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P98 Impaired Pulmonary Function is Associated with Increased Cardio-ankle Vascular Index in HIV Patients in Ghana

Kwame Yeboah[1,*], Latif Musah[1], Samuel Essel[1], Bartholomew Dzudzor[1], J Kennedy Cruickshank[2]

[1]*Medical School, University of Ghana, Ghana*
[2]*Cardiovascular Medicine Group, Division of Diabetes and Nutrition, King's College and King's Health Partners, London, UK*

ABSTRACT

Aim: Patients with HIV have increased cardiovascular risk and pulmonary defects. We investigated the association between impaired pulmonary function (IPF) and arterial stiffening measured by the cardio-ankle vascular index (CAVI) in Ghanaian HIV patients.

Method: Spirometry was used to measure pulmonary indices; forced expiratory volume in 1s (FEV1) and forced vital capacity (FVC) in 79 HIV patients on treatment, 75 HIV treatment naïve patients and 78 non-HIV controls. We also used FEV1/FVC < lower limit of normal as a further index. Arterial stiffness was measured as CAVI using the Vasera device.

Results: Compared to non-HIV controls, CAVI was higher in treatment naïve (6.9 ± 1.4 vs 6.3 ± 1.1 units, $p < 0.01$) and HIV patients on treatment (8.1 ± 1.4, vs 6.3 ± 1.1, $p < 0.01$). IPF was detected in 12 (15.2%) HIV patients on treatment, 8 (10.7%) treatment naïve HIV patients and 5 (6.4%) non-HIV controls. Compared to those without IPF, IPF patients had higher CAVI in non-HIV controls (6.5 ± 1.1 vs 5.7 ± 0.8, $p < 0.01$), treatment naïve HIV patients (7.1 ± 1.8 vs 6.6 ± 1.4, $p = 0.023$) and HIV patients on treatment (7.8 ± 1.4 vs 8.7 ± 1.2, $p < 0.01$). In multivariable logistic regression analysis, IPF was independently associated with CAVI [adjusted OR = 1.33 (1.15 – 1.89), $p = 0.037$] after adjustment for age [1.21 (0.98 – 2.14), $p = 0.11$], male sex [0.42 (0.32 – 0.91), $p = 0.035$], current/former smoking status [1.43 (0.47 – 4.01), $p = 0.75$] and history of tuberculosis infection [1.96 (1.08 – 3.12), $p < 0.01$].

Conclusion: Ghanaian HIV patients have a high prevalence of impaired respiratory function and arterial stiffening, and these indices are associated with each other.

*Corresponding author. Email: melvinky@gmail.com