RE-SUPPRESSION AFTER VIROLOGICAL REBOUND FOR DOLUTEGRAVIR vs. EFAVIRENZ BASED REGIMENS

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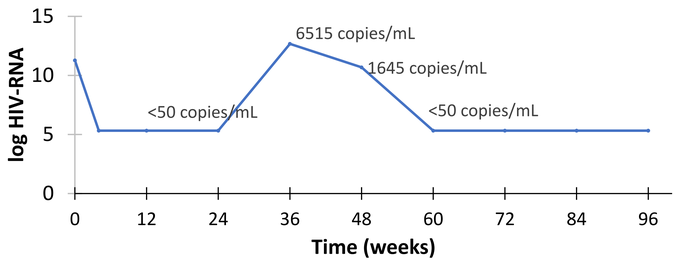
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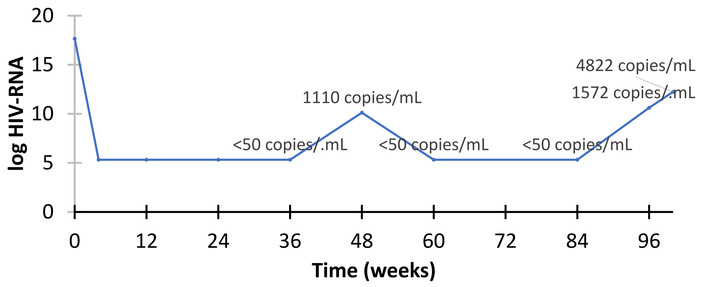
Background

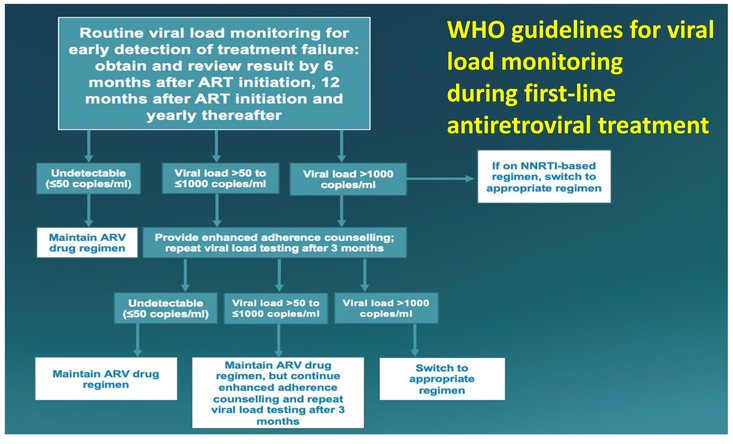
After virological rebound (VR), some patients show HIV RNA re-suppression in longer-term follow up (Example 1 below), while other patients can show sustained viraemia (Example 2). This analysis of the ADVANCE and NAMSAL trials aims to assess the re-suppression rate following virological rebound of participants on dolutegravir (DTG) and efavirenz (EFV) based regimens in the ADVANCE and NAMSAL trials.

Example 1: Re-suppression following virological rebound



Example 2: Sustained Viraemia following initial virological rebound





People taking first-line DTG more likely to re-suppress HIV-RNA after virological failure

