Clinical Outcomes at Month 12 After Initiation of Cabotegravir and Rilpivirine Long-Acting (CAB+RPV LA) in an Observational Real-World Study (BEYOND)

THPEB099

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Key Takeaways

- **BEYOND is one of the first real-world evidence studies of people living with HIV-1 initiating cabotegravir plus rilpivirine long-acting (CAB+RPV LA) in US clinics evaluating clinical and patient-reported outcomes**
- **91% of injections were administered on time (post hoc analysis)**
- **Month 12 results from BEYOND indicate that CAB+RPV LA is highly effective for the maintenance of virologic suppression in real-world populations of people living with HIV-1, supporting clinical trial results**

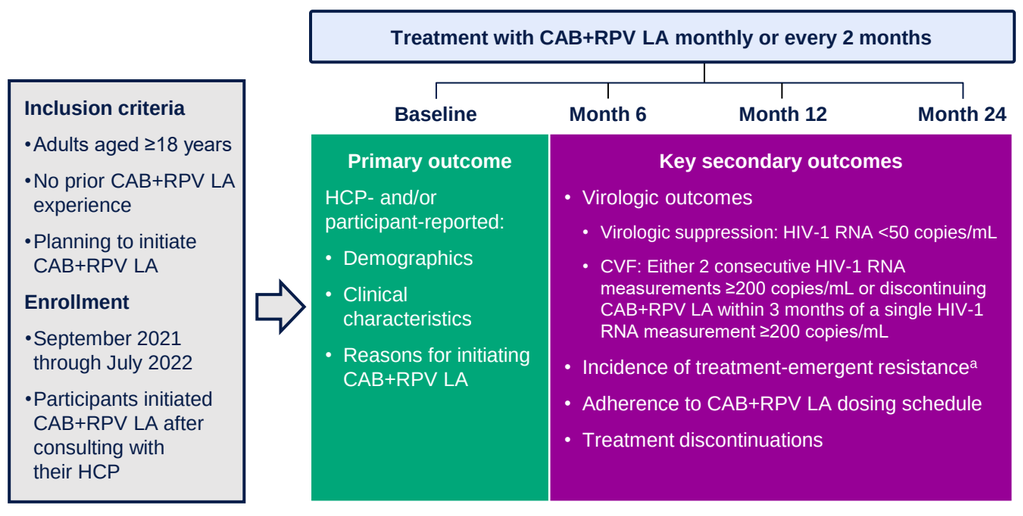
Introduction

- Cabotegravir plus rilpivirine long-acting (CAB+RPV LA) is the first complete LA regimen recommended for the maintenance of virologic suppression in people living with HIV-1[1,2]
- Switching to CAB+RPV LA administered monthly or every 2 months was non-inferior to daily oral antiretroviral therapy (ART) in the phase 3/3b FLAIR, ATLAS, and SOLAR studies[3-5]
- Real-world evidence (RWE) can help us better understand utilization and clinical outcomes among groups of people living with HIV-1 who are more reflective of real-world populations
- Here we describe the demographics and clinical outcomes of adults living with HIV-1 at baseline and the Month 12 analysis of BEYOND, one of the first RWE studies evaluating the use of CAB+RPV LA in US clinics

Methods

- BEYOND is a 2-year, prospective, observational real-world study of utilization, outcomes, and experiences of people living with HIV-1 initiating CAB+RPV LA monthly or every 2 months across 27 sites in the United States (Figure 1)
- Clinical outcomes data were recorded in electronic case report forms by the healthcare provider (HCP) or designee
  - Clinical outcomes data are reported herein for 272 (out of 308 enrolled) participants who completed Month 12 follow-up (data cutoff date: September 11, 2023)
- Data were stratified and analyzed according to treatment usage type: consistent with label (CWL) or inconsistent with label (IWL)
  - IWL classification was based on whether the participant (1) was not virologically suppressed (≥50 copies/mL) before initiating CAB+RPV LA, (2) had reported prior virologic failure(s), and/or (3) had documented prior resistance to CAB or RPV

Figure 1. BEYOND Study Design



CVF, confirmed virologic failure; HCP, healthcare provider. [a]Resistance test results were collected, if available, at baseline and at the time of or after treatment discontinuation.

