results suggest that other factors than intensity of drug exposure are involved in weight increase under DTG.

678 RACE IMPACT ON DOLETUGRAVIR-ASSOCIATED WEIGHT GAIN AMONG PREVIOUSLY ART-NAIVE PLWH
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Background: Initiation of dolutegravir (DTG)-based antiretroviral therapy (ART) has been associated with weight gain in some people living with HIV (PLWH), and race has been proposed as a risk factor. Prior studies have mixed naive and treated PLWH or used historic regimen comparisons complicating interpretation. Therefore, we examined the role of race in substantial weight gain among previously ART- naive PLWH initiating DTG vs other currently used non-integrate inhibitor-based regimens in a US cohort.

Methods: We included ART-naive PLWH who initiated ART between 2012-2018 across 6 Centers for AIDS Research Network of Integrated Clinical Systems (CNICS) sites. ART regimen included efavirenz, nilvipepine, atazanavir, darunavir, and DTG-based ≥2 drug regimens. We compared DTG regimens to regimens without integrase inhibitors to assess the association between DTG and substantial weight gain, defined as ≥25 kg/m², an empirically cut-off, 1-year following ART initiation. We restricted race to white vs black and baseline BMI to ≥18.5 kg/m². Data were modeled using logistic regression with the rare disease assumption and adjusted for age, sex, hepatitis B and/or C virus infection, smoking, diabetes, and baseline BMI, with an interaction between race and DTG use. We conducted sensitivity analyses including baseline HIV disease severity as measured by lowest CD4 count (cells/mm³) and limiting regimens to tenofovir (TDF) with emtricitabine/lamivudine backbones.

Results: Among 822 PLWH (n=502 with DTG); n=520 without DTG), DTG users were more likely to gain ≥15kg compared to non-DTG users (RR:1.75; 95%CI:1.09-2.80). Overall, 52 (6%) PLWH gained ≥15kg, with 26 (50%) taking DTG, and of those, 19 (73%) were black. Within DTG users, black PLWH gained an average of 5.1kg while their white counterparts gained an average of 3.3kg. Black DTG users had a 3.2 times greater risk of gaining ≥15kg compared to white DTG users in their first year after ART initiation (95%CI:1.13-9.00). The risk was attenuated after accounting for HIV disease severity (RR:2.45; 95%CI:0.96-6.23) and limiting regimens to those with TDF (RR:2.3; 95%CI:0.7-7.3), and no longer significant due to smaller size but remained suggestive. Differences in risk of weight gain between black and white participants was not observed for non-DTG based regimens.

Conclusion: Black PLWH had an increased risk of substantial weight gain compared to white PLWH in their first year after DTG initiation. Additional studies are needed to clarify reasons for racial disparities.

| Table: Logistic regression for the risk of gaining at least 15kg, including an interaction term for race and DTG use (n=822) |
|------------------|-----------------|-----------------|-----------------|
| **Group**       | **RR**          | **95% CI**      | **p-value**     |
| White not on DTG | 1.00            | —               | —               |
| White on DTG    | 1.00            | 1.00            | 0.99            |
| Black not on DTG| 1.33            | 0.62            | 1.43            |
| Black on DTG    | 1.50            | 0.68            | 0.80            |
| Race x DTG Interaction | 2.29 | 0.68 | 1.69 | 0.18 |

679 DTG PRESCRIBING PRACTICES IN PLWH ≥65 YEARS: THE IMPACT OF ZDR AND WEIGHT GAIN
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Background: To explore real-world prescribing practices for antiretroviral therapy (ART) in the elderly, we conducted a cross-sectional, observational, multinational study in PLWH ≥65 years with a special focus on ART prescription and sociodemographic changes. Body weight was assessed at 1st visit and at last evaluation. In the ART group, the 1st visit was prior to switch.

Results: Of 591 PLWH (16.2% females), 164 were in the ART and 427 in the non-ART group. At study entry, median age was 70.8 (±4.6) years, CD4 cell count was 661 (±243) /μl, and HIV RNA was undetectable in 96% of PLWH. Mean weight at 1st visit was 74.4 (±12.3) kg in ART and 70.9 (±12.4) kg in DTG-s (p<0.05). A significantly higher proportion of patients in DTG-s received dual therapy (200%) compared to non-ART (60.7%) DTG vs. 44.6% (p<0.003).

Table: Descriptive characteristics of patients by ART group

680 DIABETES, WEIGHT GAIN, AND INTEGRASE INHIBITOR USE IN NORTH AMERICAN HIV+ PERSONS
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Background: Integrase strand transfer inhibitor (INSTI)-based regimens have been implicated in greater weight gain in antiretroviral therapy (ART)-naive HIV+ persons starting ART, though metabolic consequences are unclear. We examined the impact of initial ART regimen class on incident diabetes mellitus (DM) and potential mediation of this effect by weight change in a large North American HIV cohort.

Methods: We included treatment-naive adults (≥18 years) initiating INSTI-, protease inhibitor (PI)-, or non-nucleoside reverse transcriptase inhibitor