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Evaluation of changes in Systematic Coronary Risk Evaluation 2 (SCORE2) in experienced people with HIV switching to DOR/3TC/TDF: real world data from DOROTEA multicenter cohort

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Background

In the landscape of antiretroviral treatments, Doravirine (DOR) based regimen demonstrated long-term tolerability and a favorable lipid profile [1,2,3], with the potential to reduce cardiovascular disease (CVD) risk in people with HIV (PWH). We aimed to assess the impact of switching to DOR/3TC/TDF on cardiovascular risk estimated by means of Systematic Coronary Risk Evaluation 2 (SCORE2).

Materials and Methods

This was a multicentric retrospective study in which PWH switched to DOR/3TC/TDF (baseline, BL), were enrolled in the study from six outpatient clinics in Italy. Viroimmunolgical parameters, lipid profiles were collected at BL and after 48 weeks (48W) of follow-up and CVD risk was estimated at BL and 48W by means of SCORE2 in 172 PWH, who met eligibility criteria.Treatment discontinuations (TD) were recorded. To assess changes in the lipid profile, SCORE-2, and predictors of those changes' multivariable linear regression was employed.

Results

A total of 312 PWH were included, predominantly male (194, 62.4%), with a median age of 51 years (IQR, 43-57). Full population characteristics are summarized in Table1. After 48 W we observed a significant reduction in median SCORE2 (-0.7, p<0.001). Baseline SCORE2 was inversely associated with improvement after 48W (B -0.3, T -6.5, p<0.001), while a lower age was positively associated with improvement (B 0.6, T 2.7, p=0.014) at a multivariate regression. A significant median change reduction in total cholesterol (TC) (median change -18 mg/dL, p<0.001), LDL (-10 mg/dL, p<0.001) and triglycerides (-14 mg/dL, p<0.001) was observed. Baseline cholesterol levels predicted a decrease in TC (B: -0.6, T: -9.6, p<0.001). Similarly, changes in LDL and triglycerides were predicted solely by their baseline levels (LDL: B: -0.7, T: -8.5, p<0.001; triglycerides: B: -0.7, T: -11.5, p<0.001). No significant changes were observed in BMI. Seventy-six TD were observed throughout 868.36 patient-years of follow-up (a rate of 8.7 per 100 PYFU):main reasons were toxicity (23, 7.4%), subject decision (19, 6.1%) and pill dimension (10, 3.2%).

Variables	N=312
Age, median (IQR)	51 (43-57)
Assigned male at birth, n (%)	194 (62.4)
HIV mode of acquisition, n (%)	
- Heterosexual	128 (41.0)
- MSM	136 (43.6)
- PWID	31 (9.9)
- Unknown	17 (5.5)
Years of HIV infection, median (IQR)	14 (8-22)
Years of ART exposure, median (IQR)	21 (9-29)
CDC Stage C, n (%)	83 (26.6)
Ab anti-HCV, n (%)	16 (5.1)
CD4+ cell count nadir, median (IQR)	684 (479-898)
Zenith HIV-RNA, log10 cps/mL, median (IQR)	5.43 (4.85-5.70)
Years of virological suppression, median (IQR)	10 (3-20)
Pre-switch ART regimen:	
- 2NRTI + INI	98 (31.4)
- 2NRTI + NNRTI	142 (45.5)
- 2NRTI + PI	44 (14.1)
- 3TC-based 2DR	16 (5.1)
- Other	12 (3.8)
Active smokers, n (%)	106 (34.0)
Diabetes on treatment, n (%)	27 (8.6)
Hypertension on treatment, n (%)	68 (21.8)
Body Mass Index (BMI), median (IQR)	25.2 (23.8-27.0)
Cardiovascular event pre-BL, n (%)	15 (4.8)
Eligible PWH for SCORE2 calculation, BL, n (%)	172 (55.1)
SCORE 2 at BL, median (IQR)	5.0 (3.0-8.5)

Table 1: Full population characteristics at baseline (BL).

Conclusions

The amelioration observed in the lipid profile and in SCORE2 risk estimation at 48 weeks provide further evidence that DOR/3TC/TDF is a suitable option for dyslipidaemic PWH with a high risk of CVD.

References:

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