RoCHaCHa Study Results

Outcomes	Study RSA, n=23	Non-RSA Control, n=24
Diagnosis to clinic presentation, median (interquartile range)	1 (0.0 – 3.5) days	9.5 (6.0 – 22.25) days
Clinic presentation to ART, median (interquartile range)	0 (0.0 – 0.0) days	35.5 (28.0 – 57.0) days
ART to VL <200 copies/mL, median (interquartile range)	14 (7.5-26.5) days	34 (29.75 – 62.75) days
ART to VL <50 copies/mL, median (interquartile range)	27 (11.5 – 29.0) days	74 (31.75- 200.5) days
Linkage and Retained in care at 3 months*	73.9%	50%
*Count of patients seen within 14 days of 84 day mark since ART start.		

Conclusion. RSA with BFTAF reduced time to virologic suppression in all participants newly diagnosed with HIV-1 compared with historical non-RSA model.

1040. Real-World Implementation of Dolutegravir-Lamivudine to Achieve and Maintain HIV-1 Viral Suppression at an Academic Medical Center

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Session: P-47. HIV: Treatment

Background. Two-drug antiretroviral (ARV) regimens to achieve and maintain HIV viral suppression may lead to decreases in associated drug interactions, adverse events, and pill burden. Dolutegravir-lamivudine (DTG-3TC) has been established as safe and effective in treatment naïve and experienced adults. Further research is warranted to assess insertion into real-world practice.

Methods. This descriptive retrospective cohort consisted of all patients at an academic medical center HIV practice with a confirmed order of DTG-3TC between April 2019 and March 2020. Patients who were not linked to care by the site's practices were excluded. The primary endpoint was number of patients initiated on DTG-3TC to determine uptake. Secondary endpoints included demographics and viral outcomes. Descriptive measures of central tendencies and variability were used for analysis.

Results. DTG-3TC was initiated in 49 patients. Sixty-nine percent were male (34/49), 90% carried publicly funded insurance (44/49), median age at DTG-3TC initiation was 55 years (IQR 46-60), and mean years since HIV diagnosis was 14 (SD ±8). The largest racial/ethnic category represented was Black (45%, 22/49). Forty-seven patients with a mean CD4 of 753 cells/mm3 (±413) and viral load of 88.2 copies/mL (±525) were switched from alternative regimens, mostly containing an integrase inhibitor (41/47, 87%), and with the primary rationale of medication modernization (27/47, 58%) followed by avoidance of adverse drug reactions (15/47, 32%). From 42 assessed patients, 62% had previous ARV exposure length of over 10 years. No patients were found to have significant resistance mutations to the involved agents. After initiation, 6% (3/49) of patients reported side effects. Among switch patients with follow up lab values, median CD4 (n=20) and viral load (n=21) deltas were -10 cells/mm3 (-59-67) and 0 copies/mL (0-0) respectively. Overall median length of therapy through April 1, 2020 was 110 days (71-156).

Conclusion. Initial implementation of DTG-3TC was successful in a northeast academic HIV practice primarily among virally suppressed treatment switch patients with long exposures to ARV and time since diagnosis. No clinically relevant change in CD4 or Viral Loads were immediately seen.

1041. Tenofovir alafenamide associated weight change in persons living with HIV

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Session: P-47. HIV: Treatment

Background. Persons living with human immunodeficiency virus (PLWH) have a higher incidence of developing obesity, diabetes, and cardiovascular disease. TAF, a newer formulation of tenofovir, has favorable effects on renal function and bone mineral density compared to TDF. However, recent evidence suggests TAF may have a higher propensity for weight gain over TDF. The purpose of this study is to evaluate weight change in patient switched from TDF to TAF, keeping constant the other components of their antiretroviral therapy.

Methods. This retrospective observational cohort study evaluated adult PLWH who were followed for 12 months pre and post TDF to TAF therapy switch holding all other ART constant. Patients were excluded if not on TDF or TAF therapy for a minimum of 12 months, if there were additional changes to their ART, or if there was inadequate documentation of weight defined as less than 2 weight records pre and post TAF switch. Data collected included height, weight, HIV RNA, CD4 count, and presence of any current opportunistic infections or chronic comorbid conditions. The primary endpoint was change in weight after TAF switch. All variables were evaluated using linear mixed effect models over time.

