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# DATA ON METABOLIC AND RENAL DIFFERENCES WHEN SWITCHING TO AN NRTI-FREE DOLUTEGRAVIR-CONTAINING 2 DRUG REGIMEN (2DR) – A SUBANALYSIS OF THE DUALIS STUDY

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PE3/10

## Background

The DUALIS study assessed a combination of Dolutegravir (DTG) and boosted Darunavir (bDRV) (2DR) for maintaining HIV-suppression and demonstrated non-inferiority as compared to 2NRTI+bDRV (3DR). Here we present a sub-analysis on renal and metabolic parameters.

## Methods

In DUALIS PLWH with HIV-RNA <50cps/mL on 3DR for ≥24 weeks (one accepted blip <200cps/mL) were randomized to switch to DTG 50mg+bDRV 800mg (with 100mg Ritonavir or 150mg Cobicistat) or remain on 3DR. Here we present a post-hoc sub-analysis on changes in metabolic and renal parameters (using the safety analysis (SA) set).

## Results

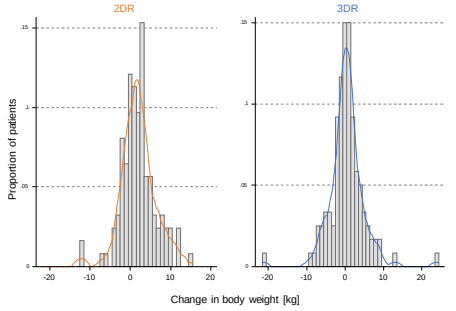
Overall, 266 subjects were randomized and treated (2DR: n=133, 3DR: n=133, SA set), 263 subjects were included in the ITTe set, see table 1.

**Table 1. Baseline characteristics (ITTe)**

| | TotE | 2DR | 3DR |
|---|---|---|---|
| **Subjects total** | 263 | 131 | 132 |
| **Male Sex** | 237 (90%) | 115 (88%) | 122 (92%) |
| **Caucasian Ethnicity** | 236 (90%) | 118 (90%) | 118 (89%) |
| **Age,** median (IQR) | 48 (39-54) | 47 (39-55) | 48 (40-53) |
| **MSM** | 182 (69%) | 90 (69%) | 92 (70%) |
| **CDC stage C at time of HIV diagnosis** | 70/246 (28%) | 31/121 (26%) | 39/125 (31%) |
| **CD4-nadir <200/µL** | 102/217 (47%) | 50/107 (47%) | 52/110 (47%) |
| **Time since HIV- diagnosis,** median (IQR) | 7.2 (4.3-12.3) | 7.0 (4.4-12.0) | 7.6 (3.8-12.8) |
| **HBsAg-negative with prior HBV-seroconversion** | 65/243 (27%) | 31/122 (25%) | 34/121 (28%) |
| **HBsAb positive** | 127 (52%) | 65 (53%) | 62 (50%) |
| **HCV seropositive** | 13/260 (5%) | 5/129 (4%) | 8/131(6%) |
| | | | |
| **ARV prior to baseline** | | | |
| **F/TDF+DRV/r** | 185/241 (77%) | 100/119 (84%) | 85/122 (70%) |
| **F/TAF+DRV/r** | 22 (9%) | 9 (8%) | 13 (11%) |

Over 48 weeks, patients in the 2DR arm gained median +2.0 kg in body weight (IQR: -0.2–+4.0) vs. +0.2 kg (-1.9–+2.1) in the 3DR arm (p=0.0006 comparing 2DR and 3DR); median increase in BMI was +0.6 kg/m² (-0.1–+1.2) for 2DR and +0.1 kg/m² (-0.5–+0.7) for 3DR (p=0.0006), respectively, see figures 1 and 2. After baseline, 12.6% (n=14) were switched to TAF in 3DR arm.

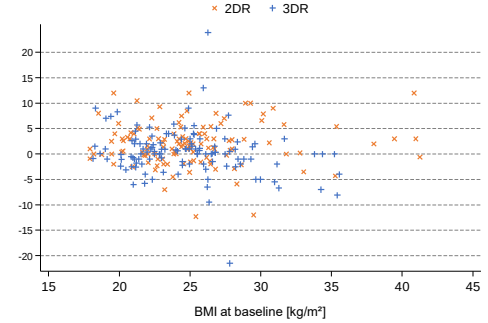
**Figure 1. Distribution of body weight changes at week 48 from baseline**




After 48 weeks, total cholesterol had increased by a median of +20.0 mg/dL (+3.0–+35.5) in 2DR vs. no increase, i.e. 0.0 mg/dL (-18–+15.5), in 3DR (p<0.001); LDL increased by +13.3 mg/dL (-3.0–+31.3) in 2DR vs. 0.0 mg/dL (-14.0–+18.0) in 3DR (p=0.0003). HDL increased by +4.9 mg/dL (-1.0–+10.4) in 2DR vs. a decrease of -1.0 mg/dL (-5.0–+4.0) in 3DR (p<0.001).

Changes in MDRD-eGFR over 48 weeks were -7.8 mL/min/1.73m² (-17.4– -0.3) in 2DR vs. -0.4 mL/min/1.73m² (-8.8–+5.7) in 3DR (p=0.0002); changes in Creatinine-CKD-EPI-eGFR were -8.0 mL/min/1.73m² (-17.0– -0.6) in 2DR vs. -0.7 mL/min/1.73m² (-9.4–+4.5) in 3DR (p=0.0002). CKD-EPI Creatinine-Cystatin eGFR decreased by -6.7 mL/min/1.73m² (-14.4–+5.3) in 2DR vs. -2.7 mL/min/1.73m² (-10.0–+4.3) in 3DR (p=0.1572).

**Figure 2. Change from baseline in body weight at week 48 with respect to BMI at baseline**




## Conclusions

While being non-inferior with regard to virologic suppression, a switch to a 2DR consisting of DTG+bDRV does not yield significant metabolic or renal advantages by substituting the NRTI components of a comparative 3DR antiretroviral therapy.

## Acknowledgments

We thank all study sites and participants of the DUALIS STUDY as well as Münchner Studienzentrum (CRO) and MUC Research (CRO) for supporting this study.

17th EUROPEAN AIDS CONFERENCE
November 6–9, 2019
Basel, Switzerland

This poster has been presented at 17th EACS Conference from 6-9 November 2019 in Basel (PE 3/10).

Financial support for the conduct of the DUALIS study was provided by Janssen-Cilag & ViiV Healthcare.