SWISS HIV COHORT STUDY

Antiretroviral Drugs Associated with Subclinical Coronary Artery Disease.

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Note: Poster results differ from the results in the abstract. To account for time-dependent confounders, including cardiovascular disease risk factors and time-varying reasons for using specific treatments, we additionally conducted fully adjusted logistic regression models with inverse probability of treatment weighting (IPTW).

BACKGROUND

- Definite and validated coronary artery disease (CAD) … certain antiretroviral therapy (ART) agents.
- The influence of ART drugs on early, subclinical ather… artery calcium (CAC) scoring and coronary CT angiog…

Study Aim

- To assess the association between individual ART ag… characteristics of coronary artery plaque in ≥45 year …

METHODS

- Between October 2013 and July 2016, 428 participan… enrolled in the observational Coronary CT Angiograph…
- A non-contrast CT scan for calculating the CAC score … participants.
- Enrollment criteria included age ≥45 years, no docum… no allergy to iodinated contrast agent, and no atrial fib…
- Calculation of CAC-Score was based on the Agatston … calcified, and non-calcified /mixed. The segment involv… point for each coronary segment with any plaque. The … calculated using the total of all segments scored acco…
- To evaluate the association between ART and subclin… subclinical CAD outcomes: 1) CAC score >0; 2) any plaque, 3) calcified plaque, and … calcified/mixed plaque. Minimally adjusted (sex, age, center) and fully adjusted logisti… regression models calculated by inverse probability of treatment weights (IPTW) were … to explore any association between the different CAD endpoints and cumulative expo… the ten most often used individual drugs. The IPTW models were built based on demographics, HIV parameters, presence and/or treatment of CAD risk factors [3] an… availability of the individual drugs.

Variable		All Participants (n=403)
Male sex, n (%)		343 (85.1)
Median age, years (IQR)		52 (49-57)
Ethnicity (%),	White	366 (90.8)
	Black	26 (6.5)
	Other/missing	11 (2.7)
HIV acquisition mode, n (%)	MSM	237 (58.8)
	IDU	42 (10.4)
	Heterosexual	116 (28.8)
	Other	8 (2.0)
Years HIV-infected, median (IQR)		15 (8-22)
Prior AIDS, n (%)		87 (21.6)
CD4 current, cells/µL, median (IQR)		601 (451-742)
CD4 nadir, cells/µL, median (IQR)		184 (90-272)
CD4 nadir <50 cells/µL, n (%)		66 (16.4)
HIV-1 RNA peak >100'000 copies/mL		255 (63.3)
On antiretroviral therapy (ART), n (%)		375 (93.1)
Undetectable HIV-1 RNA, n (%)		355 (88.1)
Hepatitis C seropositivity, n (%)		63 (15.6)
Body mass index (kg/m2), median (IQR)		24.7 (22.7-27.7)
	<18.5	10 (2.5)
	≥18.5, <25	203 (50.4)
	>25, ≤30	150 (37.2)
	>30	40 (9.9)
Hypertension, n (%)		135 (33.5)
Diabetes mellitus, n (%)		22 (5.5)
Dyslipidemia, n (%)		158 (39.2)
Lipid-lowering medication use, n (%)		27 (6.7)
Current smoking, n (%)		144 (35.7)
Severe alcohol consumption		7 (1.7)
Active illicit drug use, n (%)		13 (3.2)
Framingham Risk Score (10-year risk), median (IQR)		9.0 (5.9-13.8)

Abbreviations: ART, antiretroviral therapy; IDU, injection drug use; MSM, men who have sex with men.

Emtricitabine (FTC)	316 (78.4)	4.2 (2.1-6.4)
Lamivudine (3TC)	287 (71.2)	6.2 (2.7-11.2)
Tenofovir disoproxil fumarate (TDF)	353 (87.6)	5.3 (2.9-8.1)
Zidovudine (AZT)	251 (62.3)	3.3 (1.3-8.2)
NNRTI	284 (70.5)	4.9 (1.9-9.1)
Efavirenz (EFV)	226 (56.1)	3.4 (1.0-8.4)
Protease inhibitors	317 (78.7)	7.1 (3.5-12.9)
Atazanavir (ATV)	152 (37.7)	4.2 (1.6-6.6)
Darunavir (DRV)	139 (34.5)	3.0 (1.6-4.5)
Lopinavir (LPV)	148 (36.7)	3.0 (1.1-6.6)

…ants were eligible for the analysis (25 participants … calculate IPTW).

…e displayed in **Table 1.**

…g classes and the ten most frequently used … **2.**

… patients, any plaque in 214 (53.1%), calcified … mixed plaque in 150 (37.2%) p… **(Table 2).**

…re to individual ART drugs and…

…d with cumulative exposure to … years 0.68 [0.49-0.95]), EFV …

…th TDF (0.71 [0.51-0.99]).

…ed with exposure to EFV (0.75 …

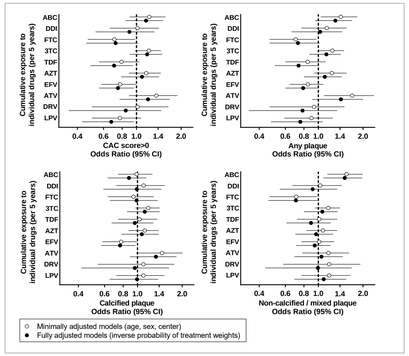
…ted with exposure to ABC (1.4 … to FTC (0.67 [0.46-0.99]).

…*nent severity score* we found r…

…ence for an increased risk of coronary artery non-calcified … only found in patients exposed to regimens containing AB…

; J Am Coll Cardiol 1990. [2]Andreini D et al JACC Cardiovasc Imaging 2012. [3]Thomas GP et al; AIDS 2016.

Figure 1: Associations between the presence of subclinical CAD endpoints and cumulative exposure to the ten most often used individual ART drugs.



	All Participants (n=403)
Coronary Artery Calcium (CAC)	
CAC score, median (IQR)	51 (15-191)
CAC score >0	188 (46.7)
CAC score >100	77 (19.1)
Coronary CT Angiography	
Any plaque	214 (53.1)
Calcified plaque	151 (37.5)
Non-calcified / mixed plaque	150 (37.2)
Coronary artery stenosis >50%	53 (13.2)
Coronary artery stenosis >70%	22 (5.5)
Segment severity score, mean (IQR)	1.8 (1-3)
Segment involvement score, mean (IQR)	1.6 (1-2)

Numbers are N (%) unless otherwise indicated

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