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Use of TAF with a HIV-RNA ≤50 copies/mL in clinical practice

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Italian Cohort I. C. O. N. A. Naive Antiretrovirals

Fondazione Icona
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Introduction/Summary

- Randomised studies have shown that switching to a TAF-based regimen is generally safer than continuing to take TDF-containing regimens, particularly for bone and kidney health
- How these trial results might have impacted on daily prescriptions in clinical practice is unknown and there is little data describing the population who have been switched to TAF-based regimens

Aims

- To describe the population of HIV-infected individuals enrolled in the Icona Foundation Study cohort who underwent a switch to a TAF-based regimen with a HIV-RNA ≤50 copies/mL
- To compare characteristics of people who were previously receiving a TDF-based or TDF-free regimen to TAF-based regimens

Study Design and Methods

- We included all participants in the Icona Foundation Study cohort who underwent for the first time a switch to a TAF-based regimen with a HIV-RNA ≤50 copies/mL. Participants have been grouped in people who switched from TDF-based regimens and those switching from other regimen types
- The binary outcome 'switching to TAF from TDF: yes/no' has been modelled using a logistic regression model aiming to compare characteristics of people who replaced TDF with TAF with those of people switching from non-TDF based regimens
- Besides those shown in the Figure, other factors included in the analysis (fitted as time fixed at the time of switch) were gender, nationality, AIDS diagnosis, HCV co-infection status, age, CD4 and CD8 count, diabetes diagnosis, use of statin drugs, blood glucose and geographical location of participating clinical site, which all failed to show an association in univariable analysis

Results

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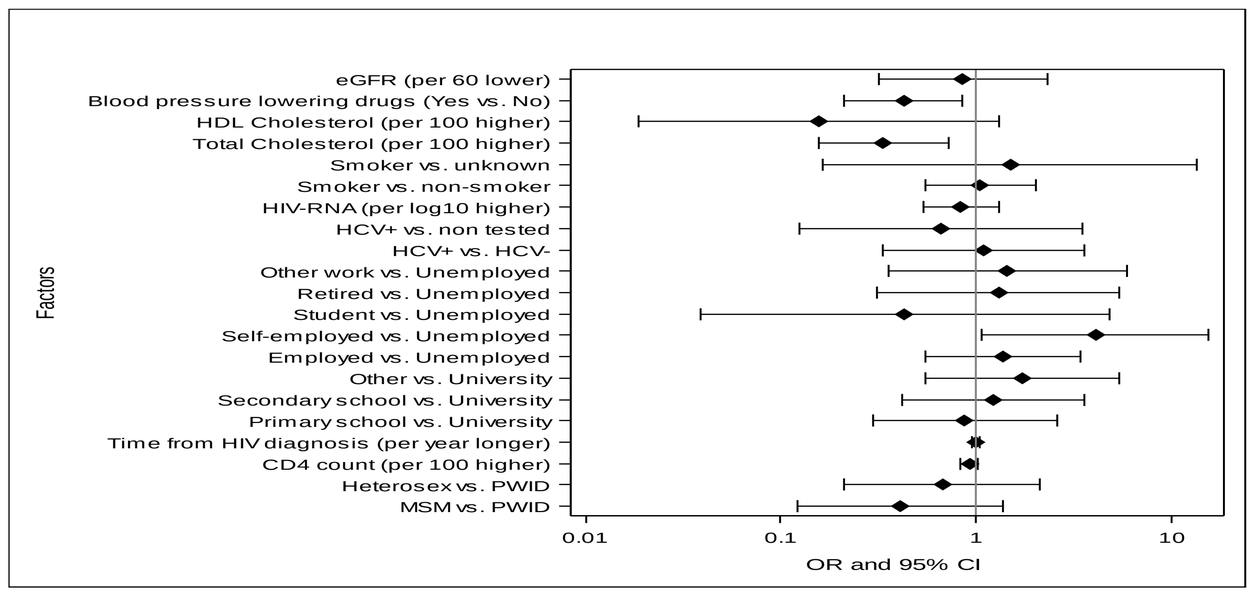
In the newly started TAF-based regimen, the most frequently used anchor drugs were EVG (46% from TDF, 63% from other), RPV (25% and 16%) and DTG (8% and 12%). In the non-TDF switch group, breakdown of previous drug use was 35% ABC, 47% 3TC, 13% RPV, 30% DRV, 11% ATZ/r, 20% DTG, 12% RAL