Results. 466 patient charts were reviewed and 55 patients met study criteria and were included in the analysis. The median age (SD) of patients included was 45.9 (12.6) years with most patients being male (67%) and black (73%). Patients had an HIV diagnoses for a mean (SD) of 10 (6.6) years with a mean (SD) CD4 count of 544 (246.8). Full baseline characteristics are recorded in Table 1. Notably, most patients had either an INSTI or PI in their baseline ART regimen (Table 1). The estimated overall marginal mean weight gain was 1.91 kg (95% CI 0.25-3.57, p=0.024). The estimated overall gain in BMI was 0.63 kg/m2 (95% CI 0.08-1.18). Significant predictors of weight gain included female gender (3.09, 95% CI 0.54 – 5.65) and use of both integrase and protease inhibitors at baseline (6.97 kg, 95% CI 3.02 – 10.92).

Conclusion. In a predominantly black, male population, there was a statistically significant change in weight after a TAF switch.

As this is the only data highlighting weight changes following tenofovir formulation change, more data is needed to elucidate the extent of weight-gain in patients on TAF-based regimens.

1042. The Attitude of Patients With HIV about Telehealth for Their HIV Care

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Session: P-47. HIV: Treatment

Background. The world is facing a pandemic of SARS-CoV-2 that disrupted our healthcare system and the way we deliver healthcare. For people with HIV (PWH), the ability to be retained in care plays a critical role in improving health outcomes and in preventing HIV transmission. Several definitions exist for retention in care, but they are centered around outpatient clinic visits. It is now more important than ever to understand PWH's attitudes about using telemedicine for HIV care instead of face-to face clinic visits.

Methods. We administered a one-time survey to PWH presenting to an outpatient HIV center in Houston, Texas, from February–June 2018. The survey items were used to assess PWH's attitudes towards and concerns for telehealth and explanatory variables.

Results. 371 participants completed the survey; median age was 51, 36% were female, and 63% African-American. Overall, 57% of respondents were more likely to use telehealth for their HIV care if available, as compared to one-on-one in-person care, and 37% would use telehealth frequently or always as an alternative to clinic visits.

Participants reported many benefits including ability to fit better their schedule, decreasing travel time, and privacy but expressed concerns about the ability to effective communication and examination and the safety of personal information. Factors associated with likelihood of using telehealth include personal factors (US-born, men who have sex with men, higher educational attainment, higher HIV-related stigma perception), HIV-related factors (long standing HIV), and structural factors (having difficulty attending clinic visits, not knowing about or not having the necessary technology). There was no association between participants with uncontrolled HIV, medication adherence, and likelihood of using telehealth.

Survey items and response distribution

Survey items and response distributions (by percent %).

Items	Scale	Response values 1	2	3	4
				% below	
Acceptability of telehealth for HIV care					
1. If you can use live video calls (like skype, facetime, live chat…) to see and talk to your doctor instead of coming to clinic appointments how likely would you use it?	1–5[a]	13	14	17	31
2. If you can use live video call to see and talk to your doctor instead of coming to clinic appointments, how often would you use it?	1–5[b]	17	20	26	15
Benefits of telehealth for HIV care					
3. This service will help me because it will fit better my schedule	1–5[c]	23	46	11	15
4. This service will help me because I will not need to travel to clinic	1–5[c]	21	42	10	18
5. This service will be good for me because I will have more privacy at home	1–5[c]	19	43	10	22
6. This service will be good for me because no one will see me at the HIV clinic	1–5[c]	12	26	11	39
Concerns about telehealth for HIV care					
7. My doctor will not be able to examine me well	1–5[d]	21	16	14	21
8. My personal information will not be safe using the internet	1–5[d]	20	8	11	14
9. I will not be able to express myself very well	1–5[d]	14	9	14	19
10. I will use too much data on my phone service or internet	1–5[d]	12	5	8	13

[a] 1= very unlikely, 2= unlikely; 3= uncertain, 4= likely, 5=very likely
[b] 1= never, 2= rarely; 3= sometimes, 4= frequently, 5= always
[c] 1= strongly agree; 2= agree; 3= uncertain, 4= disagree, 5= strongly disagree
[d] 1= extremely concerned, 2= moderately concerned; 3= somewhat concerned; 4= slightly concerned; 5= not at a concerned

Conclusion. Telehealth programs for PWH can improve retention in care. A modification of the definition for retention in care, incorporating telehealth, should be considered. Availability and confidence using various telehealth technologies need to be addressed to increase acceptability and usage of telehealth among PWH.

