BACKGROUND

• Randomised studies have shown that switching to a TAF-based regimen is generally safer than continuing to take TDF-containing regimens, particularly for bone/kidney health [1,2].

• How these trial results might have impacted on daily prescriptions and the determinants of switching to TAF-based regimens have not been thoroughly investigated.

AIMS

• To estimate the incidence to TAF-based regimens in HIV-positive individuals with a VL<50 copies/mL

• To identify predictors of switching to TAF-based cART (including ≥2 drugs) vs. switching to a dual regimen.

STUDY DESIGN AND METHODS

The analysis includes data of HIV-positive patients in the ICONA Foundation Study cohort who showed a stable viral load (VL)<50 copies/mL while on triple cART after January 1, 2016 (baseline).

• 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 2DC or TAF-based cART.

• Cox regression models were used to identify independent predictors of time to switch. Multivariable models were constructed by including factors that showed a significant association in the univariable analysis.

• A competing risk analysis was conducted to jointly modelling the two type of switches.

RESULTS

• A total of 1,471 participants were included, 1,320 (90%) currently on TDF-based cART and 151 (10%) on TDF sparing cART, all with a HIV-RNA <50 copies/mL. Median (IQR) age was 36 (29-43) years, CD4 count 530 (322-752) cells/mm³ (14% with <200 cells/mm³), CKD-Epi eGFR 99 (85-111) ml/min/1.73m², total cholesterol 168 (143-193) mg/dL, 21% female, 49% acquired HIV through MSM, 30% of foreign origin, 6% were co-infected with HCV, 12% had been diagnosed with AIDS before baseline.

• In the TDF-based regimen group, the most common anchor drugs besides FTC were EVG (27%), RPV (25%), DTG (18%) and DRV/r (9%). In the TDF-sparing group, the most common anchor was DTG (54%), RAL (13%) or DRV/r (13%) with a backbone of 3TC/ABC. In the separate endpoint approach to analysis, by 2 years from baseline, the probability of switch to 2DC was 14% (95% CI:11-17%) and 26% (95% CI:23-29%) to TAF-based cART. The figure show the percentages using the competing event approach. The Table shows factors found to be independently associated with the probability of switching stratified by switch type.

• The majorities of switches to TAF or to 2DC regimens were from TDF-based regimens.

• A lower eGFR led to a greater probability of switching to 2DC but not to TAF-based regimens.

• Selection of 2DC regimens is also based on whether a person was already on regimens not containing INSTI or PI/r as the anchor drug.

CONCLUSIONS

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Table. Relative hazards of switching with a VL<50 copies/mL by switch type (TAF-based cART vs. 2DC).

<table>
<thead>
<tr>
<th>Adjusted* relative hazards of switch (95% CI)</th>
<th>TAF-cART</th>
<th>P-value</th>
<th>2DC</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous regimen</td>
<td>Other</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>TDF-based</td>
<td>37.59 (9.30, 152.0)</td>
<td>&lt;.001</td>
<td>4.75 (1.69, 13.35)</td>
<td>.003</td>
</tr>
<tr>
<td>eGFR</td>
<td>60+</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>O-50</td>
<td>0.59 (0.28, 1.24)</td>
<td>0.163</td>
<td>5.64 (2.27, 13.98)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Calendar year of baseline</td>
<td>per more recent</td>
<td>9.16 (6.05, 12.55)</td>
<td>&lt;.001</td>
<td>9.14 (5.59, 14.95)</td>
</tr>
<tr>
<td>Anchor drug</td>
<td>Other class</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>INSTI</td>
<td>9.48 (5.98, 15.03)</td>
<td>&lt;.001</td>
<td>0.24 (0.14, 0.40)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>P/V</td>
<td>3.72 (2.12, 6.53)</td>
<td>&lt;.001</td>
<td>0.56 (0.32, 0.96)</td>
<td>0.036</td>
</tr>
</tbody>
</table>

*No adjusted for gender, mode of HIV transmission, nationality, AIDS diagnosis, HIV co-infection status, age, CD4 count at baseline, total cholesterol at baseline, use of blood pressure lowering drugs, number of ART drugs previously mono-logically failed, anchor drug of regimen at baseline (S/NRT×PI/PI×FI-S/NRT×PI/PI×FI) which all failed to be independently associated with any of the studied endpoints.

References


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