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An association between vasoactive agents and etiology of hypertension and obesity in HIV patients in Mthatha, South Africa

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Aim: To determine the physiological effects of HIV infection, blood pressure and body composition on the changes of ET-1 and NO and association between ET-1 and NO.

Methods: This was a descriptive and comparative study. A quota sample method was used. The study population consisted of 154 participants categorized into the following groups: 57 HIV negative participants (A), 40 HIV positive not on treatment participants and 57 HIV positive on treatment participants. Enzyme immunoassay kit and nitrate/nitrite colorimetric assay kit were used for the determination of ET-1 and NO. Anthropometric measurements and hemodynamic body composition were determined.

Results: Resting metabolism, waist circumference and hip circumference had low mean levels in both HIV positive groups compared to HIV negative group. Interaction of blood pressure and body mass index across the HIV status groups, SBP showed no significant difference among the different groups. However, DBP and PP showed significant differences between the study groups ($p < 0.0001$). Mean values of endothelin and nitric oxide were increased in HIV positive not on ART and HIV (+) on ART compared with the HIV negative group.

Conclusion: NO, ET-1, ART and HIV itself were associated with the pathogenesis of endothelial dysfunction in persons with HIV infection. Elevated endothelial markers namely ET-1 and NO can lead to improvement of endothelium dependent relaxation to some extent but not completely. Although these markers have deleterious effects on the endothelium but can also serve as up-regulator of hypertension and obesity.

Biography

Ekambaram Umapathy is Associate Professor at Department of Human Biology, Faculty of Health Sciences, Walter Sisulu University, South Africa

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