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LONG-ACTING CABOTEGRAVIR AND RILPIVIRINE IN HIV INDIVIDUALS WITH A BMI OVER 30: A REAL-WORLD STUDY (RELATIVITY COHORT)

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BACKGROUND

Switching to long-acting cabotegravir and rilpivirine (CAB+RPV) has emerged as a standard approach for people living with HIV (PLWH), offering high efficacy, safety, and convenience. Nevertheless, there is a scarcity of data regarding people with a body mass index (BMI) over 30, a factor potentially related to virological failure in studies.

MATERIAL AND METHODS

We conducted a multicenter, non-controlled, retrospective study on HIV virologically suppressed individuals who switched to long-acting CAB+RPV (RELATIVITY Cohort) in 2023 We evaluated demographic and clinical factors in individuals with a BMI > 30.

RESULTS

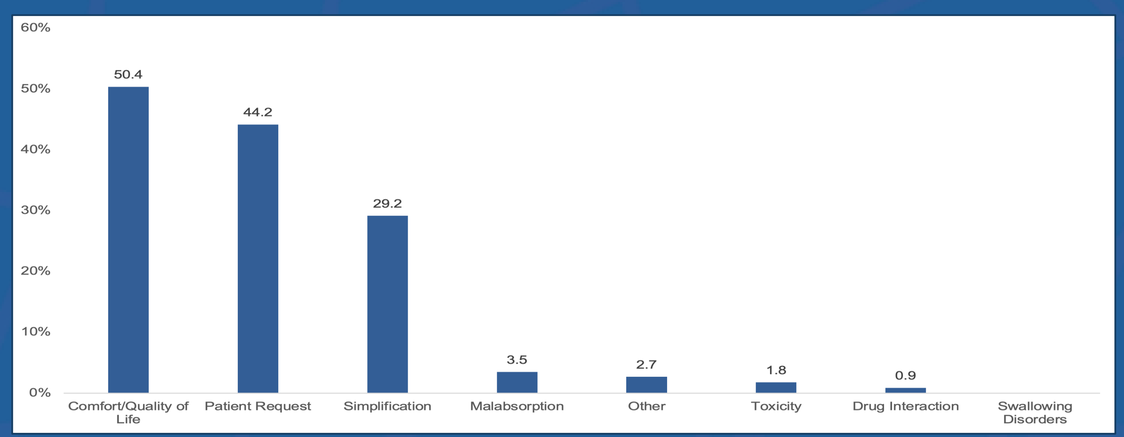
The study included 113 individuals from 25 hospitals in Spain, representing 8.3% of the Relativity cohort, which comprised 1366 individuals. The median age was 48 years (41 to 54), with 78.8% being men. The median duration of previous oral antiretroviral therapy was 10.7 years (IQR: 6.0 - 17.0), and the median duration of viral suppression was 8.0 years (IQR: 4.6 - 12.0).

The median BMI at the time of switching to long-acting CAB+RPV was 32.3 [IQR: 30.9 - 34.1]. A 38mm needle was used in 56.7% of cases. Intramuscular injections were applied to the dorsogluteal location in 79.3% of individuals.

Demographic Data		
Age (years), (median [IQR])	**Viral Load**	48.0 [41.0, 54.0]
Male, n (%)		89/113 (78.8)
Spaniards, n (%)		76/113 (68.5)
Comorbidities, n (%)		
High Blood Pressure		22/113 (19.5)
Diabetes Mellitus		14/113 (12.4)
Dyslipidemia		45/113 (39.8)
Ischemic Heart Disease		3/113 (2.7)
Cerebrovascular Disease		2/113 (1.8)
Peripheral Vascular Disease		2/113 (1.8)
Renal Insufficiency		1/113 (0.9)
Osteopenia/Osteoporosis		6/113 (5.3)
Chronic Lung Disease		8/113 (7.1)
Psychiatric Disorder		13/113 (11.5)
Active Oncological Disease		1/113 (0.9)
Alcoholic Liver Disease		0/113 (0.0)
Chronic Liver Disease		4/113 (3.5)
Non-Alcoholic Fatty Liver Disease (NAFLD)		7/113 (6.2)
Active Hepatitis C		1/113 (0.9)
Active Hepatitis B		0/113 (0.0)
Transmission Route, n (%)		
Gays Bisexuals and other Men who have Sex with Men		54/107 (50.5)
Heterosexual		37/107 (34.6)
Injection Drug Users		9/107 (8.4)
Vertical		1/107 (0.9)
Others		0/107 (0.0)
Not available		6/107 (5.6)
HIV History		
NADIR CD4, (median [IQR])		289.0 [104.8, 455.5]
Viral Load at Diagnosis, (median [IQR])		81,500.0 [14,575.0, 268,750.0]
Time from Diagnosis to Start of First ART (years), (median [IQR])		2.0 [1.0, 14.5]
AIDS, n (%)		21/110 (19.1)
Time on ART from Start of Treatment to Start of CBG/RPV (years), (median [IQR])		10.7 [6.0, 17.0]
Time to Undetectability Until Start of CAB+RPV (months), (median [IQR])		96.0 [55.0, 144.0]
Previous Virological Failure, n (%)		5/113 (4.4)
Previous Treatment, n (%)		
DTG/3TC		31/113 (36.1)
DTG/RPV		26/113 (23.0)
BIC/FTC/TAF		23/113 (20.0)
DRV/c/FTC/TAF		14/113 (12.4)
EFV/FTC/TDF		0/113 (0.0)
Treatment Discontinuation, n (%)		
Treatment Discontinuation, n (%)		11/113 (9.7)
Days of Treatment Until Discontinuation, (median [IQR])		165.5 [47.5, 210.8]
Systemic Adverse Effects, n (%)		3/11 (27.3)
Related to Injection Site Reaction, n (%)		3/11 (27.3)
Virological Failure, n (%)		2/11 (18.2)
Other, n (%)		3/11 (27.3)