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1043. The impact of integrase strand transfer inhibitors (InSTIs) on weight gain among adults with HIV in clinical care

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Session: P-47. HIV: Treatment

Background. Integrase strand transfer inhibitors (InSTIs) as ART for HIV has been associated with clinically significant weight gain, in addition to the "return to health phenomenon".

Methods. We conducted a cohort study on adults over 18 with HIV, who had baseline weights and an additional weight at least 6 months later. Individuals with malignancies, thyroid disorders, and disseminated tuberculosis or mycobacterium avium complex were excluded. To understand the impact of InSTIs on chronic vs. recently infected persons, we divided the cohort into four groups: (1) well-controlled on non-InSTI ART [WN] (2) well-controlled on InSTI ART [WI] (3) uncontrolled on non-InSTI ART [UN], and (4) uncontrolled on InSTI ART [UI]. Well-controlled persons (viral load < 2000) were proxies for chronic infection on long-term ART and uncontrolled for recently infected and initiated on ART. New diagnoses of diabetes, hyperlipidemia, and hypertension were determined by ICD10 codes. Participants with a weight change more than 10 kg in 6 months were excluded.

Results. 612 of the initial 910 participants in the cohort met the inclusion criteria. Comparing those who remained on the designated regimen throughout the study led to 86 WN, 153 WI, 166 UN, and 145 UI. Mean weight change at 6 months for WN was +0.22 kg (95% CI [-0.86, 1.3]), at 1 year was -0.86 kg (95% CI [-2.94, 1.22]), and at 2 years was +0.026 kg (95% CI [-2.347, 2.399]). For WI, mean weight change at 6 months was +0.21 kg (95% CI [-0.79, 1.21]), at 1 year was -0.50 kg (95% CI [-2.02, 1.04]), and at 2 years was +0.43 kg (95% CI [-1.35, 2.21]). UN gained weight until the first year (+1.74 kg at 6 mo (95% CI [0.24, 3.24]) and +3.84 kg at 1 year (95% CI [1.57, 6.11])), but plateaued at 2 years (+2.42 kg (95% CI [-0.44, 5.28])). At 6 months mean weight gain for UI was +0.78 kg (95% CI [-0.15, 1.71]), at 1 year was +2.33 kg (95% CI [1.02, 3.64]), and at 2 years was +3.04 kg (95% CI [1.2, 4.85]). WI had a higher incidence of diabetes (37% vs. 32%, p=0.40), hyperlipidemia (32% vs. 29%, p=0.66), and hypertension (34% vs. 26%, p=0.19) compared to WN.

Conclusion. InSTIs may confer a larger and more sustained weight gain among individuals in the first two years after ART initiation. Well controlled individuals did not have statistically significant weight change, but those on Insti-based ART had more metabolic diseases.

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

1044. The Incidence and Severity of Drug interactions Before and After Switching Antiretroviral Therapy to Bictegravir/Emtricitabine/Tenofovir Alafenamide in Treatment Experienced Patients

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Session: P-47. HIV: Treatment

Background. Switching antiretroviral therapy (ART) in virally suppressed people with HIV (PWH) can simplify treatment, improve tolerability, and limit long-term toxicity. It can also influence the presence of drug interactions (DIs) in a positive or negative manner among patients receiving concomitant medications (CMs). The extent to which switching ART to bictegravir/emtricitabine/tenofovir alafenamide (BIC/FTC/TAF) influences DIs in treatment-experienced PWH is unclear. The purpose of this study was to assess changes in the incidence and severity of DIs after switching to BIC/FTC/TAF.

