INSTI-related Body Composition Differences in Chronically Infected MLWH

Poster #00285

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Background

Substantial body composition alterations have been reported after starting combined antiretroviral therapy (cART) with weight gain commonly occurring when cART-naïve individuals start on integrase inhibitors (INSTI). We characterized a cohort of chronically infected and virologically suppressed (VL < 50 copies/ml) older men (≥ 50 years old) living with HIV (MLWH) who were initiated on an INSTI, and compared their body composition parameters and proinflammatory/endocrine profiles to age-matched MLWH on integrase-inhibitor free (non-INSTI) regimens, and to previously published HIV-seronegative men of the same age.

Methods

Participants

- Recruitment Sites: Infectious Disease Clinic and AIDS Clinical Trial Unit at WUSTL
- Male, ≥ 50 years old, sedentary, confirmed HIV-infected, on cART, virologically suppressed (<50 copies/mL)
- Self reported cART regimen and previous history
- All but one participant on INSTI (N = 23) had received cART prior to switching to INSTI

Data Collected

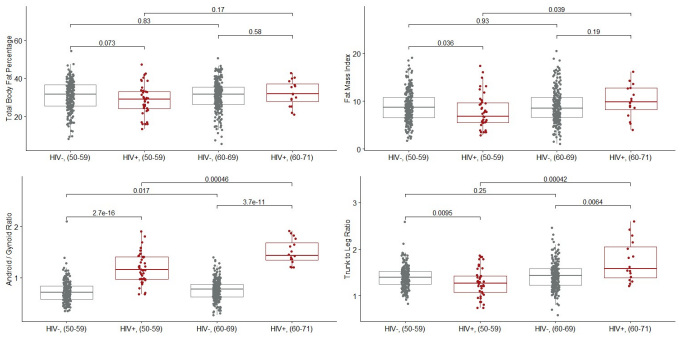
- Whole body DXA scans via GE_Healthcare Lunar I scanner
- Plasma markers of endocrine function and proinflammatory markers
- Control participants downloaded from previously published seronegative cohort[1]

Demographic Summary

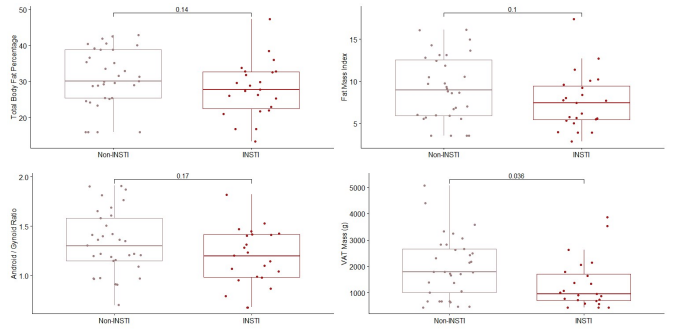
	HIV+, no INSTI	HIV+, INSTI	HIV-	p
N	33	23	450	
Age	56.9	56.2	50 - 69	0.568
Education (Years)	13.7	12.9		0.219
BMI	28.7	26.1	28.8	0.031
HOMA	1.98	2.05	NA	0.883
Insulin (mIU/L)	8.02	8.92	NA	0.676
Glucose (mg/dL)	100.82	95.22	NA	0.255
Recent CD4	614.4	659.3	NA	0.473
Nadir CD4	124.9	117.7	NA	0.894
Duration of Infection (Years)	21	19.4	0	<0.001
Years on Medication	18.7	16.7	0	<0.001
Race				0.357
Black	19 (58%)	18 (78%)	Unknown (~1.3%)	
White	12 (36%)	5 (22%)	Unknown (~92.2%)	
Multiracial	1 (3%)	0 (0%)	Unknown (~0.4%)	
Not Reported	1 (3%)	0 (0%)	Unknown (~6.5%)	

Results

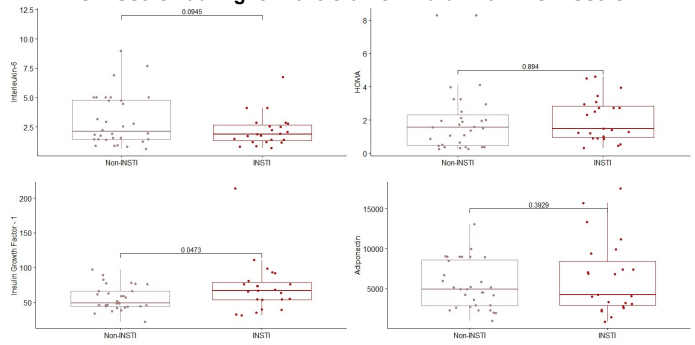
MLWH have Higher Android/Gynoid Ratio than Seronegative Controls



INSTI Users had Lower Visceral Adipose Tissue than non-INSTI Users



INSTI Users had Higher Levels of IGF-1 than non-INSTI Users

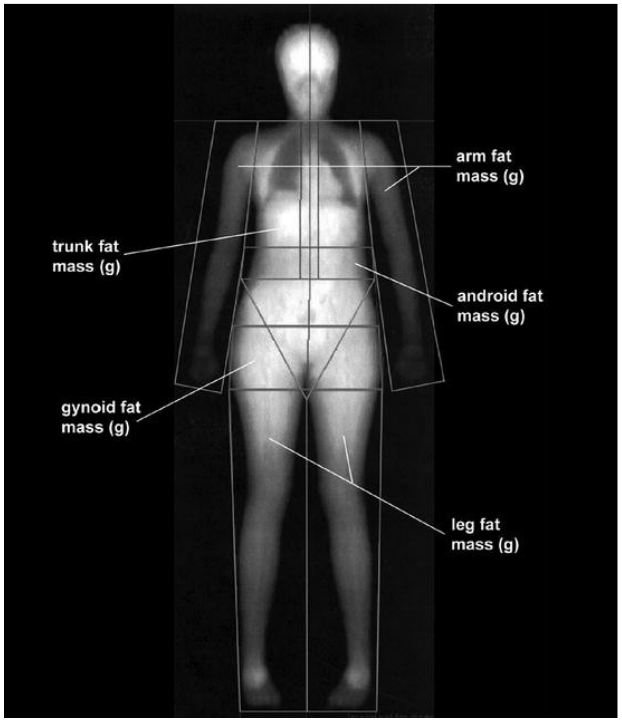


Conclusions

- cART-experienced MLWH who switched to INSTIs had lower VAT mass and higher IGF-1 compared to MLWH receiving non-INSTI based cART
- Previously reported instances of weight gain associated with INSTI were primarily in cART-naïve cohorts[2-3], and may be less pronounced if the individual is not naïve to cART
- We do not observe a deleterious effect on body composition, inflammation, or endocrine function when starting INSTIs in cART-experienced MLWH

[1]Imboden et al, 2017 [2]Debroy et al, 2020 [3]Lake et al, 2020 [4]Novotny, 2012

Terminology[4]



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