Pooled Analysis of On-Study Viremic Events and Outcomes for Dolutegravir/Lamivudine and Comparator 3-Drug Regimens in Clinical Trials of People With HIV-1

WEPEB095

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Key Takeaways

- In this pooled analysis of 4 randomized clinical trials, incidence of viremic events (VEs) with dolutegravir/lamivudine (DTG/3TC) through Week 48 was low and similar to that of 3-drug regimens (3DRs)
- VEs were predominantly followed by re-suppression without treatment change, and continued viremia was uncommon (DTG/3TC, 4%; 3DRs, 6%)
- No treatment-emergent resistance was observed through Week 48

Plain Language Summary

- Small increases in viral load ("viremic events") can occur after HIV becomes undetectable on treatment
- In this analysis, most people who experienced a viremic event returned to undetectable levels without changing treatment, with similar outcomes between dolutegravir/lamivudine and 3-drug regimens
- Continued high viral load after a viremic event was uncommon

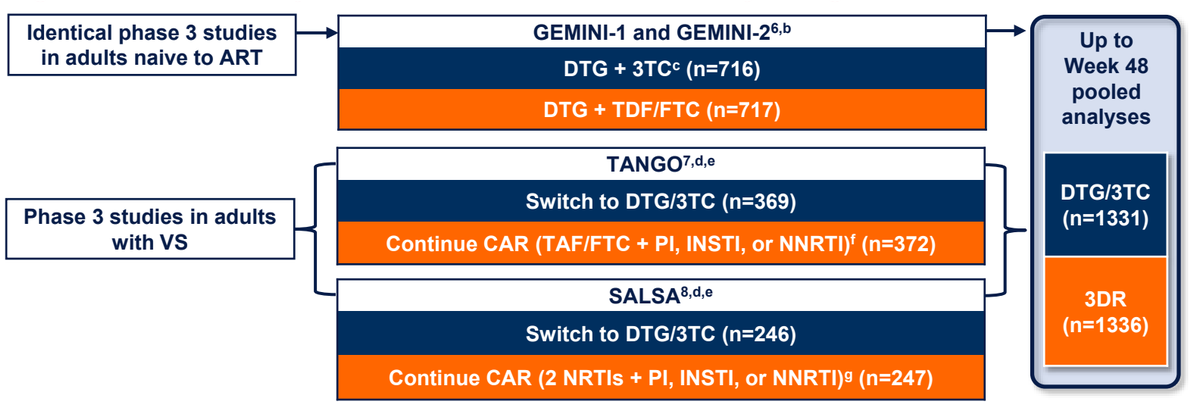
Background

- Detectable viral load (VL) after virologic suppression (VS) may occur in people receiving antiretroviral therapy (ART)[1-4]
- Dolutegravir/Lamivudine (DTG/3TC) has demonstrated non-inferiority to 3-drug regimens (3DRs) in both ART-naive and suppressed-switch populations,[5-8] but data on outcomes following viremic events (VEs) with continued treatment are limited
- This pooled analysis was conducted to characterize the frequency and outcomes of on-study VEs among individuals receiving DTG/3TC or comparator 3DRs

Methods

- This pooled analysis included adults with HIV-1 from 4 randomized clinical trials among ART-naive populations (GEMINI-1 [NCT02831673] and GEMINI-2 [NCT02831764]) and suppressed-switch populations (TANGO [NCT03446573] and SALSA [NCT04021290])
- Participants in the intention-to-treat–exposed (ITT-E) populations who achieved VS (HIV-1 RNA <50 c/mL) during study treatment or had VS at study entry and subsequently experienced a VE (HIV-1 RNA ≥50 c/mL) while on DTG/3TC or comparator 3DRs were assessed (Figure 1)

Figure 1. Pooled Analysis of 4 Randomized Trials: Study Design Overview[a]



CAR, current antiretroviral regimen; FTC, emtricitabine; INSTI, integrase strand transfer inhibitor; NNRTI, non-nucleoside reverse transcriptase inhibitor; NRTI, nucleoside reverse transcriptase inhibitor; PI, protease inhibitor; TAF, tenofovir alafenamide; TDF, tenofovir disoproxil fumarate. [a]Pooled ITT-E population. [b]Randomization (1:1) was stratified by screening plasma HIV-1 RNA (≤100,000 or >100,000 c/mL) and screening CD4+ cell count (≤200 or >200 cells/mm^3). [c]Administered as multi-tablet formulation. [d]Participants who continued a 4-drug CAR were also included in the analysis. [e]Randomization (1:1) was stratified by baseline third-agent class (PI, INSTI, or NNRTI). [f]Participants were on uninterrupted TAF-based regimen for ≥6 months; participants with initial TDF treatment who switched to TAF ≥3 months before screening, with no changes to other drugs in their regimen, were also eligible. [g]Participants were on uninterrupted ART for ≥3 months.

