

P0031

Paper Poster Session

HIV biomarkers, resistance and diagnostics

sCD40L levels in HIV-infected patients

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Background: HIV-infected patients show an increased risk of cardiovascular disease (CVD). In the general population, elevated plasma concentrations of soluble CD40 ligand (sCD40L) indicate increased risk for cardiovascular events what seems to be a pronostic predictor of CVD. We aimed to study associations between sCD40L plasma levels and other risk factors for CVD in HIV-patients.

Material/methods: A cross-sectional, comparative study of two series of cases (HIV patients, n=116 and age-matched non-HIV healthy controls, n=113) was conducted. 87% HIV patients received antiretroviral therapy (ART), 72.4% having HIV-1 viral load <50 cop/mL. Inflammatory biomarkers (CRP, sCD40L) and internal carotid intima-media thickness (IMT) were measured and CVD risk (Framingham and SCORE algorithms) was calculated. Univariate and multivariable associations between these variables were evaluated.

Results: HIV patients presented higher sC40L levels [1.59 ng/mL (1.04-2.75)] than uninfected healthy controls [1.03 ng/mL (0.67-1.56)], $p \leq 0.001$. In univariate analysis of the global sample, cigarette smoking and body mass index (BMI) were associated with higher sC40L, $p \leq 0.05$; in multivariate analysis of the global sample, HIV patients were 2.5 times more likely to have elevated levels of sCD40L than uninfected healthy controls [OR = 2.5; IC95 %: 1.030-5.935; $p = 0.043$]. In HIV group, smoking patients and CD4+ T lymphocyte count ≤ 250 cell/mL showed higher sCD40L, $p \leq 0.05$. No significant association was found between sC40L levels and other CVD risk factors: carotid IMT, Framingham and SCORE algorithms, ART or HIV-1 viral load. In multivariate analysis, CD4+ T lymphocyte count ≤ 250 cell/mL and more than 60 months-long NNRTI remained significantly associated with sCD40L levels [$\beta = 0.9$; IC95 %: 0.2-1.6; $p = 0.025$] and [$\beta = 0.6$; IC95 %: 0.1-1.2; $p = 0.021$].

Conclusions: HIV-infected patients present higher sCD40L levels than healthy controls. CD4+ T lymphocyte count ≤ 250 cell/mL and regimen with NNRTI for more than 60 months are significantly associated with increased sCD40L levels in HIV patients. Additionally in our study, tobacco smoking is significantly associated with increased sCD40L levels and specifically for HIV-infected patients group.