Efficacy of Long-Acting Cabotegravir Plus Rilpivirine Immediately Post-Suppression on DTG/3TC in Prior High Viraemic, Low CD4 HIV-1 Subgroups: 11-Month VOLITION Results

P058

Chinyere Okoli,[1] Patricia de Los Rios,[2] Charlotte-Paige Rolle,[3] Paul Benson,[4] Pedro Cahn,[5] Teresa Aldamiz-Echevarria,[6] Joaquin Bravo Urbieta,[7,8,9] Andrea Antinori,[10] Rosario Palacios Muñoz,[11] Kai Hove,[1] Richard Grove,[12] Avishek Chatterjee,[13] Kehui Wang,[14] Samia Dakhia[1]

[1]ViiV Healthcare, London, UK; [2]ViiV Healthcare, Montreal, QC, Canada; [3]Orlando Immunology Center, Orlando, FL, USA; [4]Be Well Medical Center, Berkley, MI, USA; [5]Fundación Huésped, Buenos Aires, Argentina; [6]CIBER Enfermedades Infecciosas (CIBERINFEC), Madrid, Spain; [7]Infectious Diseases Unit, Internal Medicine Department, J. M. Morales Meseguer General University Hospital, Murcia, Spain; [8]Infectious Diseases and Artificial Intelligence Group, Biomedical Research Institute of Murcia Pascual Parrilla-IMIB, Murcia, Spain; [9]Department of Internal Medicine, Faculty of Medicine, University of Murcia, Murcia, Spain; [10]National Institute for Infectious Diseases Lazzaro Spallanzini IRCCS, Rome, Italy; [11]Infectious Diseases Unit, Hospital Virgen de la Victoria, IBIMA, Málaga, Spain; [12]GSK, London, UK; [13]GSK CCC, Bengaluru, Karnataka, India; [14]GSK, Collegeville PA, USA

Please scan the QR code for additional resources

Key Takeaways

- **People with HIV-1 initiating antiretroviral therapy with high viral load (VL; ≥100,000 c/mL) and/or low CD4 count (<350 cells/mm³) have a greater likelihood of virologic failure**
- **We show high rates of virologic suppression on long-acting cabotegravir plus rilpivirine (CAB+RPV LA) in participants with initial suppression on DTG/3TC with high baseline VL and/or low CD4 count at baseline**
- **An early switch to CAB+RPV LA immediately after suppression on DTG/3TC is a robust strategy for people with HIV-1 irrespective of baseline VL and CD4 count**

Plain Language Summary

- Newly diagnosed people with HIV-1 who have a high amount of virus in the blood (known as viral load) and/or low CD4 cell counts have a greater likelihood that their HIV medication does not suppress the virus in the first year they are on it
- This study examined whether long-acting cabotegravir plus rilpivirine (CAB+RPV LA) could keep levels of the HIV virus suppressed in individuals with high baseline viral loads and/or low CD4 cell counts once their viral load was suppressed with oral dolutegravir plus lamivudine (DTG/3TC)
- The majority of participants with high viral loads and/or low CD4 cell counts who switched to CAB+RPV LA immediately after the virus was suppressed by DTG/3TC had suppressed viral loads for at least 11 months after switching
- CAB+RPV LA offers the option of injections 6 times per year instead of daily pills, even for people who initiated treatment with high viral loads and/or low CD4 cell counts when diagnosed

