Effectiveness of switching to bictegravir/emtricitabine/tenofovir alafenamide from NNRTI-based ART in virologically suppressed people with HIV: a retrospective analysis (DRIVE-SWITCH study)

eP070
DRIVE-SWITCH

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Conclusions

High virological effectiveness of B/F/TAF was observed after the switch from NNRTI regimens, including from RPV-based regimens. Treatment discontinuations were rare events. No resistance mutations were detected at failure.

Purpose

- Large real-world data in people with HIV (PWH) switching from non-nucleoside reverse transcriptase inhibitors (NNRTIs), especially from rilpivirine (RPV)-based regimens to bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) are lacking. Less than 20% of PWH who switched to B/F/TAF were previously on a NNRTI-regimen in real life data, and very few from rilpivirine[1-4].
- Aim of the study was a real-world assessment of the effectiveness of B/F/TAF in PWH switched from NNRTI-based regimens.

Methods

Study design: single center retrospective study

Inclusion criteria:

- PWH >= 18 years
- virologically suppressed [HIV-1< 50 cp/ml on therapy with NNRTI-based therapies before switching to B/F/TAF]

Primary endpoint:

- proportion of PWH with HIV-RNA < 50 cp/ml at 12 months from baseline (BL, time of switch to B/F/TAF)

Secondary endpoint:

- proportion of PWH with virological failure (VF, 2 consecutive HIV-RNA ≥50 cp/mL or a single HIV-RNA >1,000 cp/mL)

The same analysis were performed also in those who switched from RPV/TAF/FTC.

A total of 250 PWH switched to B/F/TAF were initially included in the study cohort. For the present analysis, 214 PWH were retained. The remaining 36 PWH were excluded following database cleaning procedures and/or data queries.

References: **1.** Trottier B, et al. Bictegravir/emtricitabine/tenofovir alafenamide in clinical practice for people with HIV: final 24-month effectiveness and safety outcomes in key populations in the observational BICSTaR cohort. HIV Res Clin Pract 2025;26. https://doi.org/10.1080/25787489.2025.2456890. **2.** Passerotto RA, et al. Effectiveness of bictegravir/emtricitabine/tenofovir alafenamide (BIC/FTC/TAF) as switch strategy in virologically- suppressed patients: real world data from a monocentric cohort. Antivir Ther 2024;29. https://doi.org/10.1177/ 13596535241306467. **3.** d'Arminio Monforte A,, et al. Long-term outcomes of bictegravir/emtricitabine/tenofovir alafenamide as first-line therapy and as switch strategy in virologically suppressed persons with HIV: data from the ICONA cohort. Journal of Antimicrobial Chemotherapy 2024;79:127988.https://doi.org/10.1093/jac/dkae081. **4.** Ambrosioni J et al. Real-life experience with bictegravir/emtricitabine/tenofovir alafenamide in a large reference clinical centre. Journal of Antimicrobial Chemotherapy 2022;77:1133–9.https://doi.org/10.1093/jac/dkab481.

Acknowledgments: DRIVE-SWITCH study was funded by Gilead Sciences, Inc.

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Results

For the present analysis, a total of 214 virally suppressed PWH switched to B/F/TAF were considered:

- 105 from RPV/TAF/FTC
- 7 from RPV/FTC/TDF
- 96 from EFV/FTC/TDF
- 4 from NVP+2NRTI,
- 2 from DOR/3TC/TDF

At baseline, 9 (4.2%) PWH had at least low-level resistance to one component of B/F/TAF at cumulative genotype, 8 (3.7%) had at least low-level resistance to non-nucleoside reverse transcriptase inhibitors (NRTIs), 13 (6.1%) had at least low-level resistance to NNRTIs, 2 (0.9%) had at least low-level resistance to Integrase Inhibitors (INSTIs), 6 (2.8%) had at least low-level resistance to Protease Inhibitors (PIs).

Any previous genotype was lacking for 39% of them.

Table 1: Main characteristics of PWH included in the analysis

Characteristic	Switch from RPV/TAF/FTC N = 105[1]	Switch from other NNRTI N = 109[1]	Overall population N = 214[1]
Age, years	60 (53, 66)	58 (50, 63)	59 (52, 65)
Sex, male	69 (66%)	88 (81%)	157 (73%)
Mode of HIV transmission			
MSM	36 (34%)	42 (39%)	78 (36%)
Heterosexual	30 (29%)	33 (30%)	63 (29%)
IDU	11 (10%)	8 (7.3%)	19 (8.9%)
Other	2 (1.9%)	2 (1.8%)	4 (1.9%)
Missing	26 (25%)	24 (22%)	50 (23%)
Caucasian	88 (84%)	91 (83%)	179 (84%)
Years since HIV diagnosis	16 (11, 24)	13 (9, 18)	14 (10, 20)
Years of ART	12 (9, 17)	10 (8, 15)	11 (9, 16)
Year of B/F/TAF start	2023 (2023, 2024)	2020 (2019, 2020)	2021 (2019, 2023)
Weight at BL, kg	75 (64, 80)	75 (64, 84)	75 (64, 82)
Creatinine at BL, mg/dl	0.93 (0.82, 1.10)	0.93 (0.84, 1.00)	0.93 (0.83, 1.05)
CD4 at BL, cell/mmc	682 (516, 853)	666 (490, 842)	670 (504, 850)
HBs Ag+	8 (7.6%)	1 (0.9%)	9 (4.2%)
HCV Ab+	19 (18%)	13 (12%)	32 (15%)

[1]Median (Q1, Q3); n (%)
Wilcoxon rank sum test; Pearson's Chi-squared test; Fisher's exact test

Virologic effectiveness at 12 months (HIV-RNA<50 cp/ml)

Group	N	HIV-RNA >=50 cp/ml	HIV-RNA <50 cp/ml	Missing value at 12 months	Proportion on complete (missing= excluded)	Proportion (ITT)
Overall population	214	8	180	26	**95.74** [91.83-97.83]	84.11 [78.62-88.4]
Switch from RPV/TAF/FTC	105	4	80	21	**95.24** [88.39-98.13]	76.19 [67.21-83.32]
Switch from other NNRTI	109	4	100	5	**96.15** [90.53-98.49]	91.74 [85.05-95.6]

Virologic effectiveness at 12 months (HIV-RNA<200 cp/ml)

Group	HIV-RNA >=200 cp/ml	HIV-RNA <200 cp/ml	Missing value at 12 months	Proportion on complete (missing= excluded)	Proportion (ITT)
Overall population	2	186	26	**98.94** [96.2-99.71]	86.92 [81.74-90.79]
Switch from RPV/TAF/FTC	1	83	21	**98.81** [93.56-99.79]	79.05 [70.31-85.74]
Switch from other NNRTI	1	103	5	**99.04** [94.75-99.83]	94.5 [88.51-97.45]

Treatment discontinuations and virological failures

- 6 treatment discontinuations (2.8% [95% CI 1.29-5.98])
- All of them with VL <50 cp/ml at last determination
- Reasons of treatment discontinuations: mood disorder (n=2), insomnia (n=1), pregnancy (n=1), epigastric pain (n=1), PWH transferred to another clinical center (n=1)
- 2 virological failures (0.93% [95% CI 0.26-3.34])
- One with 77,000 cp/ml and the other with 5,700 cp/ml (at failure, one GRT showed no RAM, the other not performed)
- None of the PWH with at least low-level resistance at cumulative genotype had VF