Results

Participant Demographics and Reasons for Initiating CAB+RPV LA

- 308 people living with HIV-1 were enrolled and initiated CAB+RPV LA; 233 (76%) and 75 (24%) met study criteria for the CWL and IWL populations, respectively (Table 1)
- IWL population (not mutually exclusive):
  - Not virologically suppressed at initiation (n=28)
  - Previous virologic failure (n=8)
  - Documented prior resistance to CAB or RPV (n=47)

Table 1. Demographics and Baseline Characteristics of People Living With HIV-1 Initiating CAB+RPV LA

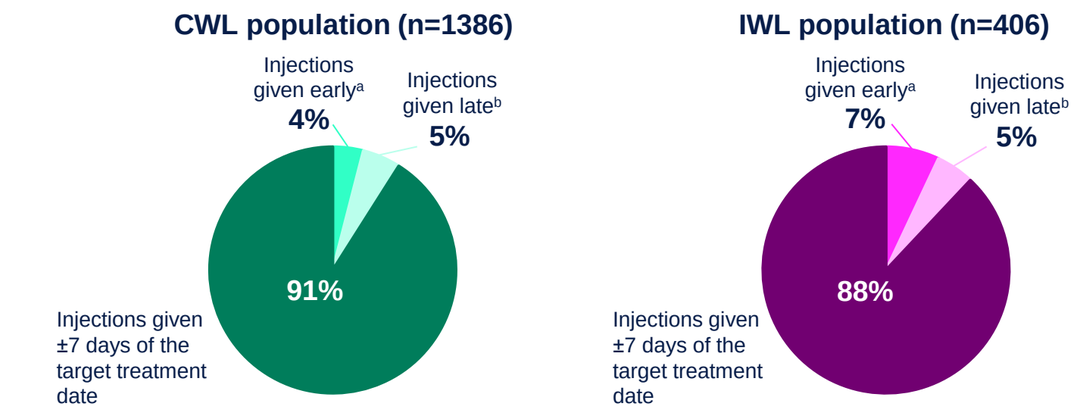
Baseline characteristic	CAB+RPV LA usage type: CWL (n=233)	CAB+RPV LA usage type: IWL (n=75)	Total (N=308)
Age			
Mean (SD), years	45.8 (12.9)	46.1 (13.5)	45.9 (13.1)
≥50 years, n (%)	89 (38)	32 (43)	121 (39)
Sex assigned at birth, n (%)			
Male	205 (88)	63 (84)	268 (87)
Female	28 (12)	12 (16)	40 (13)
Race (self-identified), n (%)[a]			
White	115 (49)	32 (43)	147 (48)
Black or African American	91 (39)	28 (37)	119 (39)
Other races[b]	60 (26)	27 (36)	87 (28)
BMI, median (range), kg/m^2	27.8 (16.9, 57.5)	27.9 (17.7, 45.7)	27.9 (16.9, 57.5)
Insurance/Drug-coverage type, n (%)			
Private health insurance	110 (47)	36 (48)	146 (47)
Medicaid	61 (26)	19 (25)	80 (26)
Medicare or Medi-Gap	35 (15)	14 (19)	49 (16)
AIDS Drug Assistance Program/Ryan White	25 (11)	13 (17)	38 (12)
Other[c]	25 (11)	5 (7)	30 (10)
Years since initiation of first ART	n=229	n=73	n=302
Median (range)	10.3 (0.1, 35.7)	9.7 (0.2, 35.0)	9.9 (0.1, 35.7)
Top 3 ART regimens before CAB+RPV LA initiation, n (%)			
BIC/TAF/FTC	87 (37)	30 (40)	117 (38)
DTG/3TC	24 (10)	10 (13)	34 (11)
DTG/ABC/3TC	30 (13)	7 (9)	37 (12)
Initiation of CAB+RPV LA, n (%)			
With oral lead-in	177 (76)	51 (68)	228 (74)
Without oral lead-in	56 (24)	24 (32)	80 (26)
Initial CAB+RPV LA injection schedule, n (%)			
Monthly	117 (50)	44 (59)	161 (52)
Every 2 months	116 (50)	31 (41)	147 (48)

