7 giugno 2019 - 11.40 - 13.10 **Aula 211**

Oral Communications

From naive to highly treated subjects. Efficacy of cART

N. prog: OC 63

Title: **Determinants of switching to TAF-based cART or dual combinations (DT) from TDF-based regimens in a cohort of HIV-infected individuals with controlled viral load≤50 copies/mL**

Authors: A. Vergori[1], R. Gagliardini[1], N. Gianotti[2], A. Gori[3], M. Lichtner[4], A. Saracino[5], A. De Vito[6], A. Cascio[7], A. Di Biagio[8], A. d'Arminio Monforte[9], A. Antinori[1], A. Cozzi-Lepri[10]

Affiliation: [1]HIV/AIDS Unit, National Institute for Infectious Diseases, L. Spallanzani, IRCCS, Rome, Italy, [2]Infectious Diseases Department, San Raffaele Scientific Institute, IRCCS, Milan, Italy, [3]Department of Internal Medicine, Fondazione IRCCS Ca' Granda, Ospedale Maggiore Policlinico, Milan, Italy; University of Milan, Milan, Italy, [4]Department of Public Health and Infectious Diseases, Sapienza University of Rome, Polo Pontino, Latina, Italy, [5]Clinic of Infectious Diseases, University of Bari, Bari, Italy, [6]Unit of Infectious Diseases, Department of Clinical and Experimental Medicine, University of Sassari, Sassari, Italy, [7]Department of Infectious Diseases, AOU Policlinico "P.Giaccone", University of Palermo, Palermo, Italy, [8]Infectious Diseases Clinic, Policlinico Hospital San Martino, Genova, Italy, [9]Clinic of Infectious and Tropical Diseases , ASST Santi Paolo e Carlo, University of Milan, Milan, Italy, [10]Centre for Clinical Research, Epidemiology, Modelling and Evaluation (CREME), Institute for Global Health, UCL, London, UK

Abstract body
Background: Switching to a TAF-based or to TDF-sparing (dual therapy, DT) regimens is safer than continuing to take TDF-containing regimens, particularly for bone/kidney health. The impact of new guidelines on ARV prescriptions and the determinants of switching to TAF-based vs. DT regimens have not been thoroughly investigated.
Material and methods: The analysis includes data from HIV-positive patients enrolled in the Icona Foundation Study cohort, with a stable VL≤50 copies/mL while on a TDF-based triple cART after January 1st 2016 (baseline). We investigated the probability of switching from TDF to DT or TAF-based combination antiretroviral therapy (cART). Comorbidities (diabetes, hypertension, dyslipidemia) were defined as: i) glucose >126 mg/dl; ii) reported information and/or use of blood pressure lowering drugs; iii) fasting total cholesterol >200 mg/dl, LDL >100 mg/dl, HDL <40 mg/dl for females or <50 mg/dl for males, triglycerides >150 mg/dl. Standard survival analysis of time to switch by means of Kaplan-Meier (KM) curves were used. Separate models were used for the endpoints of switching to DT or TAF-based cART. Cox regression models were used to identify independent predictors of time to switch towards each of the two strategies. A sensitivity analysis was also performed after exclusion of EVG/c. A competing risk KM analysis was also conducted to jointly model the two type of switches.
Results: A total of 1,420 participants were included, 21% female, with a median (IQR) age of 36 (30-42) years, CD4 count 522 (314-750) cells/mm3 (14% with < 200 cells/ mm3), CKD-EPI eGFR 99.1 (85.8-111.1) mL/min/1.73 m2, total cholesterol 166 (142-192) mg/dL, 86% acquired HIV through unprotected sex,33% of patients were of foreign origin, 6.5% had hepatitis B or C coinfection,12% had been diagnosed with AIDS before baseline. At baseline, the most commonly used anchor drugs besides FTC were RPV (27%), EVG (26%), DTG (20%) and DRV/r (13%). In the joint competing risk approach to analysis, by 2 years from baseline, the probability of switch to DT was 3.5% (95% CI 2.3-4.6) and 21% (95% CI 18.8-23.7) to TAF-based cART (Figure 1). A significant higher probability of switch to TAF-based regimen was found for those receiving INSTI at baseline (KM estimates: 50.2%; 95%CI 46%, 55% by 2 years, log-rank p<.0001), not confirmed after excluding people using EVG, in which a higher probability of switch was found for NNRTI (p<.0001).
For the DT endpoint, a higher probability of switch to PI/b (9.6%;95%CI 5%, 14%, p<0.001) was found. Table 1 shows factors independently associated with the probability of switching stratified by switch

type.
Conclusions: The use of PI/b regimen at baseline was associated with a higher risk of switching, regardless of the strategy. A baseline eGFR<60 predicted to switch to 2DC but not to TAF-based regimens. Switches towards TAF-based regimens appeared to be more frequent in more recent years, and significantly correlates also to currently receiving a INSTI regimen.

