Between 2008 and 2015, 25,928 new initiators of ART were identified in Thailand. The median age for being on a BID regimen was 40.4 years (10.9); 15,382 (76%) were male. As of December 30, 2015, new users were identified as those without an ART claim in the 6 months preceding study inclusion. Multivariable logistic regression was performed to determine factors associated with INSTI use.

**Results.** Between 2008 and 2015, 25,928 new initiators of ART were identified. Of those 6,000 (23%) were initiated on INSTI-based regimens (raltegravir 47%, elvitegravir 40%, dolutegravir 13%). Fifty-three percent of initiated regimens contained non-nucleoside reverse transcriptase inhibitors and 28% included protease inhibitors. Mean age was 40.4 years (10.9); 15,382 (76%) were male. As expected, the proportion of PLWH initiated on INSTI-based regimens increased from 117 (5%) in 2008 to 53% in 2015 (p = 1.082). Those on INSTI were more likely male (OR 1.21 [95% CI 1.11, 1.31]) and not on Medicaid (1.41, [1.29, 1.54]). Although PLWH with a history of congestive cardiac failure (1.42 [1.12, 1.81]), previous stroke (1.87 [1.03, 3.38]) or renal failure (1.48 [1.12, 1.98]) were more likely to receive INSTIs, those with a history of ischemic heart disease or risk factors for cardiovascular disease including, hypertension, dyslipidemia, obesity or diabetes were not more likely to initiate INSTI-based regimens after controlling for age and year (all p > 0.05). INSTI prescribing did not differ between infectious diseases (ID) and non-ID providers.

**Conclusion.** Despite their good safety profile and recommendation for first-line treatment, a significant proportion of PLWH were initiated on non-INSTITI-based regimens, even in the setting of underlying comorbidities.

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557. Evaluation of Clinical Response of a Two Tablet Once Daily Antiretroviral Regimen in Antiretroviral Experienced HIV-Infected Patients
Gina Maki, DO; Zohra Chaudhry, MD and Indira Brar, MD; Infectious Diseases, Henry Ford Health System, Detroit, Michigan

**Session:** 60. HIV: Antiretroviral Therapy
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**Background.** The benefits of antiretroviral therapy (ART) are compromised by virologic failure and drug resistance. To maintain virologic suppression, these patients have traditionally required multitablet “salvage” regimens. We retrospectively analyzed data to assess virologic efficacy of a two-tablet, once daily combination of Elvitegravir/Cobicistat/Emtricitabine/TAF plus Darunavir (G/D) in HIV-infected adults with history of prior resistance and regimen failure.

**Methods.** Electronic Medical Records of HIV-infected adults with history of prior resistance and regimen failure in our HIV-Clinic were analyzed to assess efficacy of a two-tablet ART regimen of G/D. Efficacy was defined as percentage of participants with HIV-1 RNA <50 copies/mL. Statistical analysis included descriptive summary of all patients. Categorical variables (gender, mode of transmission, the presence of undetected viral load, the presence of viral load <50, class resistance number, and the presence of M184 V mutation) were compared between the two outcome groups (success vs. failure) using the Fisher exact test. The two groups were also compared using Student’s two-sample t-test for normally distributed numerical variables (age and number of years from diagnosis to regimen change) and the Wilcoxon rank-sum test for non-normally distributed numerical variables (CD4 level at diagnosis and CD4 level at regimen change).

**Results.** Thirty-four patients were included in the study, of which 70.6% were men, majority MSM: 64.7%. Patients had been diagnosed with HIV for a median of 13.8 ± 7.3 years. More than 50% of patients at time of switch were on four pills and 53% were on a BID regimen. 61.7% patients were virologically suppressed with the regimen. Of those 6,000 (23%) were initiated on INSTI-based regimens (raltegravir (RAL) and dolutegravir (DTG)). There were 55 cases (9%) of switch within the 6 months preceding study inclusion. Multivariable logistic regression was performed to determine factors associated with INSTI use. The results of genotypic resistance assays before selecting the ART regimen. In contrast, the results of SC group were blinded to the investigators. Factors associated with having PDR and undetectable HIV RNA were analyzed by logistic regression.