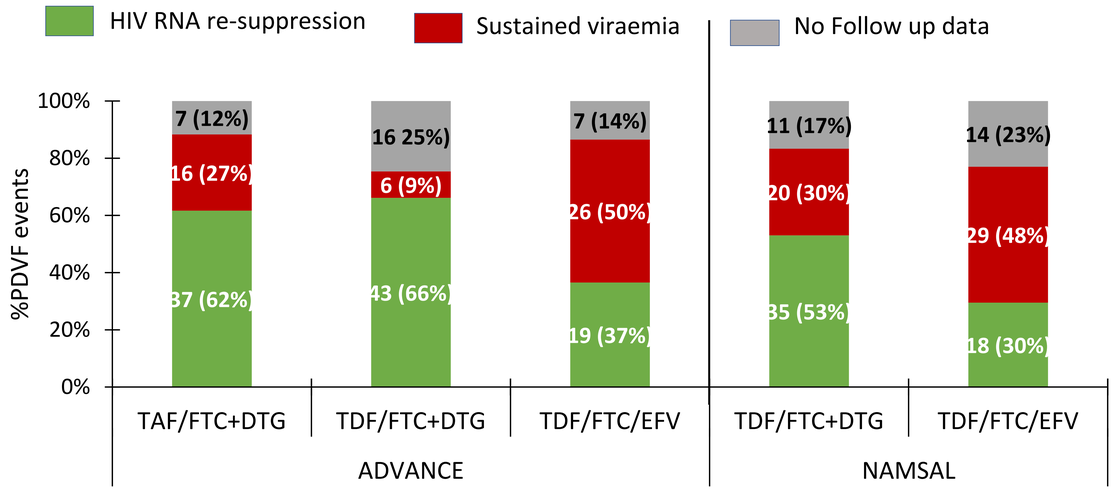


Table 1.0: Summary of baseline characteristics and outcomes post-VF:

	ADVANCE			NAMSAL	
	TAF/FTC+DTG	TDF/FTC+DTG	TDF/FTC/EFV	TDF/3TC+DTG	TDF/3TC/EFV
Baseline Characteristics					
HIV-1 viral load					
Median (IQR) – log_{10} copies/ml	4.4(3.8-4.9)	4.4(3.8-4.9)	4.4(3.7-4.9)	5.3 (4.8-5.8)	5.3 (4.7-5.8)
≥100,000 copies/ml - n (%)	66 (19)	62 (18)	72 (8)	207 (67)	200 (66)
≥500,000 copies/ml - n (%)	11 (3)	9 (3)	8 (3)	93 (30)	95 (31)
Median CD4+ T-cell count (IQR) - per mm^3	323 (174-493)	276 (164-428)	298 (177-445)	289 (157-452)	271 (147-427)
VF- events >1000 copies/mL, n(%)	**60**	**65**	**52**	**66**	**61**
Re-supressed	37 (62%)	43 (66%)	19 (37%)	35 (53%)	18 (30%)
Sustained viraemia	16 (27%)	6 (9%)	26 (50%)	20 (30%)	29 (48%)
No follow up data	7 (12%)	16 (25%)	7 (14%)	11 (17%)	14 (23%)

Methods

In ADVANCE, 1,053 treatment-naïve participants in South Africa were randomized to TAF/FTC+DTG, TDF/FTC+DTG, or TDF/FTC/EFV600. In NAMSAL, 616 treatment-naïve participants in Cameroon were randomized to TDF/FTC+DTG or TDF/FTC/EFV400. A VR event was defined as HIV-RNA >1,000 copies/mL occurring after a participant's first undetectable reading, consistent with the WHO treatment monitoring algorithm [Ref 1 below]. Following each VR event, three subsequent HIV-RNA readings were assessed to determine the proportion of events which lead to re-suppression (HIV-RNA <50 copies/mL). Participants were classified as either suppressed, sustained viraemia or no follow up data. Differences between treatment groups were tested using two sample tests of proportions.

Results

There was a similar number of VR-events >1,000 copies/mL in ADVANCE and NAMSAL (Table 1). In ADVANCE, the percentage of participants who re-suppressed <50 copies/mL within 3 subsequent readings was 62%, 66%, and 37% for TAF/FTC+DTG, TDF/FTC+DTG, and TDF/FTC/EFV respectively, with significant differences between the DTG and EFV groups ($p<0.01$). In NAMSAL, the percentage of re-suppression was 53% and 30% for participants on TDF/FTC+DTG and TDF/FTC/EFV treatments respectively ($p<0.01$).

Conclusions

In the ADVANCE and NAMSAL trials, participants taking TDF/FTC/DTG or TAF/FTC/DTG regimens with HIV RNA >1,000 copies/mL after being suppressed were more likely to resuppress without a change in treatment regimen.

These results support the current WHO treatment monitoring guidelines for HIV patients taking NNRTI - and integrase inhibitor-based regimens.

1 https://www.who.int/news/item/16-07-2021-who-publishes-new-consolidated-hiv-guidelines-for-prevention-treatment-service-delivery-monitoring