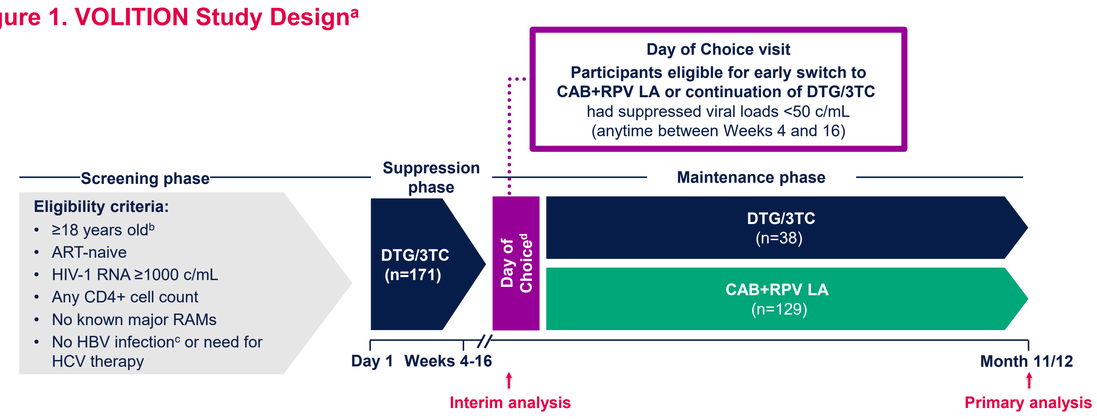
Introduction

- People with HIV-1 initiating antiretroviral therapy (ART) with high viral load (VL; ≥100,000 c/mL) and low CD4 count (<350 cells/mm³) have a greater likelihood of virologic failure in the first year of therapy,[1] possibly due to having a higher HIV reservoir[2]
- Dolutegravir plus lamivudine (DTG/3TC) provides an effective daily oral option, whereas long-acting cabotegravir plus rilpivirine (CAB+RPV LA), dosed 6 times a year, offers an alternative that reduces the daily oral dosing burden for individuals who prefer less-frequent administration[3,4]
- Although the CAB+RPV LA label does not specify a required duration of virologic suppression before switching,[5] guidelines recommend stable virologic suppression, ranging from 3 to 6 months, before switching to long-acting therapy[6,7]
- Results from the VOLITION trial showed that an early switch from oral DTG/3TC to CAB+RPV LA is efficacious when participants are given the choice[3]; however, additional data is needed regarding the efficacy of CAB+RPV LA in people with high baseline VL or low CD4 count considering an early switch
- We evaluated the efficacy and safety of CAB+RPV LA in participants in a post-hoc analysis of the VOLITION study by baseline CD4 count (<350 versus ≥350 cells/mm³) and VL (<100,000 versus ≥100,000 c/mL), before virologic suppression with DTG/3TC

Methods

- VOLITION (NCT05917509), a phase 3b study, enrolled participants who were naive to ART and received daily DTG/3TC until virologic suppression (4 to 16 weeks), followed by participant-determined optional switch to CAB+RPV LA for 11/12 months (Figure 1)[3]
- Co-primary endpoints of the main study were time to virologic suppression with DTG/3TC and Month 11/12 suppression rate (HIV-1 RNA <50 c/mL) on CAB+RPV LA maintenance[3]
- Outcomes of participants who were suppressed on DTG/3TC and switched to CAB+RPV LA were assessed in subgroups by baseline CD4 count (<350 and ≥350 cells/mm³) and VL (<100,000 and ≥100,000 c/mL) using descriptive statistics

Figure 1. VOLITION Study Design[a]



ALT, alanine transaminase; anti-HBc, hepatitis B core antibody; anti-HBs, hepatitis B surface antibody; HBsAg, hepatitis B surface antigen; HBV, hepatitis B virus; HCV; hepatitis C virus; RAM, resistance-associated mutation; ULN, upper limit of normal. [a]VOLITION was conducted at 45 sites across the United States (n=15), Spain (n=8), France (n=5), Italy (n=4), Argentina (n=4), Chile (n=4), Germany (n=3), and Canada (n=2). [b]Or older, if required by local regulations. [c]Participants positive for HBsAg were excluded. Participants negative for anti-HBs but positive for anti-HBc were excluded only if HBV DNA was detected. [d]Participants proceeded to DoC at the study visit following their first plasma HIV-1 RNA result <50 c/mL (Week 4 at the earliest but no later than Week 16). Participants must have had a suppressed viral load <50 c/mL to qualify for the optional switch to CAB+RPV LA. The exclusion criteria for switching included: treatment-emergent ALT ≥5 × ULN; ALT ≥3 × ULN and bilirubin ≥1.5 × ULN (with >35% direct bilirubin); and pregnancy.

Results

Participant Demographics

- Of eligible participants, 85% (n=129/151) chose to switch to CAB+RPV LA[3]
- Baseline characteristics across CD4 and VL subgroups were consistent with the overall CAB+RPV LA maintenance phase cohort (Table 1)

Table 1. Demographic and Clinical Characteristics of Overall and CD4 and VL Subgroups