- Virologic outcomes following VEs were classified as:
  - Re-suppression: ≥1 subsequent HIV-1 RNA <50 c/mL
  - Continued viremia: all subsequent on-treatment HIV-1 RNAs ≥50 c/mL
  - Not evaluable: no subsequent HIV-1 RNA measurements available
- Primary outcomes included:
  - Proportion of participants achieving re-suppression after their last VE
  - Proportion of VEs followed by re-suppression
- Analyses are descriptive; virologic outcomes are presented through Week 48

Results

Participants and Demographic Characteristics

- A total of 2667 participants were included in this study; 1331 received DTG/3TC and 1336 received a 3DR
- Baseline characteristics were balanced between groups (Table 1)

Table 1. Baseline Demographics and Clinical Characteristics[a]

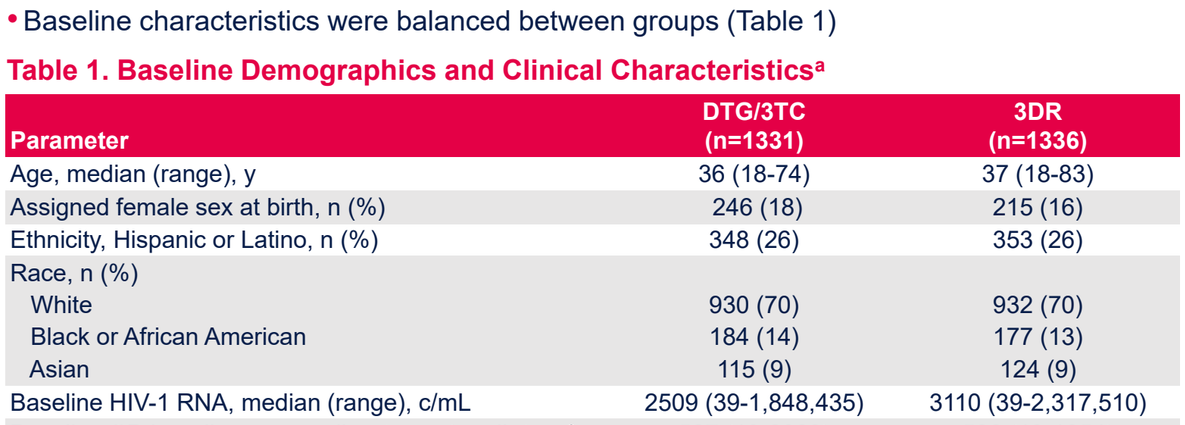
Parameter	DTG/3TC (n=1331)	3DR (n=1336)
Age, median (range), y	36 (18-74)	37 (18-83)
Assigned female sex at birth, n (%)	246 (18)	215 (16)
Ethnicity, Hispanic or Latino, n (%)	348 (26)	353 (26)
Race, n (%)		
White	930 (70)	932 (70)
Black or African American	184 (14)	177 (13)
Asian	115 (9)	124 (9)
Baseline HIV-1 RNA, median (range), c/mL	2509 (39-1,848,435)	3110 (39-2,317,510)
Baseline CD4+ cell count, median (range), cells/mm^3	527 (19-2089)	536 (19-1954)

[a]Pooled ITT-E population.

