and Shareholder, Salary; S. Barthel, GlaxoSmithKline: Employee and Shareholder, Salary; J. Koffet, ViV Healthcare: Employee and Shareholder, Salary; C. Garris, ViV Healthcare: Employee and Shareholder, Salary; C. Nguyen, ViV Healthcare: Employee and Shareholder, Salary; A. Ustianowski, ViV: Speaker’s Bureau, Conference sponsor- ship; Gilead: Grant Investigator, Scientific Advisor and Speaker’s Bureau, Consulting fee, Grant recipient and Speaker honorarium; MSD: Scientific Advisor and Speaker’s Bureau, Consulting fee and Speaker honorarium; Janssen: Scientific Advisor, Consulting fee; Abbvie: Grant Investigator, Grant recipient; P. Eitz Ferrer, ViV Healthcare: Employee and Shareholder, Salary; A. Murungi, ViV Healthcare: Employee, Salary

1394. Comparison of Time to Virologic Suppression Among Treatment-Naïve HIV-Infected Adults Initiating Combination Antiretroviral Therapy by Antiretroviral Regimen Class
Karen Jacobson, MD, MPH1 and Onyema Ogbaegu, MD, FACP2; Yale-New Haven Hospital, New Haven, Connecticut, Section of Infectious Diseases, Yale University School of Medicine, New Haven, Connecticut
Session: 156. HIV: Antiretroviral Therapy
Friday, October 6, 2017: 12:30 PM

**Background.** Antiretroviral therapy (ART) regimens for the treatment of HIV that incorporate the integrase strand inhibitor (INSTI) class of antiretroviral medications have high efficacy and tolerability, and may result in faster time to virologic suppression compared with regimens that contain protease inhibitors (PIs) or non-nucleoside reverse transcriptase inhibitors (NNRTIs). However, differences in viral suppression are not well-defined in routine clinical settings.

**Methods.** We performed a retrospective single-center chart review of treat- ment-naïve HIV patients initiating ART between 2013 and 2016. Among patients on different ART regimen types, we compared rates of achievement of virologic suppression (defined as fewer than or equal to 50 copies/mL in treatment-naïve patients) and median time to viral suppression using chi-square and independent samples median testing. Patients who were prescribed nonstandard regimens, were nonadherent, or discontinued or changed ART within 6 months were excluded.

**Results.** One hundred and fifty-five patients (65.0% female and 110 (71%) male—met study inclusion criteria. Mean age at ART initiation was 43.1 years (SD 12.5), and mean baseline viral load was 293,974 copies/mL. Twelve (7.7%) patients had an opportunistic infection diagnosed at time of ART initiation. Seventy-one (45.8%) patients on INSTI-based ART regimens achieved a viral suppression, with median time to viral suppression 105 days (IQR 49–159). Patients on INSTI regimens were more likely to achieve viral suppression by 6 months compared with patients on PI-based ART regimens (81.7% vs. 38.8% and 16.8%), and had lower median time to suppression (62.6 days vs. 140.5 days on NNRTI regimens and 154.5 days on PI regimens, P = 0.002).

**Conclusion.** In this cohort, patients on INSTI-based ART regimens experienced higher rates of viral suppression at 6 months and shorter time from ART initiation to viral suppression compared with patients on PI-based ART regimens. Virologic failure should be suspected prior to the current recommendation of 6 months.