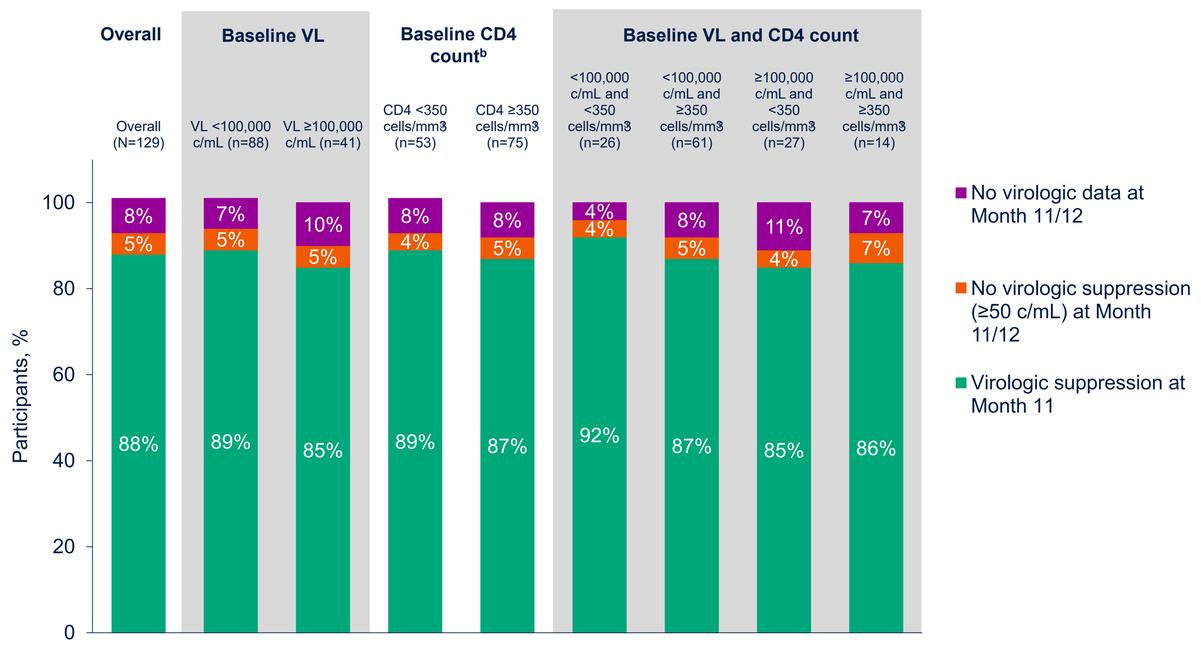
Parameter	Baseline overall (N=129)	Baseline CD4 count <350 cells/mm³ (n=53)	Baseline CD4 count ≥350 cells/mm³ (n=75)	Baseline VL <100,000 c/mL (n=88)	Baseline VL ≥100,000 c/mL (n=41)
Age, median (IQR), y	31.0 (25.0-40.0)	33.0 (26.0-44.0)	31.0 (24.0-37.0)	30.5 (25.0-36.5)	34.0 (26.0-46.0)
Sex reported at birth, n (%)					
Female	31 (24)	15 (28)	15 (20)	23 (26)	8 (20)
Male	98 (76)	38 (72)	60 (80)	65 (74)	33 (80)
Ethnicity, n (%)					
Hispanic or Latine	66 (51)	27 (51)	39 (52)	45 (51)	21 (51)
Not Hispanic or Latine	63 (49)	26 (49)	36 (48)	43 (49)	20 (49)
BMI, median (IQR), kg/m²	25.5 (22.4-29.4)	25.7 (22.4-29.4)	25.5 (22.3-29.1)	25.5 (22.4-29.1)	25.2 (22.7-30.2)
BMI category, n (%)					
Overweight (25 to <30 kg/m²)	47 (36)	19 (36)	28 (37)	36 (41)	11 (27)
Obese (≥30 kg/m²)	27 (21)	11 (21)	16 (21)	16 (18)	11 (27)
CD4 count at Day 1, median (IQR), cells/mm³	415 (262-548)	237 (155-312)	523 (436-694)	446 (321-568)	311 (190-447)
Viral load at Day 1, median (IQR),[a] c/mL	51,300 (20,500-118,000)	100,000 (33,500-203,000)	32,100 (10,500-67,000)	23,750 (11,800-53,900)	203,000 (123,000-368,000)

BMI, body mass index; DoC, day of choice; IQR, interquartile range. [a]Viral load was suppressed on DoC before switch to CAB+RPV LA. Day 1 is the baseline in each subgroup.

Virologic Response

- Participants with baseline VL ≥100,000 c/mL (n=41) and <100,000 c/mL (n=88) had similar Month 11/12 CAB+RPV LA suppression rates (85%, 35/41; 89%, 78/88, respectively; Figure 2)
- Participants with CD4 count <350 cells/mm³ (n=53) and ≥350 cells/mm³ (n=75) had similar Month 11/12 CAB+RPV LA suppression rates (89%, 47/53; 87%, 65/75, respectively; Figure 2)
- Month 11/12 suppression rate was 85% for those with ≥100,000 c/mL and <350 cells/mm³ (23/27) and Month 11/12 suppression rate was 87% for those with <100,000 c/mL and ≥350 cells/mm³ (53/61; Figure 2)
- Median suppression time on DTG/3TC was 29 days in the overall group, and broadly balanced between groups, with no clinically significant differences[3]
- Only 1 participant in VOLITION, who had a baseline VL of 55,700 c/mL and DoC VL of <20 c/mL, had a confirmed virologic failure
- No confirmed virologic failures with treatment-emergent resistance-associated mutations were observed in the high baseline VL, low CD4, or combined high-risk subgroups[3]

