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Titolo tesi: Medium-Long term impacts of Antiretroviral drugs on arterial blood pressure in people living with HIV in Malawi

ABSTRACT

Introduction: We aimed to explore the medium-long term impacts of Anti-Retroviral Treatment on Hypertension in a sample of HIV-positive in Malawi.

Methodology: This was a retrospective case control study carried out at Disease Relife with Excellent and Advanced Means (DREAM) health Centre in Blantyre/Malawi on enrolled and followed up patients from 2005 to 2019. Information about age, gender, blood pressure, ART regimen, BMI, CD4 count, Viral load, Biochemistry, hemoglobine, marital status, education, survival and period on AntiRetroviral drugs were retrieved from data base from 01/01/2006 to 31/12/2015. In total, we enrolled (alive and on HAART) 1350 patients > 18 years (mean age: 43.4 and the SD was ±10.7 with 1031 (65.9%) females and 534 (34.1%) males who were taking (or have taken) ARVs for more than 6 months at the date of enrolment. Patients were not affected by hypertension or potentially related diseases like Renal failure at the beginning of ART. The mean observation time from the HAART initiation was 77 months per person (SD±40). Results: The sample was made up by two groups of patients, 675 who developed hypertension and 675 who did not, with similar age and gender composition. Among patients with hypertension, 30/675 (4.4%) developed a stage 3 hypertension, 154 a stage 2 (22.8%) and 491 a stage 1 (72.8%). Hypertension stages were not associated to statistic significant differences of age and/or gender (p=0.422, p=0.281 respectively). At baseline, patients who developed hypertension showed higher hemoglobin, higher CD4 count and lower VL (P<0.001). Patients on AZT-based regimen and TDF-based regimen were at high risk to develop hypertension while PI-based regimen was protective to hypertension (P<0.001). In a multivariate analysis, factors independently associated to Hypertension were higher CD4 count and Body Mass Index at the visit date, while Baseline Viral Load and PI-Including regimes were protective factors. Education level was inversely associated with risk of hypertension, while being married was associated of risk of hypertension (p<0.001). Mortality rate among hypertensive patients was 1.6% for those treated for hypertension against the 3.6% for those not treated.

Conclusion: this study shows a protective action of PI-including regimens compared with AZT based regimen that is associated to an increased risk of hypertension. Factors related to a better general health status are associated to a higher risk of hypertension as well as lower education, older age and male gender. Treatment should be started as soon as Hypertension stages 2-3 are reached and control by behavioral factors is no longer effective.