ABC, abacavir; BIC, bictegravir; BMI, body mass index; DTG, dolutegravir; FTC, emtricitabine; TAF, tenofovir alafenamide; 3TC, lamivudine. [a]Not mutually exclusive. [b]Includes Native American, American Indian or Alaska Native (CWL, n=13; IWL, n=6), Asian (CWL, n=5; IWL, n=3), Native Hawaiian or Other Pacific Islander (CWL, n=2; IWL, n=1), a race not listed (CWL, n=24; IWL, n=5), and prefer not to answer (CWL, n=8; IWL, n=6). [c]Includes Medicare-Medicaid plan (CWL, n=10; IWL, n=2), other coverage not listed (eg, a state-sponsored health plan, other government program, Indian Health Service; CWL, n=14; IWL, n=3), and no healthcare or drug coverage of any type (CWL, n=1).

CAB+RPV LA Dosing and Adherence

- Adherence to the dosing schedule was evaluated 2 ways
  - By using the initial injection as the basis for each subsequent injection date and the ±7-day window (original analysis)
  - By using the previous injection date as the basis for the subsequent injection date and the ±7-day window (post hoc analysis)
- Using the first definition of adherence, 72% of injections were given on time (±7 days from the target treatment date) in the CWL and IWL groups; 18% and 15% were given early and 10% and 13% were given late in the CWL and IWL groups, respectively (original analysis)
- Using the adherence definition reflective of real-world practice (post hoc analysis), 91% and 88% of injections were given on time in the CWL and IWL groups, respectively (Figure 2)

Figure 2. Adherence to the CAB+RPV LA Dosing Schedule Through Month 12 (Post Hoc Analysis)



[a]Early injections were given >7 days before the target treatment date. [b]Late injections were given >7 days after the target treatment date.

CAB+RPV LA Dosing and Adherence (cont)

- Of the 2166 total injections expected through Month 12, HCPs reported 65 (3%) were missed
  - Of those missed, 30 (46%) used oral therapy (CAB+RPV, n=5; "other," n=25) between injections
- The most common participant- and HCP-reported reasons for missing an injection (besides "other") were insurance issues or treatment cost and forgotten/canceled appointments, respectively

Virologic Outcomes

- Based on the most recent viral load tests, high rates of virologic suppression and low rates of confirmed virologic failure were observed at Month 6 and Month 12 for participants who were (CWL) or were not (IWL) virologically suppressed at baseline (Table 2)
- Resistance testing was conducted in 3 of the participants with CVF at the time of or after CAB+RPV LA discontinuation, all in the IWL group; all 3 had reported baseline resistance and treatment-emergent mutations (Table 3)

Table 2. Virologic Outcomes Observed at Month 6 and Month 12 Based on Most Recent Viral Load

Category	Month 6: CWL (N=233)	Month 6: IWL (N=75)	Month 6: Total (N=308)	Month 12[a]: CWL (N=210)	Month 12[a]: IWL (N=62)	Month 12[a]: Total (N=272)
Total participants with viral load data at both baseline and respective time point, n[b]	206	60	266	156	44	200
Participants with baseline viral load <50 copies/mL, n[b]	206	42	248	156	31	187
<50 copies/mL, n (%)	198 (96)	37 (88)	235 (95)	153 (98)	28 (90)	181 (97)
≥50 copies/mL, n (%)	8 (4)	5 (12)	13 (5)	3 (2)	3 (10)	6 (3)
Participants with baseline viral load ≥50 copies/mL, n[b]	0	18	18	0	13	13
<50 copies/mL, n (%)	NA	17 (94)	17 (94)	NA	13 (100)	13 (100)
≥50 copies/mL, n (%)	NA	1 (6)	1 (6)	NA	0	0
CVFs, n (%)[c]	2 (1)	4 (5)	6 (2)	0	1 (2)	1 (<1)

