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INCREASED RISK OF PERIPHERAL ARTERY DISEASE IN PERSONS WITH HIV COMPARED TO CONTROLS

Clinical: (M) Cardiovascular Complications of HIV Infection and Antiretroviral Therapy

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Background: Risk of cardiovascular disease (CVD) is higher among persons living with HIV (PLWH) than among the background population. Peripheral artery disease (PAD) is a manifestation of CVD that is less well-explored in PLWH with conflicting reports on prevalence and risk factors. Ankle-brachial index (ABI) is an excellent diagnostic tool for diagnosing PAD. In this study, we aimed to determine the prevalence and risk factors for PAD in PLWH compared to uninfected controls. We hypothesized that prevalence of PAD would be higher among PLWH than among controls and that HIV is an independent predictor of PAD.

Methods: PLWH aged ≥40 were recruited from the Copenhagen comorbidity in HIV infection (COCOMO) study. Sex and age matched uninfected controls were recruited from the Copenhagen General Population Study. Blood pressure, lipids, glucose, eGFR and hsCRP were measured. Questionnaires were used to obtain data on smoking history and medication. ABI was measured with the Doppler method. We defined PAD as ABI ≤ 0.9 and non-compressibility as ABI ≥ 1.4 and excluded the latter from PAD analyses. We assessed predictors of PAD using a logistic regression model adjusted for age, sex, smoking status, dyslipidemia, diabetes, hsCRP and hypertension.

Results: Among 908 PLWH and 11,106 controls, the PLWH were slightly younger (median 52 vs 53 p=0.0010), had a lower prevalence of hypertension (48 % vs 61% p<.0001), but higher proportions of current smokers (28% vs 13% p<.0001) and persons with intermittent claudication (4 % vs 2 % p<.0001) than controls. PAD was detected in 112 (12% [95% 10-14]) and 623 (6% [95% 5-6]), respectively (p<0.0001); odds ratio (OR)=2.4 [95% 1.9-2.9], adjusted OR=1.7 [95% 1.3-2.3, p=.0002]. Furthermore, age, female sex, smoking status, hypertension, intermittent claudication, and kidney function were independently associated with risk of PAD, irrespective of HIV status (Fig 1). In PLWH, neither previous AIDS, CD4 nadir, CD4 count, CD4:CD8-ratio, HCV coinfection, cART nor duration of infection were associated with PAD. Interaction of HIV with age was borderline significant (p=0.0517).

Conclusion: Prevalence of PAD was higher among PLWH compared to healthy controls, and remained so after adjusting for common CVD risk factors. Our findings expand the evidence base that PLWH have excess arterial disease to also include PAD. The exact biological mechanisms causing this excess risk remain to be elucidated. Until then, focus on management of modifiable traditional risk factors is important.