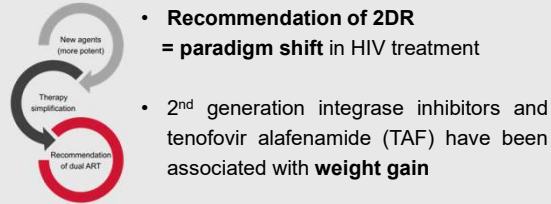# *Favorable metabolic outcomes 48 weeks after switch to DTG/3TC*

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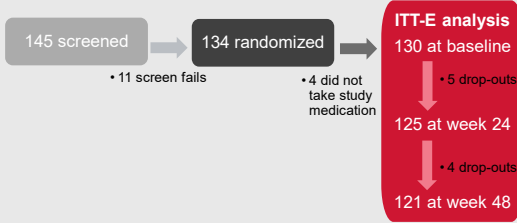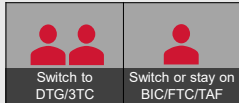
BACKGROUND

- **Recommendation of 2DR = paradigm shift** in HIV treatment

- 2nd generation integrase inhibitors and tenofovir alafenamide (TAF) have been associated with **weight gain**

→ impact on **metabolic health and cardiovascular risk?**

VISCERAL OBESITY | HYPERTENSION | INSULIN RESISTANCE | HIGH TRIGLYCERIDES | LOW HDL-CHOLESTEROL

METHODS

- Randomized, open-label controlled trial (2:1)

  Switch to DTG/3TC | Switch or stay on BIC/FTC/TAF

- Longitudinal follow-up: baseline, week 24, week 48

- Outcomes (2ary): weight, BMI, waist, lipids, insulin resistance, DXA scan, fibroscan

- Linear mixed models with covariance patterns

- Intention to treat – exposed analysis

145 screened → 134 randomized → **ITT-E analysis**
130 at baseline
- 11 screen fails
- 4 did not take study medication
- 5 drop-outs
125 at week 24
- 4 drop-outs
121 at week 48

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Switch to DTG/3TC may have a favorable impact on metabolic outcomes at week 48 as compared to BIC/FTC/TAF.

Rumba

DISCUSSION

- Viral load suppression maintained throughout study, without differences between groups
- Importance of body composition measures, in addition to weight

Limitations
- Small study sample / Singe center study
- Baseline differences
- Woman & sub-Saharan Africa people underrepresented
- Lifestyle parameters not measures

Future directions
- Further longitudinal data (follow-up until week 144)
- Virological and inflammatory analyses to be done

RESULTS

- Weight, waist and BMI were different at baseline between both treatment groups.

Baseline characteristics	DTG/3TC (n = 87)	BIC/FTC/TAF (n = 43)	p-value
Male sex (%)	90,8	90,7	1.000
Age (mean ± SD)	47,3 ± 11,9	45,0 ± 11,6	0.292
Non-European ethnicity (%)	19,5	25,6	0.628
Sexual orientation (%)			0.526
Gay/lesbian or bisexual/pansexual	70,1	67,4	
Heterosexual	27,6	30,2	
ART regimen at baseline (%)			0.072
DTG/ABC/3TC	31	51	
BIC/FTC/TAF	68	49	
Years on ART (median (IQR))	8 (5-11)	6 (4-9)	0.133
Years on 2nd generation INSTI (median (IQR))	3 (2-5)	4 (3-5)	0.476
CD4 nadir (cells/µl; median (IQR))	206 (193-476)	269 (212-380)	0.510
Weight (kg; mean ± SD)	81 ± 12	75 ± 13	0.013
Waist (cm; mean ± SD)	95 ± 12	89 ± 11	0.006
BMI (kg/m²; median (IQR))	26 (23-28)	25 (22-26)	0.024

- Linear mixed models (adjusted for baseline BMI) revealed significantly different estimated mean differences from baseline to week 48 between both groups with regard to ALT, HDL cholesterol, lean trunk mass, trunk fat mass and fat percentage.

- There were no significant differences with regard to the other outcomes (lean body mass, total and LDL cholesterol, triglycerides, glucose, insulin, HOMA-IR, liver fibrosis).

	DTG/3TC	BIC/FTC/TAF	p-value
ALT (U/L)	- 0.73	+ 4.55	0.040
HDL (mg/L)	- 0.043	- 2.84	0.043
Lean trunk mass (gram)	+ 112	- 474	0.032
Trunk fat mass (gram)	+ 41	+ 719	0.043
Fat percentage	- 0.04	+ 1.32	0.003

	DTG/3TC	BIC/FTC/TAF	p-value
Weight (kg)	+0,29	+0,30	0.987
Waist (cm)	-0,07	+ 1,10	0.155
BMI (kg/m²)*	+0,07	+0,04	0.919
Cholesterol (mg/dl)	-2,49	-8,90	0.316
LDL cholesterol (mg/dl)	-1,82	-6,21	0.435
TC/HDL	0	+0,029	0,848
Triglycerides (mg/dl)	-3,82	-20,96	0.206
HOMA-IR	-0,16	- 0,43	0.359
FibroCAP (dB/m)	-0,39	-11,61	0.304

- Greater treatment-mediated differences in trunk fat were observed in people with BMI > 30 (p=0,041).

BMI<30 — DTG/3TC: N = 74, BIC/FTC/TAF: N = 39; p=0.266

BMI>30 — DTG/3TC: N = 13, BIC/FTC/TAF: N = 4; p=0.011