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

1395. The Safety of Substitution of Antiretroviral Regimen in Non-Clinical Trial Settings in Asian Countries
In Young Jung, MD1, Dong Ho Boo- teiger, PhD2, Wingbao Wong, MD3, Man Po Lee, MD4, Santoso Kiertiburanakul, MD, MHS1, Romeane Chawdar1, MD1, Anchalee Avihingsanon, MD, PhD1, Junko Tanuma, MD5, N. Kumarsamy, M.B.B.S., PhD6, Adeeba Kamarulzaman, MD1, Fujie Zhang, MD7, Pacharee Kantipong, MD8, On Tek Ng, MBBS(Singapore), MRCGP(UK), FAMS, MPHS8, Benedict Sim9, MD1, Matthew Law, MD1, Jeremy Ross, MD10, and Jun Yong Choo, MD, PhD11, Division of Infectious Disease, Department of Internal Medicine, Yonsei University College of Medicine, Seoul, Korea, Republic of (South), 1The Kirby Institute, UNSW Australia, Sydney, Australia, 2Taipei Veterans General Hospital, Taipei, Taiwan, 3Queen Elizabeth Hospital, Hong Kong, China, 4Department of Medicine, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand, Research Institute for Health Sciences, Chiang Mai, Thailand, Thailand, Thailand, 5HIV-NAT, Thai Red Cross AIDS Research Center, Bangkok, Thailand, 6National Center for Global Health and Medicine, Tokyo, Japan, 7Tokyo, Japan, 8IRC Center for AIDS Research and Education, Chennai, India, 9University Malaya Medical Centre, Kuala Lumpur, Malaysia, Kuala Lumpur, Malaysia, 10Beijing Ditan Hospital, Capital Medical University, Beijing, China, 11Chiangrai Prachanukroh Hospital, Chiang Rai, Thailand, Chiang Rai, Thailand, 12Tan Tock Seng Hospital, Singapore, Singapore. 13Hospital Sungai Buloh, Sungai Buloh, Malaysia, 14The Kirby Institute, UNSW Sydney, Sydney, Australia, 15TREAT Asia, amfAR – The Foundation for AIDS Research, Bangkok, Thailand
Session: 156. HIV: Antiretroviral Therapy
Friday, October 6, 2017: 12:30 PM

**Background.** Although substitutions of antiretroviral regimen are generally safe, most studies that have compared various substitutions fail to delineate the clinical outcomes. This study was to evaluate the safety of substituting antiretroviral regimen in virologically suppressed HIV-infected patients in non-clinical trial settings in Asian countries.

**Methods.** HIV-infected patients enrolled in the TREAT Asia HIV Observational Database (TAHOD) were included in this analysis if they started combination anti-retroviral therapy (cART) after 2002, were being treated at a center that documented a median rate of viral load (VL) monitoring ≥ 2 tests/patient/year, and experienced a minor or major treatment substitution while on virally suppressive cART (VL < 200 copies/mL). Minor regimen substitutions were defined as within-class changes and major regimen substitutions were defined as changes to a drug class. Virologic failure was defined as having had two viral load measurements > 400 copies/mL. The patterns of substitution after major anti-retroviral failures were analyzed.

**Results.** Of 3,994 adults who started ART after 2002, 3,119 (78.1%) had at least one period of virologic suppression. Among these, 1,170 (37.5%) underwent a major regimen substitution, and 296 (9.5%) underwent a major regimen substitution during suppression. The rates of substitutions in treatment-naïve patients (years 2002–2009) were 1.4 (95% CI 1.1–1.9) in the minor substitution group and 2.85/100person years (95% CI 1.88–4.33) in the major substitution group, and 2.53/100person years (95% CI 2.20–2.92) among patients that did not undergo a treatment substitution.

**Conclusion.** The rate of virologic failure was relatively low in both major and minor substitution groups, showing that regimen substitution is generally safe in non-clinical trial settings in Asian countries.

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

1396. Clinical outcomes associated with once daily ritonavir-boosted darunavir in HIV-infected patients harboring single or multi-class resistant virus
Joan Duggan, M.D., FIDSA, FACP1 and Eric Sahloff, PharmD, AAAHVPII; Department of Medicine, Division of Infectious Diseases, University of Toledo College of Medicine, Toledo, Ohio, 1Pharmacy Practice, University of Toledo, Toledo, Ohio
Session: 156. HIV: Antiretroviral Therapy
Friday, October 6, 2017: 12:30 PM

**Background.** Limited data exist on the use of a potent boosted protease inhibitor plus <2 active nucleoside reverse transcriptase inhibitors without use of additional PI substitutions in non-clinical trial settings. We aimed to evaluate the clinical outcomes in HIV-infected patients harboring single or multi-class resistant virus (NRRTI ± PI and/or NNRTI) treated with once daily darunavir/ritonavir (DRV/r) plus tenofovir/emtricitabine (TDF/FTC).

**Methods.** This was a single-center retrospective chart review of HIV-1 infected patients harboring single or multi-class resistant virus and receiving an ART regimen of TDF/FTC plus DRV/r administered as a once daily regimen > 24 weeks. The pri- mary outcome was HIV viral load (VL) < 200 copies/mL at last measurement. Additional endpoints included virologic rebound, re-suppression, and/or failure; VL < 40 copies/mL at last measurement; development of additional mutations. Virologic failure (VF) was defined as failure to achieve a VL < 200 copies/mL or achievement of VL < 200 copies/mL but with rebound to ≥ 200 copies/mL on all successive VLs.