People who underwent a TDF to TAF switch, showed lower total cholesterol (OR=0.34 per 100 mg/dL lower, 95% CI:0.16-0.72) and lower prevalence of previous use of blood pressure lowering drugs (OR=0.43, 95% CI:0.21-0.85). There was some evidence that participants who were self-employed (OR=4.20 vs. unemployed, 95% CI:1.07-6.50) were more prevalent in the TDF to TAF group (Figure)

	Previous regimen			
Characteristics	**TDF-based**	**Other**	**p-value***	**Total**
	N= 1121	**N= 99**		**N= 1220**
Gender, n(%)			0.219	
Female	194 (17.3%)	22 (22.2%)		216 (17.7%)
Mode of HIV Transmission, n(%)			0.030	
IDU	108 (9.6%)	9 (9.1%)		117 (9.6%)
Homosexual contacts	519 (46.3%)	44 (44.4%)		563 (46.1%)
Heterosexual contacts	417 (37.2%)	46 (46.5%)		463 (38.0%)
Other/Unknown	77 (6.9%)	0 (0.0%)		77 (6.3%)
Nationality, n(%)			0.248	
Not Italian	205 (18.3%)	11 (11.1%)		216 (17.7%)
AIDS diagnosis, n(%)			0.514	
Yes	144 (12.8%)	15 (15.2%)		159 (13.0%)
HBsAg, n(%)			0.251	
Negative	888 (79.2%)	79 (79.8%)		967 (79.3%)
Positive	36 (3.2%)	6 (6.1%)		42 (3.4%)
Not tested	197 (17.6%)	14 (14.1%)		211 (17.3%)
HCVAb, n(%)			0.274	
Negative	867 (77.3%)	83 (83.8%)		950 (77.9%)
Positive	120 (10.7%)	9 (9.1%)		129 (10.6%)
Not tested	134 (12.0%)	7 (7.1%)		141 (11.6%)
Calendar year of baseline**			<.001	
Median (IQR)	2017 (2017, 2017)	2017 (2017, 2017)		2017 (2017, 2017)
Age, years			<.001	
Median (IQR)	38 (32, 45)	40 (34, 47)		38 (32, 45)
CD4 count, cells/mmc			0.206	
Median (IQR)	683 (482, 903)	690 (549, 972)		685 (487, 905)
CD4 count nadir, cells/mmc			0.982	
Median (IQR)	298 (161, 441)	311 (154, 435)		298 (161, 439)
Median (IQR)	65 (29, 113)	82 (47, 139)		67 (30, 115)
Duration of ART, months			<.001	
Median (IQR)	42 (23, 74)	61 (40, 91)		44 (23, 76)

***Chi-square or Kruskal-Wallis test as appropriate**

Figure. Odds ratios of switching from TDF-based regimens vs. switching from other regimen types



Conclusions

- **The large majority of observed switches to TAF were from TDF-based regimens**
- **At time of switch and conditioning on having switched to TDF, eGFR did not seem different between the groups, while previous exposure to TDF was associated with lower risk of markers for CVD disease**
- **A follow-up analysis comparing the trend in eGFR and lipids before and after TAF initiation is warranted**
- **Future work will also involve the identification of factors that might have led to switch to a TAF-based regimen when HIV-RNA was controlled ≤50 copies/mL**

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Icona Foundation Study Group