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Session: 263. HIV: ART Resistance and Adherence
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Background. DRV has demonstrated high efficacy and barrier to resistance development across diverse populations, from TN to heavily TE patients. We evaluated resistance data from 10 clinical studies of different DRV 800 mg QD–based antiretroviral regimens and formulations.

Methods. The analysis included patients from 10 phase 2/3 studies (48–192 weeks’ duration) of ritonavir- and cobicistat-boosted DRV 800 mg QD–based regimens in TN and virologically failing or suppressed TE patients with HIV-1 (table). Three were phase 3 studies of the DRV/cobicistat/embricitabine/tenofovir alafenamide (D/C/FTAF) 800/150/200/10 mg single-tablet regimen (STR). Post-baseline resistance was evaluated in patients experiencing protocol-defined virologic failure (PDVF); definitions and criteria for resistance testing varied slightly among studies. Resistance-associated mutations (RAMs) were based on reported International Antiviral Society–USA mutation lists over time.

Results. Of the 3,635 patients evaluated, 250 met PDVF criteria and 205 had post-baseline genotypes/phenotypes. Overall, 4 (0.1%) patients developed (or had identified [switch studies]) ≥1 DRV and/or primary protease inhibitor (PI) RAM (table), and only 1 (< 0.1%, ODIN) patient lost DRV phenotypic susceptibility; this TE patient had prior VF with lopinavir. Among those who used a nucleos(t)ide reverse transcriptase inhibitor (NRTI) backbone (mostly emtricitabine [FTC] + tenofovir [TFV]), 12 (0.4%) patients had ≥1 NRTI RAM, including 10 with M184V/I associated with FTC resistance. No TFV RAMs were observed. Among patients receiving D/C/FTAF (n = 1,949), none had post-baseline DRV, primary PI, or TFV RAMs; only 2 (0.1%) patients developed an FTC RAM.

Conclusion. Across a large, diverse population using DRV 800 mg QD–based regimens and formulations, resistance development remains rare; 0.1% of patients had ≥1 DRV and/or primary PI RAM (table). Among 3 trials of the D/C/FTAF STR, no patients developed a DRV or primary PI RAM. After >10 years of investigating DRV 800 mg QD–based regimens in clinical trials, loss of phenotypic susceptibility to DRV has never been observed in TN or TE virologically suppressed patients and was only once observed in a TE patient with prior VF on multiple antiretrovirals, including a PI.
2513. The Effect of Treatment Supporter Interventions on ART Adherence in Eastern and Southern Africa: a systematic review and meta-analysis
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Background. Access to ART has significantly reduced morbidity and mortality and improved quality of life in people living with HIV (PLWH). Treatment supporter interventions (TSIs) utilize patient or facility selected individuals to increase optimal ART adherence through home visits, peer support and medication management. This aim of this meta-analysis is to evaluate the effectiveness of TSIs in improving optimal ART adherence among PLWH in SSA using process- and outcome-oriented measures.

Methods. We searched PubMed, EMBASE, SCOPUS, Web of Science (WOS), Cochrane Library, and ClinicalTrials.gov for randomized controlled trials or cohort studies comparing treatment supporter interventions to the standard of care conducted in Eastern and Southern Africa. The primary outcomes were ART adherence measured by pill counts and virologic suppression. Pooling effect sizes with 95% confidence intervals were calculated using random-effects models. Stratified analyses and meta-regression were conducted to determine the effect of study type and patient nomination of treatment supporter on ART adherence.

Results. Sixteen studies, 10 RCTs and 6 cohort studies, were selected for inclusion. Virologic suppression was reported in 14 studies with 12,457 individuals in TSIs and 23,592 receiving the standard of care. Optimal ART adherence was reported in 7 RCTs only (2,185 individuals in TSI and 1,545 receiving SOC). Optimal ART adherence was 7.6% higher in TSIs compared with SOC (pooled RR 1.076, 95% CI 1.005–1.151, p = 0.035). Heterogeneity of these studies was high (I² = 91.1%). Virologic suppression was 5% higher in TSIs compared with the standard of care (pooled RR 1.05, 95% CI 1.019–1.081, P = 0.001). Meta-regression demonstrated that virologic suppression did not significantly vary by study type (b = −0.042, 95% CI −0.098–0.001, P = 0.057) and patient selection of the treatment supporter (b = 0.026, 95% CI −0.07–0.12, P = 0.554).

Conclusion. Optimal ART adherence is marginally higher in treatment supporter interventions compared with the standard of care. Patient-nominated supporters achieve similar rates of virologic suppression to facility-selected supporters, and could play a critical role in addressing disparities in health outcomes among PLWH.

Table 2. Adherence among all patients with index year between 2014 and 2016 and among cohort of patients with ≥ 3 years of follow-up.

| Year | Overall N | TSI N | MTR N | P-value |
|------|-----------|-------|-------|---------|
| 2014 | 11,234 | 798 | 10,436 | 0.026 |
| 2015 | 10,488 | 753 | 9,735 | 0.011 |
| 2016 | 13,252 | 914 | 12,338 | 0.001 |

Note: *TSIs were required to be comprised of 3 or more participants among patients with index during 2014–2016 to evaluate modern ART adherence.

Results.

Methods.

Results.

Discussions. All authors: No reported disclosures.