**Results.** Of 3,994 adults who started ART after 2002, 3,119 (78.1%) had at least one period of virologic suppression. Among these, 1,170 (37.5%) underwent a major regimen substitution during suppression. The rates of substitutions in treatment-naïve patients (years 2002–2009) were 1.4 (95% CI 1.1–1.9) in the minor substitution group and 2.85/100person years (95% CI 1.88–4.33) in the major substitution group, and 2.53/100person years (95% CI 2.20–2.92) among patients that did not undergo a treatment substitution.

**Conclusion.** The rate of virologic failure was relatively low in both major and minor substitution groups, showing that regimen substitution is generally safe in non-clinical trial settings in Asian countries.

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

1397. Gender Differences in Virologic Response after Antiretroviral Therapy in Treatment-naïve HIV-infected Individuals: Results from the 550 Clinic HIV Cohort Study.
Andrew Reyes Vega, MD1, Alexandra Loban, MD1, Kavitha Srinivasan, MD1, Stephen Furmanek, MS MPH2, Connor English, BS2, Mary Bishop, RPH1, Cathy Spencer, PharmD1, Daniel Truelove, PharmD2, Julio Ramirez, MD1, Anupama Raghumur, MD2 and Paula Peyrani, MD1; Division of Infectious Diseases, University of Louisville, Louisville, Kentucky, Infectious Diseases, University of Louisville
Session: 156. HIV: Antiretroviral Therapy
Friday, October 6, 2017: 12:30 PM

**Background.** Controversy still exists regarding gender differences in virologic response between treatment-naïve HIV-infected individuals. The objective of this study was to evaluate gender difference in virologic and immunologic response to anti-retroviral therapy in treatment-naïve HIV-infected individuals.

**Methods.** This was a retrospective, observational study of treatment-naïve HIV-infected individuals managed at the 550 clinic who started antiretroviral ther- apy (ART) between January 1st, 2010 and December 31st, 2015. Patients with available viral load and CD4 counts before and one year after initiating ART were included in the analysis. Virologic suppression was defined as <48 HIV-1 RNA copies/mL, and immunologic recovery was defined as a CD4 count increase of at least 150 cells/ mm³. Dichotomous variables were reported in number and percentages and analyzed using Chi-squared tests and Fisher’s exact (whichever was appropriate). Continuous variables were reported as median and interquartile range (IQR) and analyzed using Wilcoxon rank-sum tests. Multivariate analyses performed were logistic regressions with
adjustment for other covariates. P value <0.05 was considered statistically significant. R version 3.3.2 was used for the statistical analysis.

Results. A total of 70 women and 90 men were included in the study. Median age was 41 years (19) for women and 34 years (19) for men (P < 0.001). Virologic suppression was documented in 76% of women and 64% of men (p = 0.166). Immune recovery was documented in 60% of women and 68% of men (p = 0.333). Multivariate analysis of virologic success is shown in Figure 1 and immunologic recovery is shown in Figure 2.

Conclusion. In our study, gender was not found to be associated with differences in response to ART. As expected, drug abuse continues to be an independent variable associated with lack of virologic suppression. If one of the goals of treatment is to achieve a rapid immunologic response, our study may indicate that regimens containing protease inhibitors should be the ones selected.

Disclosures. All authors: No reported disclosures.

1398. Weight Gain After Switch from Efavirenz-Based to Integrase Inhibitor-Based Regimens

Jasmine Norwood, MD,1; Megan Turner, MA,2; Carmen Bofoil, MPH2; Cathy Jenkins, MS3; Sally Bebawy, BS4; Peter Rebeiro, PhD, M.H.S.5; Todd Hulgan, MD, MPH, FIDSA6; Stephen Raffanti, MD, MPH, FIDSA7; David Haas, MD, FIDSA7; Timothy R. Sterling, MD, FIDSA8 and John Koethe, MD9; 1Internal Medicine, Vanderbilt University Medical Center, Nashville, Tennessee; 2Department of Medicine, Division of Infectious Diseases, Vanderbilt University Medical Center, Nashville, Tennessee; 3Department of Biostatistics, Vanderbilt University School of Medicine, Nashville, Tennessee; 4Vanderbilt University School of Medicine, Nashville, Tennessee; 5Vanderbilt School of Medicine, Nashville, Tennessee; 6Department of Medicine, Vanderbilt University Medical Center, Nashville, Tennessee; 7Vanderbilt University Medical Center, Nashville, Tennessee; 8Vanderbilt University Medical Center, Nashville, Tennessee; 9Department of Medicine, Division of Infectious Diseases, Vanderbilt University Medical Center, Nashville, Tennessee

Session: 156. HIV: Antiretroviral Therapy
Friday, October 6, 2017: 12:30 PM

Background. Although CD4 count is an important marker for prognosis of patients infected with HIV-1, how long and how much CD4 count will increase after initiation of cART are still unknown. Hence, the aim of this study is, using change point analysis, to examine the long-term CD4 count restoration among well-controlled HIV-1 patients.

