

WEIGHT CHANGE ASSOCIATED WITH SWITCH TO BICTEGRAVIR-CONTAINING ANTIRETROVIRAL REGIMEN IN PEOPLE LIVING WITH HIV

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BACKGROUND

- Recent studies suggest that integrase strand transfer inhibitors (INSTI), mainly dolutegravir and raltegravir, may be associated with excess weight gain in people living with HIV (PLWH)
- Implications of this weight gain is concerning, but remain unknown
- Few studies have evaluated weight changes associated with bictegravir-containing regimens

Primary Objective

Evaluate weight changes over time in virally suppressed, Vivent Health patients whose antiretroviral therapy was changed to a bictegravir-containing regimen.

Secondary Objectives

Evaluate baseline characteristics that predict change in weight

METHODS

Inclusion criteria

- Adult PLWH with suppressed HIV-1 RNA viral load (<200 copies/ml) who switched from an NNRTI, PI, or INSTI-based ART regimen to a bictegravir-containing regimen and continued the regimen for at least 6 months with no virologic failure (defined as one plasma HIV-RNA measurement $\geq$ 1000 copies/ml)
- Had at least one weight measurement before or at switch (defined as weight closest to switch within a window of 6 months prior to switch or 30 days after switch)
- Had at least one weight measurement within one year post-switch (defined as weight closest to one year $\pm$ 6 months)

Exclusion criteria

- Pts who started INSTI-based regimens when ART naive
- Pts with missing weight measurements within 6 months prior to switch or within 18 months after switch
- Pts on previous ART for < 1 year
- Pts who experienced virologic failure after switch

