Methods. We conducted a prospective, open-label, randomized controlled trial in a tertiary center in Bangkok. We recruited HIV-infected adults who had viral suppression, with TDF-induced proximal tubulopathy and/or a significant decrease in estimated glomerular filtration rate (eGFR). The patients were randomized to receive ABC/3TC plus efavirenz (ABC-based regimen) or LPV/r+3TC regimen. The primary outcome was the proportion of patients with viral suppression at 24 weeks. The secondary outcomes were the immunologic response, recovery of eGFR, proximal tubular function and change in lipid profile at 24 weeks.

Results. Between August 2018 - February 2019, we screened 87 patients and enrolled 24 patients were randomly assigned to the ABC-based regimen and 23 patients to LPV/r+3TC regimen. In the intention-to-treat population, virologic response at 24 weeks was noted in 21 (87.5%) patients assigned to ABC-based regimen and 19 (82.6%) patients assigned to LPV/r+3TC regimen (P = 0.635). There were no differences in the improvement of the percentage change of eGFR, fractional excretion of phosphate, renal tubular reabsorption of phosphate (TmP/GFR), fractional excretion of uric and UPCI at 24 weeks. Triglyceride levels were significantly increased in LPV/r+3TC regimen compared with ABC-based regimen at 24 weeks (91.32% vs. 20.46%; P = 0.001).

Conclusion. Our study showed no difference in virologic suppression after switching to ABC-based regimen or LPV/r+3TC regimen in patients with TDF-induced nephrotoxicity. There was no difference in percentage change of eGFR, requiring INSTI-based regimen in both arms after discontinuation of TDF. There was a significant change in triglyceride levels in LPV/r+3TC regimen.

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2490. Differences between Individuals Currently Taking Integrase Inhibitor (INSTI)-based Therapy and Those Not Taking INSTIs in the Era of INSTIs as Recommended First-line Therapy

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Background. Agents from the integrase inhibitor (INSTI) therapeutic class only are recommended as initial therapy for patients with HIV. Clinicians now face a decision when treating ART-experienced patients on non-INSTI regimens: continue current therapy or switch to INSTI. Multiple factors may be considered in this decision: clinician/patient preference, comorbidities, tolerability, and resistance history. The objective of this analysis was to examine patient factors associated with currently taking INSTI-based regimen.

Methods. We used data from the DC Cohort, a longitudinal observational cohort of patients receiving HIV care at 14 clinics between 2011–2018. Participants in the sample had ≥ 1 encounter between 4/1/17 and 3/1/18, were aged ≥ 18 years and were ART experienced. Participants were classified as currently, previously, or never on an INSTI. Independent variables included demographics, clinical characteristics, alcohol/tobacco use, HIV/HCV status and HIV-related variables (recent CD4 and HIV RNA, presence of resistance mutations). Multivariable multinomial logistic regression was used to identify factors associated with current INSTI use status.

Results. Among 4584 participants (58.2% aged 50+ years; 69.4% male; 2.5% transgender; 80.3% Black; 36% MSM), most (65.0%) were current INSTI users; however, a sizeable proportion (28.3%) were never users and 6.7% were former users. Current, previous INSTI users were more likely to have a major MR: NNRTI or PI mutation compared with never users (see Table 1). Transgender participants (compared with males), were less likely to be current (vs. never) users (adjusted odds ratio (aOR) 0.48, 95% CI 0.32, 0.72). Younger participants (18–24 vs 50+ years) were more likely current users (aOR 1.90, 95% CI 1.18, 3.06), as were Hispanic participants (aOR 1.39, 95% CI 1.05, 1.84).

Conclusion. The majority of active DC Cohort participants were using INSTI-based therapy. Transgender and older individuals were less likely to be on INSTIs, indicating that they are more likely to be on PI-based or NNRTI-based therapy or not on therapy. Further research should explore whether this is detrimental for long-term HIV health outcomes in these groups. Additionally, these results suggest resistance history as an important driver of INSTI prescription.

Table 1. Presence of Major Resistance Mutations among Individuals on ART in the DC Cohort, 2017-2018, n=4584

| INSTI | N | % | aOR | 95% CI | p-value |
|-------|---|---|-----|--------|--------|
| Major NNRTI mutation present | 628 (21.1) | 76 (24.0) | 120 (9.3) | <0.0001 |
| Major NNRTI mutation present | 625 (21.0) | 68 (22.1) | 135 (10.4) | <0.0001 |
| Major PI mutation present | 51 (2.0) | 29 (9.4) | 65 (5.0) | 0.1020 |
| Major INSTI mutation present | 52 (1.7) | 7 (2.3) | 16 (1.2) | 0.3311 |

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