CVF, confirmed virologic failure; NA, not applicable. [a]Population with ≥1 viral load test between Month 6 and 12. [b]Based on most recent viral load test. [c]Proportions calculated using total N for each column. Cumulative CVFs through Month 12: 7/308 (2%) overall; 2/233 (1%) CWL; 5/75 (7%) IWL.

Table 3. Resistance Testing Outcomes

Participant; population	Baseline resistance mutation(s): NRTI	NNRTI	PI	INSTI	Mutation(s) detected at the time of or after discontinuation: NRTI	NNRTI	PI	INSTI
1; IWL	ND	Other[a]	ND	ND	ND	**K101P/E/H**, **Y181C/I/V**	ND	ND
2; IWL	ND	K103N/S	Other[a]	ND	ND	K103N/S, **E138K/A/G/Q**, **Y181C/I/V**	ND	**R263K**
3; IWL	M184V/I, K70E/G/Q/R, K219Q/E	**L100I**, K103N/S	ND	ND	K70E/G/Q/R, K219Q/E, other[a]	**L100I**, K103N/S	ND	**G140S/A/C ± E138K/A**, **Q148H/R/K**

INSTI, integrase strand transfer inhibitor; ND, not detected; NNRTI, non-nucleoside reverse transcriptase inhibitor; NRTI, nucleoside reverse transcriptase inhibitor; PI, protease inhibitor. [a]"Other" not specified. Bolded mutations are specifically associated with CAB or RPV resistance.[6]

CAB+RPV LA Tolerability and Discontinuations

- Adverse events (AEs) were reported in 74/308 (24%) participants through Month 12
  - 6 (2%) reported a serious AE
  - 13 (4%) reported a drug-related AE (excluding injection site reactions [ISRs])
  - 30 (10%) reported an ISR
- Through Month 12, 40 participants had discontinued CAB+RPV LA (CWL, n=27; IWL, n=13)
- The most common HCP-reported reasons for discontinuation were
  - Medication cost or access issues (CWL, n=5; IWL, n=3)
  - Patient preference (CWL, n=6; IWL, n=1)
  - ISRs or injection pain (CWL, n=5)
  - "Other" (CWL, n=7; IWL, n=3)

Conclusions

- Through Month 12, switching to CAB+RPV LA was associated with
  - High rates of virologic suppression
  - Low rates of confirmed virologic failure with treatment-emergent resistance
  - Low rates of discontinuation due to ISRs
- Rates of virologic non-suppression and confirmed virologic failure at Months 6 and 12 were higher in the IWL group compared with the CWL group
- 91% of injections were administered on time (post hoc analysis)
- The Month 12 results from real-world initiation of CAB+RPV LA in the United States are consistent with phase 3/3b clinical trials

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 MedThink SciCom and funded by ViiV Healthcare.

References: 1. Cabenuva [prescribing information]. ViiV Healthcare; 2023. **2.** Panel on Antiretroviral Guidelines for Adults and Adolescents. https://clinicalinfo.hiv.gov/sites/default/files/guidelines/documents/adult-adolescent-arv/guidelines-adult-adolescent-arv.pdf. Accessed May 23, 2024. **3.** Orkin et al. *N Engl J Med*. 2020;382:1124-1135. **4.** Ramgopal et al. *Lancet HIV*. 2023;10:e566-e577. **5.** Swindells et al. *N Engl J Med*. 2020;382:1112-1123. **6.** Wensing et al. *Top Antivir Med*. 2022;30:559-574.

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