Figure 2. Durable Month 11/12 Virologic Suppression After DTG/3TC Suppression and CAB+RPV LA Maintenance by VL and/or CD4 Status at Baseline (Snapshot Outcomes)[a]



[a]Percentages may not equal 100 due to rounding. [b]One participant had a missing CD4+ cell count at baseline and/or screening.

- Four of the 5 participants with a VL >500,000 c/mL at baseline achieved VL <50 c/mL at Month 11, and 1 participant discontinued at Month 3 (Table 2)
- No confirmed virologic failures with treatment-emergent resistance-associated mutations were observed in the high baseline VL, low CD4, or combined high-risk subgroups

Table 2. Outcomes of Participants With Very High VL at Baseline (>500,000 c/mL) on CAB+RPV LA Maintenance

Participant	Baseline VL, c/mL	Baseline CD4 count,[a] cells/mm³	Snapshot outcome at Month 11
1	526,000	621	TND
2	842,000	216	TND
3	4,280,000	762	TND
4	1,300,000	696	Discontinued study at Month 3
5	1,200,000	312	TND

TND, target not detected. [a]One participant had a missing CD4+ cell count at baseline and/or screening.

Safety and Tolerability

- Adverse event profiles and discontinuation rates were comparable across all subgroups (Table 3)

Table 3. Safety Summary Through Month 11/12 With CAB+RPV LA

	Overall (N=129)	VL <100,000 c/mL (n=88)	VL ≥100,000 c/mL (n=41)	CD4 Count <350[a] cells/mm³ (n=53)	CD4 count ≥350[a] cells/mm³ (n=75)
Any AE	97 (75)	66 (75)	31 (76)	36 (68)	60 (80)
Any treatment-related AE , n (%)	66 (51)	49 (56)	17 (41)	20 (38)	46 (61)
Injection site pain	55 (43)	43 (49)	12 (29)	16 (30)	39 (52)
Injection site discomfort	9 (7)	8 (9)	1 (2)	3 (6)	6 (8)
Injection site nodule	5 (4)	5 (6)	0	0	5 (7)
Injection site bruising	4 (3)	3 (3)	1 (2)	1 (2)	3 (4)
AEs leading to withdrawal	0	0	0	0	0
Any SAE	12 (9)	7 (8)	5 (12)	5 (9)	7 (9)

AE, adverse event; SAE, serious adverse event. [a]One participant had a missing CD4+ cell count at baseline and/or screening.

Conclusions

- During the first year of therapy, CAB+RPV LA maintained durable virologic suppression in people with a high VL ≥100,000 c/mL and/or low CD4 count <350 cells/mm³, similar to those with VL <100,000 c/mL and/or CD4 count ≥350 cells/mm³
- Virologic suppression at Month 11/12 was also observed among the 4 participants with baseline VL ≥500,000, including 1 participant with baseline VL ≥4,000,000 c/mL
- CAB+RPV LA was well tolerated, with no treatment withdrawals due to adverse events across any subgroup
- Early switch to CAB+RPV LA immediately after suppression on DTG/3TC represents a feasible strategy for people with HIV-1, irrespective of baseline VL or CD4 count

Acknowledgments: This study was funded by ViiV Healthcare. Editorial assistance and graphic design support for this poster were provided under the direction of the authors by Fingerpaint Medical and funded by ViiV Healthcare.

References: 1. Perez-Molina et al. *Clin Infect Dis*. 2023;76:2027-2037. **2.** Reddy et al. *eLife*. 2024;13:RP96617. **3.** Córdova et al. *OFID*. 2026. [Epub ahead of print]. **4.** Mussini et al. *AIDS Behav*. 2025;29:64-76. **5.** Cabenuva [prescribing information]. ViiV Healthcare; 2025. **6.** European AIDS Clinical Society. https://eacs.sanfordguide.com/en/eacs-hiv/art/eacs-switch-strategies. Accessed September 13, 2026. **7.** British HIV Association. https://bhiva.org/clinical-guideline/hiv-1-treatment-guidelines/. Accessed October 13, 2026.

Presenting author: Chinyere Okoli; chinyere.x.okoli@viivhealthcare.com