Dolutegravir/Rilpivirine STR Switch in Persons with HIV-1 and Chronic Kidney Disease

Helena Kwakwa[1,2], Julia Ruff[2], Adjoa Agyeman[2], Tawanaha Stokes[1], Oumar Gaye[1,2]

[1]Philadelphia Department of Public Health, Division of Ambulatory Health Services, [2]Newlands Health

INTRODUCTION

Single tablet regimens (STRs) have improved the convenience, adherence to and normalization of antiretroviral (ARV) regimens. However, people with HIV who also have chronic kidney disease (CKD) have had limited STR options due in large part to pharmacokinetic considerations. Available as a co-formulated STR, Dolutegravir (DTG) and Rilpivirine (RPV) are among ARV options which do not require renal elimination[1]. We evaluate the impact on viral suppression, treatment satisfaction, ARV adherence and quality of life, of switching to DTG/RPV STR for persons with HIV-1 and CKD.

Study Hypothesis: DTG/RPV STR switch for people with HIV-1 and CKD (eGFR<60 mL/min/1.73m^2) who have achieved stable virologic suppression (HIV-1 RNA<50c/mL) will be effective in maintaining virologic suppression through 48 weeks. We report here interim 24-week data.

OBJECTIVES

Primary Objective:
Efficacy of DTG/RPV in a real-life setting in maintaining virologic suppression after switching from effective ARV in persons with HIV-1 and CKD.

Secondary Objectives:

1. Tolerability of DTG/RPV switch in persons with HIV/ CKD
2. Adherence to DTG/RPV in persons with HIV and CKD;
3. Safety of DTG/RPV in persons with HIV and CKD;
4. Impact on QOL of switching to DTG/RPV;
5. Impact on treatment satisfaction of switch to DTG/RPV.

METHODS

This is a 48-week prospective open-label single arm real-life study with participants as their own control. Inclusion criteria were age>18y, HIV-1 with HIV RNA<50c.mL for 6 months or longer, eGFR<60mL/min/1.73m^2. Exclusion criteria were HBV infection and resistance to DTG and/or RPV.

Persons meeting eligibility criteria were switched to DTG/RPV STR. Data collected at baseline, 6 months and 12 months included HIV RNA, CD4 cell count, eGFR. The following standard questionnaires were also administered at baseline, 6 months and 12 months: (1) ACTG Abbreviated Adherence Module; (2) HIVTSQ 2001; (3) ACTG QOL 601-602).

RESULTS

Tables 1&2 below summarize demographic and baseline clinical characteristics of the 35 participants enrolled.

Table 1. Baseline Demographic Characteristics of Participants (n=35).

- 43% were 65 yrs or older

Attribute	Value
Sex	
-Female	57%
-Male	43%
Race/Ethnicity	
-Black	97%
-White	3%
-Hispanic	3%
Age	
-Mean Age (IQR)	63y (58y – 69y)
->50y	94%

Table 2. Baseline Clinical Characteristics of Participants (n=35).

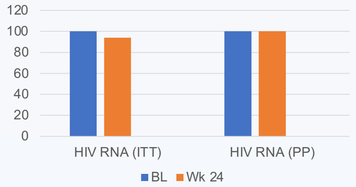
- 3 participants were on HD
- All 35 had an HIV RNA < 50c/mL at baseline

Variable	Value (Mean)
#yrs on ARV	22
eGFR (mL/min/1.73m^2)	40 (IQR 26-47)
CD4 cell count (cells/mL)	699
# comorbid conditions*	4 (range 2-9)
# non-ARV pills daily	9
# ARV pills daily**	3

*Comorbid conditions were exclusive of HIV and CKD and included CHF, CAD, Htn, DM, RA, COPD.
**ARV regimens pre-switch included RAL+F/TAF, DRV/c/F/TAF+DTG, DTG or RAL+ABC+LAM (dose adjusted). 9 (26%) were on an STR (ELV/F/TAF or DTG/ABC/LAM).

RESULTS

Fig. 1. Viral Suppression (<50 copies/mL), Baseline and 24 wks*



*ITT analysis includes 2 participants who did not complete 24 weeks due to renal transplantation.

- There were no serious adverse events, and no discontinuations due to adverse events.
- At BL, 17% missed at least one ARV dose the weekend prior to enrollment.
- At BL, treatment satisfaction averaged 4.1 on a scale of 0-6.
- AT BL, general perception of health on a scale of 5-1 averaged 3.2 (between Fair (4) and Good (3)).
- At 24 wks, general perception of health on a scale of 5-1 averaged 2.8 (between Good (3) and Very Good (2).

Fig. 2. Medication Adherence at Baseline and at 24 Weeks

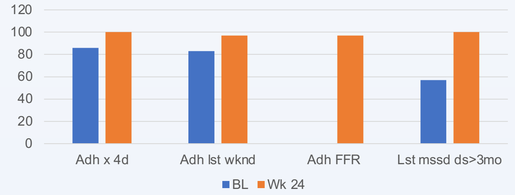
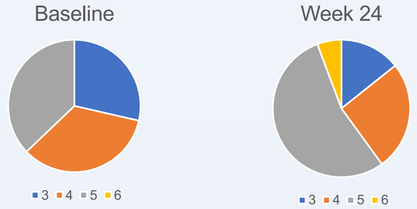


Fig. 3. Treatment Satisfaction at Baseline and at 24 Weeks*



* Scale of 0 (very dissatisfied) – 6 (very satisfied)

DISCUSSION

- In a real-life setting, among a cohort of participants with HIV-1 and CKD who are largely Black, female, older and with multiple comorbidities and high daily pill burden, ARV switch to DTG/RPV successfully maintained viral suppression at 24 weeks.
- DTG/RPV switch improved ARV adherence for this cohort of whom 74% switched from multi-tablet regimens due to CKD.
- HIV treatment satisfaction improved with switch to DTG/RPV, as did general perception of health.
- This study demonstrates that enrolling diverse populations in clinical studies is feasible, an important finding given the vast diversity of the US population with HIV.[2,3]

CONCLUSION

- DTG/RPV is a viable switch option for persons with HIV-1 and CKD.

ETHICAL CONSIDERATIONS

This study was approved by the City of Philadelphia Institutional Review Board.

REFERENCES

1. Mehta R, Butcher L, Seal C et al. Pharmacokinetics, safety and tolerability of Dolutegravir/Rilpivirine (Juluca) in healthy Japanese adults. 20th Intl Workshop on Clinical Pharmacology of HIV, Hepatitis and Other Antiviral Drugs, 2020.
2. Rawlings MK et al. Evaluating diversity in randomized clinical trials of dolutegravir-based antiretroviral therapy regimens: Pooled 48-week analyses by race, sex and regional subgroups. Open Forum Infect Dis 2022;9(8).
3. Defreitas D. Race and HIV clinical trial participation. J Natl Med Assoc 2010;102.

ACKNOWLEDGEMENT

We thank ViiV Healthcare for providing financial support for this study.