Main characteristics of study population

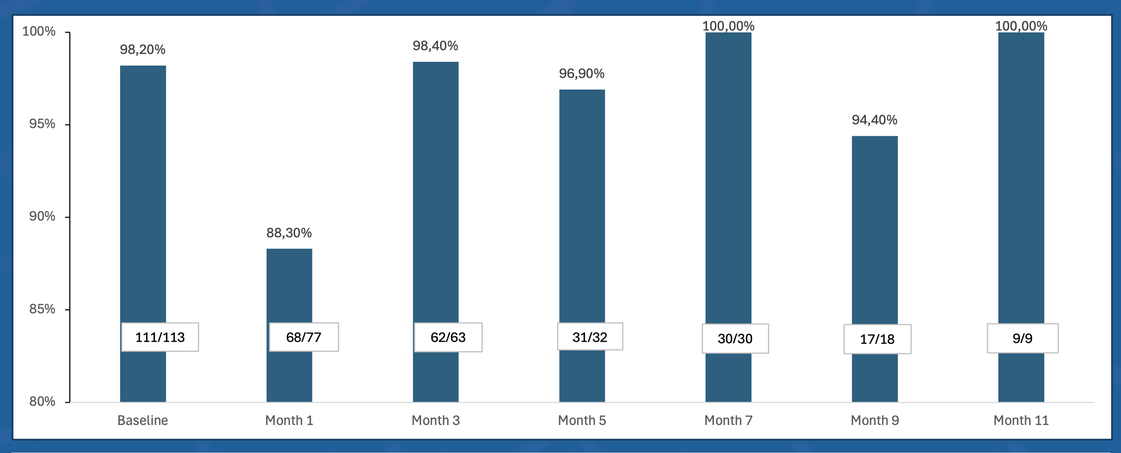
The main reasons for switching were improvement in quality of life (50.4%), patient request (44.2%)



Main reasons for switching

At week 24, one patient had an isolated detectable viral load of 57 copies/mL but continued treatment. At week 39, there were two virological failures, both with previous resistance mutations (one to INSTIs using a short needle and the other to NNRTIs).

Three discontinuations due to injection site side effects occurred at weeks 21, 29, and 30.



	Baseline	Month 1	Month 3	Month 5	Month 7	Month 9	Month 11
Viral Load > 50 copies/mL, n (%)	2/113 (1.8)	9/77 (11.7)	1/63 (1.6)	1/32 (3.1)	0/30 (0.0)	1/18 (5.6)	0/9 (0.0)
Viral Load (median [IQR])	63.5 [62.2, 64.8]	86.0 [76.5, 212.8]	59.0 [59.0, 59.0]	57.0 [57.0, 57.0]		128,000.0 [128,000.0, 128,000.0]	80.0 [80.0, 80.0]

Efficacy rates considering viral load below 50 copies/mL

There were no significant changes in the analytical values, including the metabolic, renal, or hepatic profile, during the first 11 months