Participant-Level Virologic Outcomes Up to Week 48

- At Week 48, the proportion of participants who experienced ≥1 VE was low and similar between treatment groups (DTG/3TC, 10% [138/1331]; 3DR, 12% [161/1336]; Figure 2)
  - VEs were observed more frequently in the ART-naive than suppressed-switch population, but proportions were comparable between treatment groups (Figure 2)
  - Most participants with VEs experienced a single event; multiple events were uncommon (median [range] number of VEs experienced: DTG/3TC, 1 [1-2]; 3DR, 1 [1-3]; Table 2)
  - Most VEs were between 50 and 200 c/mL, with few VEs ≥200 c/mL (DTG/3TC, 22 in 21 participants; 3DR, 25 in 24 participants) and very few VEs ≥1000 c/mL (DTG/3TC, 8 in 7 participants; 3DR, 13 in 12 participants)

Figure 2. Proportion of Participants With ≥1 VE by Treatment Status Up to Week 48[a]



[a]Pooled ITT-E population.

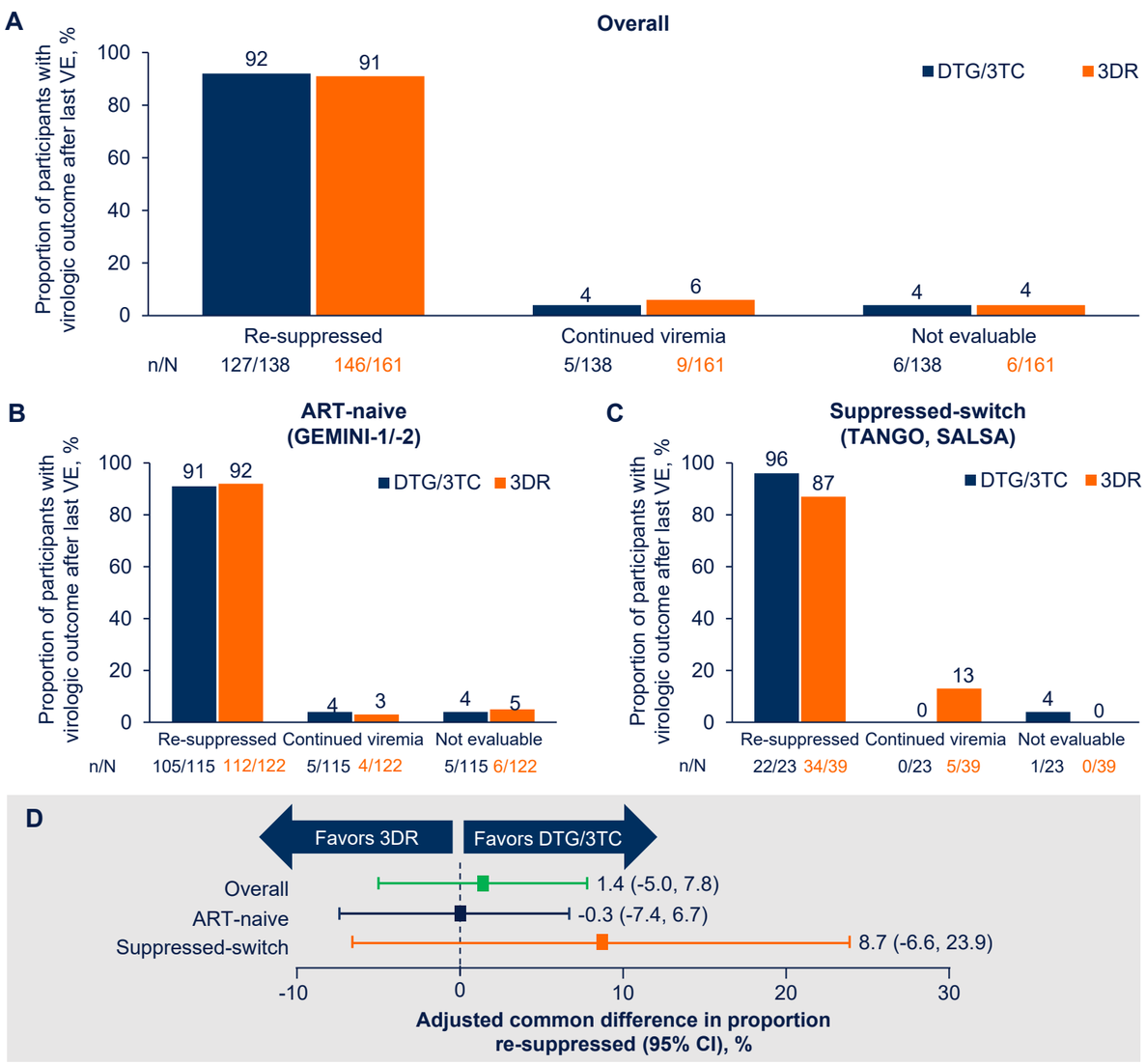
Table 2. Participants by VE Count Up to Week 48[a]

Number of VEs	Participants by VE count, n (%) DTG/3TC (n=1331)	3DR (n=1336)
0	1193 (90)	1175 (88)
1	126 (9)	132 (10)
2	12 (1)	24 (2)
3	—	5 (<1)

[a]Pooled ITT-E population.