**Results.** A total of 153 participants were randomized to either GG group (78 participants) or DTG (75 participants). Of all, median (IQR) age was 32 (26–42) years and 83% were male. Median (IQR) CD4 count was 190 (42–324) cells/mm3. Overall prevalence of PDR was 13.7% and NNRTIs PDR was 10.5%. The most common mutation was V179D (5.9%), T215Y (3.9%) and E138K (2.0%). No associated factor of having PDR was determined. At 24 weeks, 85.9% in GG group and 86.3% in SC group had undetectable HIV RNA (P = 0.940). By univariate logistic regression, having PDR was not associated with undetectable HIV RNA (OR 0.40; 95% CI 0.12–1.30, P = 0.122). By multiple logistic regression, factors associated with undetectable HIV RNA were adherence (OR 1.53 per 5% increment; 95% CI 1.15–2.05; P = 0.004) and no history of PJP (OR 6.24; 95% CI 1.62–24.08; P = 0.008).

**Conclusion.** In Thailand, the prevalence of PDR is moderate and NNRTIs PDR is high according to the WHO category. Recommended first-line ART for Thai HIV-infected patients should be modified. Routine genotype-guided first-line ART is not now recommended in Thailand. Periodically PDR surveillance and cost-effectiveness study of genotype-guided first-line ART should be further studied.

**Disclosures.** All authors: No reported disclosures.

559. Efficacy and Tolerability of Integrase Inhibitors: Experiences From a Nationwide Real-Life Cohort
Botond Lakatos, MD PhD1; Bernadett Lonkai, Student2; and János Szlávik, MD3; Infectious Diseases, National Institute of Hematology and Infectious Diseases, Budapest, Hungary; 2Ssemmelweis University, Faculty of Medicine, Budapest, Hungary

**Session:** 60. HIV: Antiretroviral Therapy
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**Background.** The integrase strand transfer inhibitors (INSTIs) are widely used in first-line and alternative antiretroviral therapy. Observational studies have documented a 2–12% incidence of adverse drug reactions sometimes leading to INSTI discontinuation.

**Methods.** Prospectively collected cohort data of INSTI use were analyzed between January 2008 and March 2017, in Hungary, a Central-European country with centralized HIV care. Efficacy of viral suppression and reasons for discontinuation were evaluated for available INSTIs (raltegravir (RAL) and dolutegravir (DTG)).

**Results.** There were 2,232 patients registered in the national HIV Center in Hungary during the period 2008–2017. Six hundred seventeen patients received during the study period RAL (259 patients—41.9%) or DTG (358—58.1%). There were 55 cases (9%) of switch within the 6 months preceding study inclusion. Multivariable logistic regression was performed to determine factors associated with INSTI use. The results of genotypic resistance assays before selecting the ART regimen. In contrast, the results of SC group were blinded to the investigators. Factors associated with having PDR and undetectable HIV RNA were analyzed by logistic regression.

**Results.** A total of 153 participants were randomized to either GG group (78 participants) or DTG (75 participants). Of all, median (IQR) age was 32 (26–42) years and 83% were male. Median (IQR) CD4 count was 190 (42–324) cells/mm3. Overall prevalence of PDR was 13.7% and NNRTIs PDR was 10.5%. The most common mutation was V179D (5.9%), T215Y (3.9%) and E138K (2.0%). No associated factor of having PDR was determined. At 24 weeks, 85.9% in GG group and 86.3% in SC group had undetectable HIV RNA (P = 0.940). By univariate logistic regression, having PDR was not associated with undetectable HIV RNA (OR 0.40; 95% CI 0.12–1.30, P = 0.122). By multiple logistic regression, factors associated with undetectable HIV RNA were adherence (OR 1.53 per 5% increment; 95% CI 1.15–2.05; P = 0.004) and no history of PJP (OR 6.24; 95% CI 1.62–24.08; P = 0.008).

