The associations of different variables and presence of lipodystrophy was compared using the student's t-test for continuous variables and the Pearson's χ^2 test or Fisher's Exact test for categorical data was analyzed. A multivariate analysis was performed by multiple logistic regression analysis to determine the independent predictors of lipodystrophy. A two-sided P value < 0.05 was considered statistically significant.

Results: A total of 239 HIV- infected patients participated in the study with 68.7% female and the participants mean age was 45.4 (range from 20 - 67 years). Forty four percent were diagnosed to have HIV for more than 5 years and 78.2% were on ARV's for more than 3 years. Lipodystrophy was observed in 27.6% (n=66). Among study participants with lipodystrophy 20 (8.4%) had lipoatrophy, 15 (6.3%) had lipohypertrophy and 31 (13.0%) participants had mixed type. By univariate analysis the prevalence of lipodystrophy was significantly associated with

increased duration of HIV disease ($P=0.007$), increased duration of HAART use ($P=0.009$), systolic blood pressure ($P=0.017$), body mass index ($P=0.011$), high female waist- to- hip ratio ($P= 0.001$), fasting blood glucose (0.038), serum triglyceride (0.016). When a multivariate logistic regression analysis was performed, duration of HIV disease ($p= 0.47$), and female waist to hip ratio ($p= 0.041$) were independently associated with Lipodystrophy in HIV infected patients.

Conclusion The prevalence of lipodystrophy is high (27.6%) among HIV infected patients. Lipodystrophy was significantly associated with increased duration of HIV disease, increased duration of HAART use, body mass index, female waist-to-hip ratio, high serum triglyceride and fasting blood glucose. This highly prevalence of lipodystrophy does not only contribute to an accelerated risk of premature atherosclerosis and cardiovascular events among HIV Infected patients; but also, its morphological changes to individuals may lead to psychosocial stigmatization, reduced self esteem and poor adherence to HAART.

Recommendation Routine assessment of HIV lipodystrophy and its risk factors among HIV infected patients should be essential part of HIV/AIDS Treatment and Care. This will facilitate early vigilant diagnosis and timely intervention of lipodystrophy and metabolic alterations, including cardiovascular risk factors.