Weight Timeline

Weight at switch

Post-Switch Weight

Time Zero = Date bictegravir was added to medication list

- 6 months

Time Zero

30 days

6 months

12 months

18 months

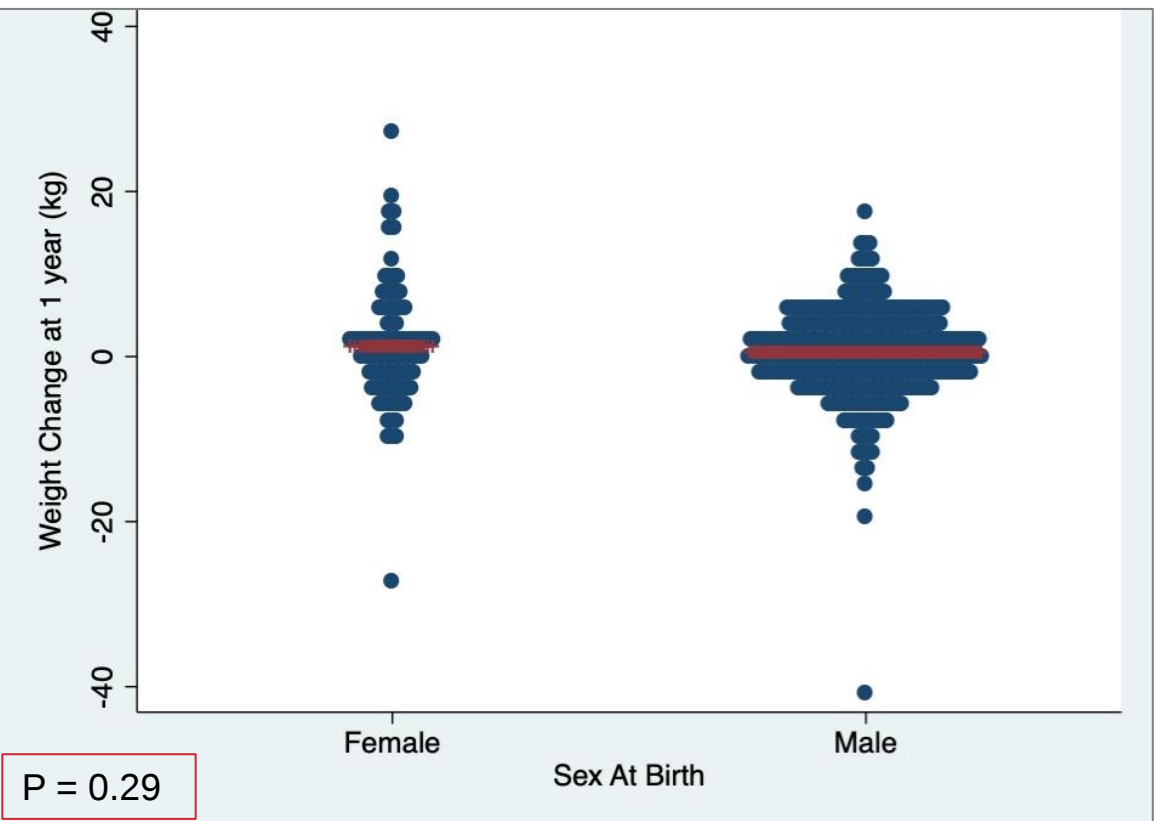
RESULTS

Table 1. Baseline Characteristics of Patients

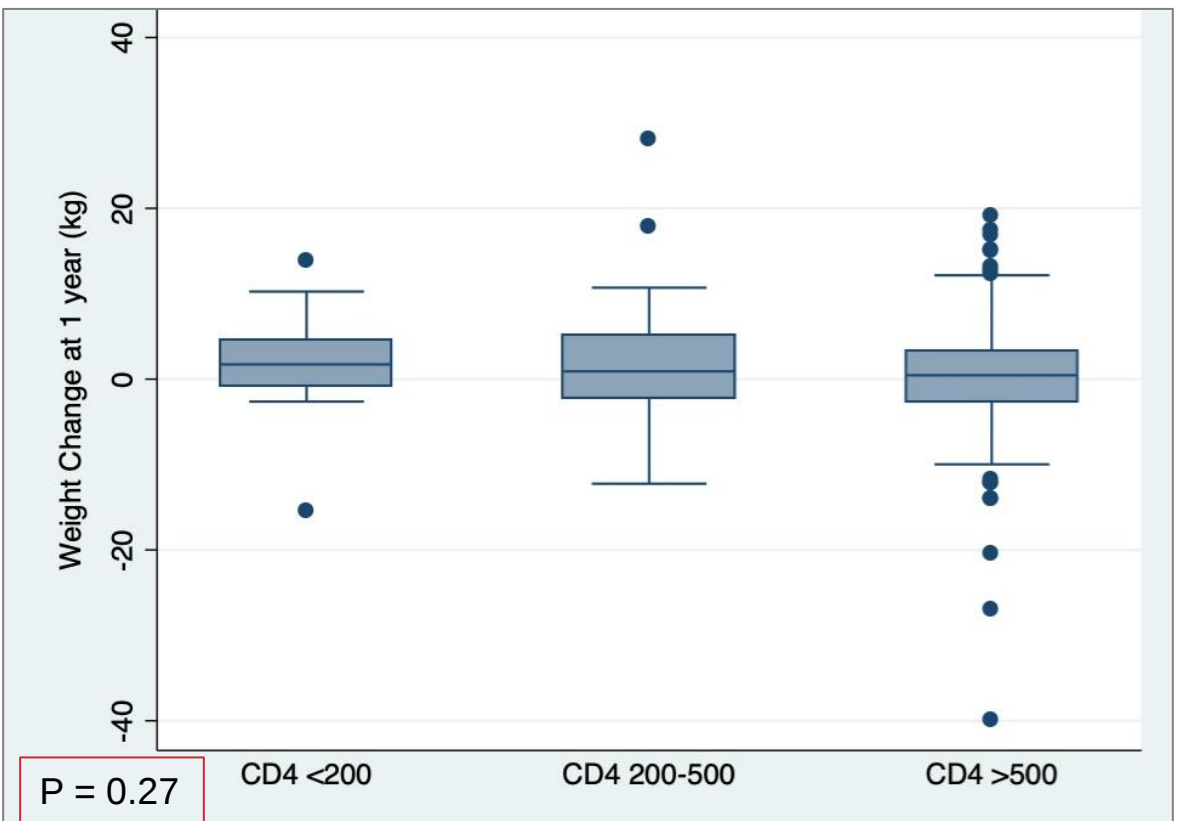
Characteristics	Patients (N= 429)	
	No.	(%)
Age - mean in years (SD)	47	$\pm$ 12.7
Sex		
Female	96	(22.4)
Male	333	(77.6)
Race		
White	211	(49.2)
Black	187	(43.6)
American Indian	8	(1.9)
Asian	5	(1.2)
Unknown	18	(4.2)
Ethnicity		
Hispanic	52	(12.1)
Non-Hispanic	365	(85.1)
Unknown	12	(2.8)
Comorbidities		
Diabetes mellitus	56	(13.1)
Hypertension	171	(39.9)
Hyperlipidemia	161	(37.5)
Tobacco use		
Current smoker	159	(37.1)
Psychotropic medications		
On medication list	42	(9.8)
Hormone replacement		
On medication list	15	(3.5)
Pre-switch regimen		
PI	52	(12.1)
NNRTI	62	(14.5)
INSTI	315	(73.4)
Weight - mean in kg (SD)	85	$\pm$ 20.4
CD4 count (cells/mm ³) - mean (SD)	697	$\pm$ 317
<200	17	(4.0)
200-500	103	(24.0)
>500	309	(72.0)

SD: standard deviation, PI: protease inhibitor, NNRTI: non-nucleoside reverse transcriptase inhibitor, INSTI: integrase strand transfer inhibitor