	Baseline (N: 88 - 110)	Month 1 (N: 9 - 15)	Month 3 (N: 27 - 32)	Month 5 (N: 19 - 21)	Month 7 (N: 17 - 24)	Month 9 (N: 11 - 12)	Month 11 (N: 3 - 5)
CD4 (cells/mm3)	789.5 [592.5, 993.5]	765.0 [622.0, 957.0]	609.6 [484.0, 887.0]	767.0 [641.0, 870.5]	704.0 [595.0, 987.5]	669.0 [505.0, 940.0]	778.0 [678.8, 1045.2]
CD4%	34.0 [28.2, 39.5]	34.7 [30.5, 35.0]	33.0 [26.4, 39.0]	38.0 [30.7, 42.5]	31.7 [24.5, 38.5]	33.4 [31.5, 35.5]	35.1 [27.0, 42.9]
CD8 (cells/mm3)	855.5 [541.5, 1094.2]	819.0 [502.8, 991.5]	753.0 [605.5, 952.5]	787.0 [530.0, 998.5]	892.5 [570.0, 1291.8]	666.0 [538.0, 954.0]	1119.0 [809.8, 1354.2]
CD4/CD8	1.0 [0.7, 1.3]	1.0 [0.7, 1.3]	1.0 [0.6, 1.2]	1.3 [0.8, 1.4]	0.9 [0.6, 1.2]	0.9 [0.8, 1.2]	1.0 [0.7, 1.3]
Glucose (mg/dL)	96.0 [89.0, 104.0]	104.0 [84.0, 113.5]	94.5 [90.0, 103.2]	101.0 [91.0, 107.0]	99.0 [90.0, 101.2]	102.0 [92.0, 108.8]	91.0 [87.0, 97.0]
HbA1c (%)	5.8 [5.3, 6.4]	7.2 [6.0, 8.9]	7.0 [5.9, 8.3]	5.9 [5.8, 9.0]	5.4 [5.3, 5.6]	6.1 [6.1, 6.1]	6.0 [5.8, 21.0]
Cholesterol (mg/dL)	185.0 [160.0, 208.0]	163.0 [147.0, 204.0]	183.0 [151.0, 214.0]	174.5 [155.5, 195.2]	190.0 [170.5, 207.5]	176.0 [156.8, 202.2]	183.0 [181.0, 191.0]
LDL Cholesterol (mg/dL)	116.5 [97.2, 136.0]	113.0 [97.0, 132.0]	112.0 [85.0, 143.0]	109.0 [86.5, 128.0]	119.0 [95.5, 134.0]	118.5 [97.8, 141.0]	107.0 [107.0, 110.0]
HDL Cholesterol (mg/dL)	42.0 [36.0, 49.0]	43.0 [42.0, 46.0]	47.0 [38.0, 55.0]	40.0 [35.5, 46.0]	44.0 [38.8, 51.8]	38.0 [35.5, 43.2]	44.0 [43.0, 52.0]
Triglycerides (mg/dL)	131.0 [92.0, 181.0]	115.0 [76.2, 122.8]	117.0 [85.0, 162.0]	124.5 [80.8, 178.5]	112.5 [76.5, 165.0]	134.0 [102.5, 195.0]	145.0 [97.0, 167.0]
AST (U/L)	22.5 [18.0, 27.8]	19.0 [13.0, 23.0]	23.0 [19.0, 32.0]	20.0 [18.0, 30.5]	24.0 [19.0, 27.0]	25.5 [18.8, 28.8]	20.0 [15.0, 29.0]
ALT (U/L)	26.5 [20.8, 37.0]	18.0 [16.0, 26.0]	31.0 [22.2, 41.2]	26.0 [17.0, 42.0]	31.0 [23.2, 38.0]	33.5 [18.8, 46.0]	19.0 [16.0, 32.0]
GGT (U/L)	30.0 [19.0, 44.0]	28.0 [19.5, 38.0]	33.0 [21.5, 57.5]	25.0 [18.0, 30.0]	28.5 [18.8, 45.2]	38.5 [32.0, 79.0]	29.0 [27.0, 32.0]
Creatinine (mg/dL)	0.9 [0.8, 1.1]	0.9 [0.8, 0.9]	0.9 [0.8, 0.9]	0.8 [0.8, 1.0]	0.9 [0.8, 1.0]	0.9 [0.8, 1.0]	0.9 [0.7, 1.0]
Estimated Glomerular Filtration Rate (ml/min/1.73m2)	89.0 [78.0, 91.7]	91.0 [88.4, 98.4]	91.0 [82.0, 97.0]	86.0 [78.2, 91.0]	89.0 [84.0, 91.0]	91.0 [89.0, 99.2]	91.0 [82.0, 99.2]

Analytical values (median and IQR) during the first 11 months after switching to long-acting CAB+RPV. N varies for each variable

CONCLUSIONS

In a real-life setting, switching to long-acting CAB+RPV seems to be a viable option for individuals with a BMI over 30, lining up with other cohorts. Further investigation is needed

RELATIVITY