Figure 1 Kaplan Meier plot of competing therapy initiation

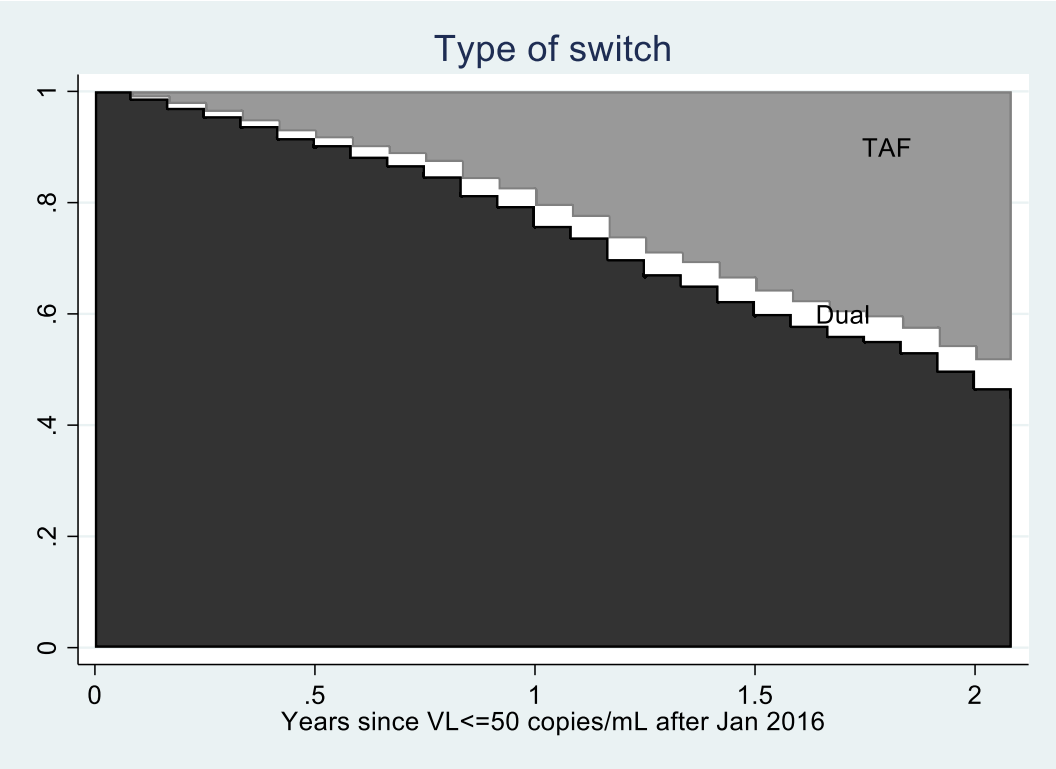

Table 1. Relative hazards of switching with sustained suppression on TDF-based regimens with VL≤50 copies/mL after 2016 by switch type (TAF-based cART vs. DT) from fitting two separate Cox regression models

	Adjusted*RH (95% CI) TAF cART	p-value	Adjusted* RH (95% CI) DT cART	p-value
Baseline eGFR, ml/min/1.73m²				
60+	1.00		1.00	
0-59	0.80 (0.39, 1.66)	0.555	4.86 (1.53, 15.48)	**0.007**
Calendar year of VL<=50				
per more recent	1.61 (1.28, 2.02)	**<.001**	0.61 (0.27, 1.35)	0.225
Anchor drug				
NNRTI	1.00		1.00	
INSTI	17.68 (9.61, 32.50)	**<.001**	1.56 (0.55, 4.42)	0.399
PI/r	8.57 (4.37, 16.79)	**<.001**	7.33 (2.51, 21.43)	**<.001**

[&]diabetes, dyslipidemia and hypertension

*Adjusted for:gender, mode of HIV transmission, AIDS diagnosis, HCV co-infection, age, nationality, CD4 count at baseline, total cholesterol at baseline, use of blood pressure lowering drugs, comorbidities, number of ART drugs previously virologically failed, anchor drug of regimen at baseline (INSTI- vs PI/b-vs NNRTI) which all failed to be independently associated with any of the studied endopoints.