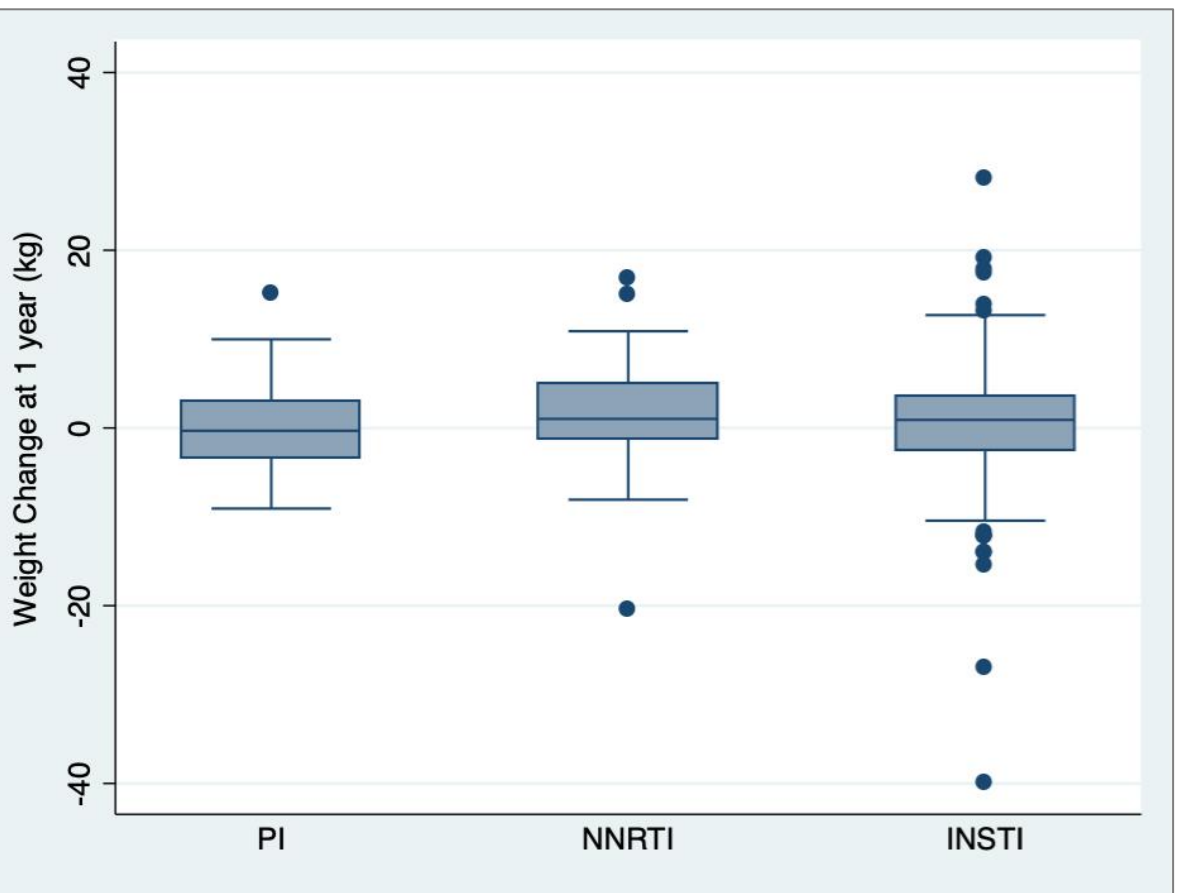
Sex Assigned at Birth



Baseline CD4 count



Pre-switch ART



Weight change after switch to bictegravir-containing ART		
Variable	Change in weight (kg)	p-value
Sex		0.29
	Female	1.14
	Male	0.41
Baseline CD4 (cells/mm ³)		0.27
	<200	1.71
	200-500	1.24
	>500	0.29

Summative change in weight after switch to bictegravir-containing ART		
	Change in weight (kg)	IQR
All patients (n=429)	0.73	(-2.54 - 3.62)

IQR: interquartile range

No statistically significant or clinically significant change in weight associated with:

Age

Race

Ethnicity

Comorbidities

Pre-switch ART

DISCUSSION

Findings from this review align with previous studies suggesting that baseline factors associated with weight gain in PLWH taking INSTIs include lower baseline CD4 cell counts and female sex

Contrary to other studies investigating weight gain in PLWH taking INSTIs, this review did not find additional weight gain associated with race

FUTURE DIRECTIONS

Comparison of weight changes over time in patients on:

- bictegravir-containing regimen vs. DTG + TAF
- DTG + TAF vs. DTG + TDF
- DTG + TAF versus DTG/3TC
- cabotegravir

DTG: dolutegravir, TAF: tenofovir alafenamide, TDF: tenofovir disoproxil fumarate, 3TC: lamivudine

CONCLUSION

There was no statistically significant weight gain seen in patients whose ART regimen was changed to a bictegravir-containing regimen. More weight gain was seen in female patients and those with low baseline CD4 counts, but was not statistically significant, so clinical inferences should be used with caution.