- Overall, virologic re-suppression following a VE was high in both treatment groups (DTG/3TC, 92% [127/138]; 3DR, 91% [146/161]; Figure 3), with high rates observed in both ART-naive and suppressed-switch populations

Figure 3. Summary of Participants Classified by Virologic Outcome After Last VE Up to Week 48[a]



[a]Pooled viremic ITT-E population (participants in the pooled ITT-E population who experienced ≥1 VE). Panels A-C show proportion of participants with virologic outcome after their last VE by treatment status; panel D shows the adjusted common difference in re-suppression by treatment status.

Event-Level Virologic Outcomes Up to Week 48

- The overall number of VEs was numerically lower with DTG/3TC than with 3DRs and in the suppressed-switch vs ART-naive population (Table 3)
- Most VEs were followed by re-suppression without treatment change (DTG/3TC, 93% [139/150]; 3DR, 92% [180/195])
  - Re-suppression rates were high and similar between ART-naive and suppressed-switch populations
  - Median time to re-suppression was 6 weeks with DTG/3TC and 7 weeks with 3DRs
- Among all VEs, continued viremia was uncommon and similar between the DTG/3TC and 3DR groups

Table 3. Summary of VEs Up to Week 48[a]

	Virologic outcome, n (%)[b] DTG/3TC (n=1331)	3DR (n=1336)
No. of VEs	150	195
Re-suppressed	139 (93)	180 (92)
Continued viremia	5 (3)	9 (5)
Not evaluable	6 (4)	6 (3)
Adjusted common difference in proportion re-suppressed, % (95% CI)	—	0.5 (-5.1, 6.1)
No. of VEs: ART-naive	124	148
Re-suppressed	114 (92)	138 (93)
Continued viremia	5 (4)	4 (3)
Not evaluable	5 (4)	6 (4)
Adjusted common difference in proportion re-suppressed, % (95% CI)	—	-1.1 (-7.4, 5.1)
No. of VEs: suppressed-switch	26	47
Re-suppressed	25 (96)	42 (89)
Continued viremia	0	5 (11)
Not evaluable	1 (4)	0
Adjusted common difference in proportion re-suppressed, % (95% CI)	—	7.0 (-6.1, 20.2)

[a]Pooled ITT-E population. [b]Unless specified otherwise.

Emergent Resistance Outcomes

- No treatment-emergent resistance was observed through Week 48 in either treatment group
  - Resistance testing was performed per protocol-defined criteria for parent studies (eg, at confirmed HIV-1 RNA ≥200 c/mL or virologic failure)

Conclusions

- VEs after VS were uncommon across treatment groups and were observed more frequently in the ART-naive than suppressed-switch population
- Most VEs were followed by re-suppression without treatment change, with comparable outcomes between DTG/3TC and 3DR groups
- Continued viremia was rare, and no treatment-emergent resistance was observed through Week 48
- These results provide relevant context to inform treatment decisions following VEs in clinical practice

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References: **1.** World Health Organization. https://www.who.int/publications/i/item/9789240031593. Published July 16, 2021. Accessed May 28, 2026. **2.** National Institutes of Health. https://hivinfo.nih.gov/understanding-hiv/fact-sheets/hiv-treatment-basics. Updated January 14, 2025. Accessed May 28, 2026. **3.** Brown et al. *J Antimicrob Chemother*. 2021;76:1294-1298. **4.** Sörstedt et al. *BMC Infect Dis*. 2016;16:305. **5.** Ryan et al. *Lancet HIV*. 2025;12:e473-e484. **6.** Cahn et al. *AIDS*. 2022;36:39-48. **7.** Osiyemi et al. *Clin Infect Dis*. 2022;75:975-986. **8.** Llibre et al. *Clin Infect Dis*. 2023;76:720-729.

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