Clinical observations of antiretroviral (ART) switching in HIV-suppressed patients after availability of TAF

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1. BACKGROUND AND AIMS

In HIV-suppressed patients, DHHS guidelines support switching ART for tolerability and adherence. Tenofovir alafenamide (TAF) was approved in Nov 2015 as a component of E/C/TAF, and in 2016 as F/TAF and R/TAF. This study evaluated ART switching in HIV-suppressed patients in the first year of TAF availability.

2. METHODS

- EMR, prescription, and dispensing data were collected from 4 HIV treatment centers as of Nov 2015 through Oct 2016 for HIV patients with virologic suppression (HIV<200 copies/ml) and followed for at least 365 days.
- Statistical analyses were performed using SAS.
- Univariate analyses to identify association of different variables with an outcome was conducted using chi-squared testing for proportions, Student t testing for continuous variables with normal distributions, or Wilcoxon rank-sums testing for non-Gaussian continuous variables.
- Significant P values are two-tailed and <0.05.
- For viral suppression, we examined the first viral measure closest to but after 6 months from therapy start.

3. PATIENT CHARACTERISTICS BY SWITCH GROUP

- In the first year of TAF availability, 50% (470/931) of patients switched regimens.
- Patients who switched were similar to non-switch patients for age and gender.
- Statistically significant differences included a higher percentage of patients that switched had eGFR <90 ml/min (81% (369/455) vs 66% (255/386)), and treatment switch group had fewer patients with lower CD4 counts <200 (4% (16/423) vs 10% (40/384)).
- Baseline ALT was significantly different between groups though mean values were normal.

4. SWITCH RATES BY SUBPOPULATIONS

Switch rates were higher in groups with eGFR<90 ml/min, CD4 >200 cells/mm3, and white.

5. REGIMEN INFORMATION

- Of the patients that did not switch, 3 therapies accounted for 48% of treatment: DTG/ABC/3TC, EVG/TDF/FTC, and Evi/TDF/FTC.
- Of the patients that switched therapies, EVG/c/TAF/FTC, RPV/TDF/FTC, and EVG/TDF/FTC accounted for 52% of discontinued therapies.
- 86% of treatment switch patients switched to regimens containing TAF, with nearly half receiving EVG/c/TAF/FTC.
- MTR use in the switch group declined from 45% pre-switch to 35% post-switch. MTR use was 44% in the non-switch group.

6. VIRAL SUPPRESSION

Those who switched to TAF-based regimens were numerically but not significantly more likely to maintain virologic suppression than those who switched to non-TAF regimens (p=0.057).

7. SUMMARY

This study utilized EMR, prescription, and dispensing data to assess ART switching in HIV-suppressed patients at 4 HIV centers in the US. In the first year of TAF availability, 50% patients switched therapies with 85% switching to TAF. Switching to TAF was associated with a pre-switch lower eGFR and a post-switch trend to higher virologic suppression. Black patients were less likely to switch ART compared to whites. Further assessments of virologic suppression between TAF and non-TAF switching should be explored in future observational studies.

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