**Conclusion.** In Thailand, the prevalence of PDR is moderate and NNRTIs PDR is high according to the WHO category. Recommended first-line ART for Thai HIV-infected patients should be modified. Routine genotype-guided first-line ART is not now recommended in Thailand. Periodically PDR surveillance and cost-effectiveness study of genotype-guided first-line ART should be further studied.

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560. Immune Recovery of Acute HIV-Treated Patients Is Characterized by an Increase in Immune Senescence
Rociolaramillo-Jante, MD; Antonio Camiro-Zúñiga, MD, MSC; Marco Najera-Avilá, MD; Alyeen Cardenas Ochoa, MCC; Christian Hernández-León, MD; Juan Luis Mosqueda-Gómez, MD; Samuel Navarro-Alarez, MD; Daniel Scott-Algara, MD, PhD; Luis E. Soto-Ramírez, MD; Gonda Crabtree-Ramirez, MD; Pablo Francisco Belaunzarán-Zamudio, MD, PhD; Juan G. Sierra-Madero, MD and Santiago Perez-Paragón, MD, PhD; Infectious Diseases, Instituto Nacional de Ciencias Medicas y Nutricion Salvador Zubiran, Mexico City, Mexico; Centro Ambulatorios para la Prevención y Atención en Eso en Centros Ambulatorios para la Prevención y Atención en SIDA e Infecciones de Transmisión Sexual, Puebla, Mexico; Centro Ambulatorios para la Prevención y Atención en SIDA e Infecciones de Transmisión Sexual, León, México, Infectious Diseases, Hospital General de Tijuana, Tijuana, Mexico, Institut Pasteur, Paris, France

Session: 60. HIV: Antiretroviral Therapy
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Background. ARV treatment (ART) administered during acute HIV-infection presents several immunological benefits leading to a better CD4+ T-cell recovery and a diminished HIV reservoir.

Methods. Patients with acute HIV-infection, enrolled in the VIHIA cohort, had blood samples taken at diagnosis and at 2, 6, and 12 months after ART initiation. Flow-cytometry analysis was performed in fresh whole blood. Naïve (NV), central memory (CM), effector memory (EM) and terminal differentiated T-cells (TMRA), as well as activation markers were defined using CD3, CD4, CD8, CD45RA, CR0, CD38, CD31 and HLA-DR markers. CD28 and CD57 were used to identify immunosenescent cells. FoxP3, CD25, CD127 and CD45RA were used to identify Regulatory T cells (Treg) and HLA-DR markers. CD28 and CD57 were used to identify immunosenescent cells. To assess changes over time, Wilcoxon-matched-pairs signed rank test was used for each value between baseline and months 2 and 12 independently.

Results. Four patients were diagnosed at Fiebig stage II; 5 patients at Fiebig stage III, 24 patients at stage IV and 5 patients in stage V. All patients received treatment within the first 24 hours of HIV diagnosis. Only 13 patients had flow-cytometry data at baseline and 1 year of follow-up. All subjects were MSM with a mean age of 32 y.o. Mean CD4+ T-cell count was 439 cells/µl and mean viral load was 1.2 million copies/mL (23.379 ± 10 × 10^6 copies/mL) at baseline. The change in T-cell differentiation patterns at 0 and 12 months is shown in Figure 1. Activation markers decreased in all studied subsets at 2 months and furthermore at 12 months. Total T-regs increased from 5.1% to 7.8% at 1 year of follow-up (Figure 2). Immunosenescence markers increased steadily at 0 and 12 months is shown in Figure 1. Immunosenescence marker increased despite a decrease in immune activation and a recovery of T-cell subsets.