Methods. In this single-center cohort study at AIDS Clinical Center, Tokyo, we examined HIV-1 infected patients who initiated cART between January 2004 and January 2012 and achieved HIV viral load <200 copies/mL within first 48 weeks of treatment and maintained viral suppression (VL <200 copies/mL) for at least 4 years. cART was defined as combination regimen which consisted of NNRTI, PI, or INSTI, plus two NRTIs. All patients were followed until censoring (defined by VL >200 copies/mL, discontinuation of cART for >30 days, lost to follow-up for >1 year, initiating chemotherapy for malignancy, or death), or at end of the observation period (September 30, 2015). Change point analysis was performed to determine the time point where the restoration of CD4 count becomes plateau.

Results. Of 752 patients, 708 (94.2%) were male and 89.9% was MSM. The median age was 39.3 years [IQR, 32–45] and the median baseline CD4 count and %CD4 were 172 cells/mm3 [IQR, 61–254], and 13.8% [IQR, 7.7–18.5], respectively. The median follow-up period was 87.0 months [IQR, 65.2–109.2] and 134 were followed over ten years. With change point analysis, both longitudinal increase of CD4 count and %CD4 increased linearly until 78.6 and 62.2 months, respectively. Stratified by baseline CD4 count (<200 cells/mm3, 200–350 cells/mm3, and >350 cells/mm3), CD4 count increased linearly until 76.2, 62.4, and 58.6 months, respectively. Moreover, the percentage of patient who achieved 500 cells/mm3 during study period was 63.5%, 87.2%, and 92.0%, respectively.

Conclusion. With change point analysis, restoration of CD4 count and %CD4 continued increasing linearly until 6.5 and 5 years of cART, respectively. Patients with lower baseline CD4 count showed longer CD4 count recovery than those with higher baseline CD4; however, their CD4 count did not recover as high as those with higher baseline CD4 count.

Disclosures. All authors: No reported disclosures.

1399. Application of The Change Point Analysis to The Long-Term Restoration of CD4 Count Among Well-Controlled HIV-1 Infected Patients Who Started Antiretroviral Therapy
Mutoh Yoshikazu, MD1; Takeshi Nishijima, MD, Ph.D2; Noriko Tanaka, PhD2; Yosuke Izuta, MSc3; Yoshimi Kikuchi, MD, PhD3; Hiroyuki Gatanaga, MD, PhD3 and Shinichi Oka, MD, PhD3; 1AIDS Clinical Center, National Center for Global Health and Medicine, Tokyo, Japan; 2Biostatistics Section, Department of Data Science, Clinical Science Center, National Center for Global Health and Medicine, Tokyo, Japan, 3Department of Biostatistics, National Cancer Center Hospital, Tokyo, Shinjuku, Japan

Session: 156. HIV: Antiretroviral Therapy
Friday, October 6, 2017: 12:30 PM

Background. Among 495 patients, 136 switched to an INSTI-containing regimen, 34 switched to a PI-containing regimen, and 325 remained on EFV/TDF/FTC. Patients switched to an INSTI-containing regimen gained an average of 2.9 kilograms (kg) at 18 months compared with 0.9 kg among those continued on EFV/TDF/FTC (P = 0.003, Figure a), while those switched to a PI regimen gained 0.7 kg (P = 0.81, Figure b). Among INSTI regimens, those switched to DTG/ABC/3TC gained 5.3 kg at 18 months, which was more than raltegravir or elvitegravir regimens (P = 0.19, Figure c) and significantly more than those continued on EFV/TDF/FTC (P = 0.001, Figure d).

Conclusion. Switching from daily, fixed-dose EFV/TDF/FTC to an INSTI-containing regimen among patients with virologic control was associated with weight gain at 18 months. This weight gain was particularly profound among those switching to DTG/ABC/3TC.