Methods. This was a multicenter retrospective cohort study of PWH on ART and at least one prescription CM who switched to BIC/FTC/TAF between 3/2018 and 6/2019. Using the University of Liverpool's HIV drug interaction checker, two DI analyses were performed for each patient. The first assessed patients' pre-switch ART regimen with their CM list. The second assessed the same CM list with BIC/FTC/TAF. Each ART-CM combination was given a numerical score of 0 (no or potential weak interaction), 1 (potential interaction), or 2 (contraindicated interaction). Total DI scores for each patient, both before and after switching to BIC/FTC/TAF, were then calculated. A paired t-test analyzed changes in DI scores following ART switches and a linear regression model examined factors contributing to DI score reductions.

Results. A total of 411 patients were included in the analysis (Table 1) of which 236 (57%) had at least one DI present at baseline. On average, patients had a baseline DI score of 1.4 (SD 1.8) and experienced a 1 point reduction (95% CI -1.1,-0.8) after switching to BIC/FTC/TAF (p < 0.0001). After adjusting for demographic variables as well as baseline ART and CM categories in the regression model, switching to BIC/FTC/TAF led to significant DI score reductions in patients receiving CMs for the following conditions: cardiovascular disease, neurologic and psychiatric disorders, chronic pain, inflammation, gastrointestinal and urologic conditions and conditions requiring hormonal therapy (Table 2).

Table 1. Descriptive Summary of Baseline Characteristics, n =411.

Table 1. Descriptive Summary of Baseline Characteristics, n =411.

		All (n=411)
Site, n (%)	University of Maryland, Baltimore	100 (24.3)
	Thomas Jefferson University Hospital	95 (23.1)
	The Brooklyn Hospital	61 (14.8)
	Indiana University LifeCare	60 (14.6)
	University of Illinois at Chicago	40 (9.7)
	Memorial Healthcare System	35 (8.5)
	University of California, San Francisco	20 (4.9)
Age, mean (SD)		51.3 (12.4)
Gender, n (%)	Male	253 (61.6)
	Female	151 (36.7)
	Transgender female	7 (1.7)
Race, n (%)	Black/AA	290 (70.6)
	White	75 (18.2)
	Hispanic/Latinx	36 (8.8)
	Asian	8 (1.9)
	Native Hawaiian/Other Pacific Islander	2 (0.5)
Number of years with HIV diagnosis, median (Q1, Q3)[1]		14.0 (8.0, 22.0)
Total number of years on ART, median (Q1, Q3)[2]		10.0 (6.0, 15.0)
Number of previous ART regimens, n (%)[3]	1-3	214 (52.1)
	4-6	60 (14.6)
	7 or more	11 (2.7)
Viral suppression (HIV RNA < 200 copies/mL), n (%)[4]	Yes	324 (78.8)
	No	52 (12.7)
Switch reason, n (%)[5]	Long term safety	97 (23.6)
	Complexity	69 (16.8)
	Other	66 (16.1)
	Drug interactions	58 (14.1)
	Side effects	45 (10.9)
	Not documented	36 (8.8)
	Toxicity	14 (3.4)
	Virologic failure	5 (1.2)
	Cost	2 (0.5)
Polypharmacy (5 or more concomitant medications), n (%)	Yes	234 (56.9)
	No	177 (43.1)
Number of concomitant medications, median (Q1, Q3)		5.0 (3.0, 9.0)
Number of concomitant medications, n (%)	0	7 (1.7)
	1-4	172 (41.8)
	5-9	141 (34.3)
	10-14	66 (16.1)
	15-19	16 (3.9)
	20 or more	9 (2.2)
Dolutegravir-based ART, n (%)		155 (37.7)
Elvitegravir-based ART, n (%)		124 (30.2)
NNRTI-based ART, n (%)		71 (17.3)
PI-based ART, n (%)		59 (14.4)
Presence of at least one interaction between a subject's baseline ART and the following medication categories, n (%)	Neurologic/Psychiatric	91 (22.1)
	Polyvalent Supplements	79 (19.2)
	Cardiovascular	77 (18.7)
	Anti-inflammatory	48 (11.7)
	Hyperglycemic	38 (9.2)
	Gastrointestinal/Urologic	33 (8.0)
	Anti-infective	22 (5.4)
	Pain	22 (5.4)
	Hormonal Therapies	20 (4.9)
	Other	13 (3.2)

[1] There are 51 (12.4%) missing.
[2] There are 144 (35.0%) missing.
[3] There are 126 (30.7%) missing.
[4] There are 35 (8.5%) missing.
[5] There are 19 (4.6%) missing