Conclusion. It has been hypothesized that early ART decreases T-cell immunosenescence; however, in our cohort despite treatment during acute HIV, we observed that at 1 year follow-up immunosenescence markers increased despite a decrease in immune activation and a recovery of T-cell subsets.

561. Co-occurring Psychosocial Barriers to Viral Suppression Among Men Who Have Sex with Men (MSM) in India
Sandep Prabhu, MS; Aylur Kailasam Srikrishnan, BA; Shruti Mehta, PhD; Allison McFall, MHS; Santanam Anand, BSc; Gregory Lucas, MD, PhD; C K Vasudevan, BSc; David Celestino, MD; and Sunil Soloman, MBBS, MPH; Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland; Y.R. Gaitonde Centre for AIDS Research and Education, Chennai, India; Epidemiology, Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland; Johns Hopkins University, Baltimore, Maryland

Session: 61. HIV: Linkage to Care and Viral Suppression in the Care Cascade
Thursday, October 4, 2018: 12:30 PM

Background. There is a paucity of data on factors associated with viral suppression in representative populations of HIV-positive MSM in low-middle income countries (LMIC) settings. We characterized factors associated with viral suppression among a community-recruited sample of MSM across India with a particular focus on depression, alcohol use and recreational drug use.

Methods. Of 10,024 MSM recruited using respondent-driven sampling (RDS) from 10 Indian cities between August 2016 and April 2017, 1,460 were HIV-positive and eligible for ART. Alcohol dependence was defined as AUDIT score ≥15; severe depression as PHQ-9 score ≥15; recreational drug use included both injection and non-injection use of drugs common in India, excluding marijuana. Prevalence ratios (aPR) were obtained using multivariable Poisson regression incorporating RDS2 weights and accounting for clustering by site.

Results. Median age was 37 years, 34.1% had at least high school education and 60.6% reported monthly income ≥3115. Prevalence of viral suppression among HIV+ ART eligible MSM was 66.2% overall, ranging from 35.2% in Bhopal to 76.1% in Madurai with no regional trends. Prevalence of severe depression was 4.0%; alcohol dependence 66.3% and recreational drug use 9.5%. Viral suppression was significantly more common among those who were older and had higher treatment literacy. In analyses that adjusted for these factors and sexual identity, those who reported drug use and had evidence of severe depression had a significantly lower likelihood of being virally suppressed (aPr = 0.38; 95% CI: 0.16–0.89) than those with neither (P-value for interaction = 0.05). Similarly, compared with those who used neither alcohol nor drugs, those using both had a lower prevalence of viral suppression (aPr = 0.61; 95% CI: 0.40–0.94) although the interaction did not achieve statistical significance (P = 0.07).

Conclusion. In this population of MSM in an LMIC, recreational drug use appeared to be a key barrier to achieving viral suppression. Moreover, the impact of drug use was greater in the context of co-occurring severe depression or co-occurring alcohol dependence. It is critical that HIV programming in India and other resource-limited settings incorporate interventions to address these conditions in differentiated care models to maximize viral suppression.

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562. Management and Outcomes of Patients With Acute HIV Infection in an Expanded Testing and Linkage to Care Program
Meera C McNulty, MD; Jessica Schmitt, LCSW; Eleanor Friedman, PhD; Biju Huyn, MA; Audra Tobin, BPSH; Anjana Bairavi Maheswaran, MPH; Janet Lin, MD, MPH; Richard Nowak, MD; Beverly Sha, MD; Arthur Moswin, MD; Breen Rose, MA; David Pitrak, MD, FIDSA and Nancy Glick, MD; Section of Infectious Diseases and Global Health, University of Chicago Medicine, Chicago, Illinois; Sinai Health System, Chicago, Illinois; Infectious Diseases, Mount Sinai Hospital, Chicago, Illinois; University of Illinois at Chicago, Chicago, Illinois; Rush University Medical Center, Division of Infectious Diseases, Chicago, Illinois, Michael