As individuals with HIV live longer, reducing exposure to antiretroviral therapy (ART) is a potential strategy to limit ART-related comorbidity.4,5 The SWORD studies demonstrated non-inferiority post-switch to dolutegravir (DTG) + rilpivirine (RPV) vs 3- or 4-drug current ART (CAR) continuation at Week 48 and maintained viral suppression to Week 148.6,7 The NRTI tenofovir disoproxil fumarate (TDF) and certain PIs (lopinavir, atazanavir) are associated with renal toxicity.8

DTG + RPV as an NRTI- and PI-sparing DRI may be safer for renal impaired patients.9

Here we report pooled SWORD study data for renal parameters through Week 148.10

**Methods**

SWORD 1 & 2 are identical designs, multicenter, open-label, parallel-group, non-inferiority, phase III studies; participants with Baseline HIV-1 RNA <50 c/mL, taking INSTI, NRTI, & 2 NRTIs were randomized 1:1 to switch to DTG + RPV (Early-Switch group); ES) or to continue CAR; those who continued CAR and were suppressed switched to DTG + RPV at Week 52 (Late-Switch group, LS).

Renal function post-switch to DTG + RPV was evaluated using eGFR estimated by serum cystatin C (eGFR(cystC); CKD-EPI equation), retinol-binding protein (RPB) to creatinine ratio, and β2-microglobulin (β2M) to creatinine ratio.11,12 Changes in eGFR(cystC) for participants with mild renal impairment (e.g., eGFR(cystC) = 60-90 mL/min/1.73 m²) were also assessed.

**Results**

After switch to DTG + RPV, minimal change was observed in eGFR(cystC), irrespective of pre-switch TDF exposure (Table 1).

For participants with mild renal impairment pre-switch (53 in the ES group, 31 in the LS group), eGFR(cystC) remained stable or slightly increased post-switch to DTG + RPV (median change from Baseline and LS Baseline was +13.1 and 0.0 for the ES and LS groups, respectively, at Week 148), with few participants decreasing below 60 mL/min/1.73 m² at any time (Table 2).

In the ES group, 3 of 4 participants who had eGFR(cystC) >60 mL/min/1.73 m² at Baseline improved their eGFR(cystC) to >60 mL/min/1.73 m² in the Switch group. One 65-year-old male remained >60 but <30 mL/min/1.73 m² through Week 148.

In the LS group, 3 participants (each one 75-year-old male, 76-year-old female, and 55-year-old female) experienced eGFR(cystC) >60 mL/min/1.73 m² on CAR before switch and remained >60 but <30 mL/min/1.73 m² through Week 148.

No participant in the ES or LS group had a post-Baseline LS Baseline CKD-EPI –30 mL/min/1.73 m² during study through Week 148.

RPB and β2M to creatinine ratios had numerically greater improvements in participants taking TDF before switch compared with those not taking TDF in the pooled SWORD-1 & 2 population (Table 3).

**Conclusions**

Irrespective of receipt of TDF pre-switch to DTG + RPV, renal function was maintained for SWIntervaly participants through 148 weeks post-switch, with greater improvement in renal tubular function for those switching off TDF.

The switch to DTG + RPV in suppressed participants, including those with mild renal impairment, did not adversely affect renal function while maintaining suppressive HIV-1 treatment.

**Abbreviations:** eGFR(cystC), estimated glomerular filtration rate by cystatin C; CKD-EPI, chronic kidney disease–epidemiology collaboration; eGFR(cystC), estimated glomerular filtration rate by cystatin C; LS Baseline, pre-switch value (usually from the Week 48 visit).

**References:**