

Virologic response in HIV-1 infected patients treated with dolutegravir-containing ART regimens – a real-world study

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BACKGROUND

Dolutegravir (DTG) is an effective antiretroviral, associated with rapid virologic responses [1]. Intermittent viremia has been linked to a higher risk of virologic failure [2] and immune activation [3]. The precise consequences and factors responsible for this phenomenon remain controversial.

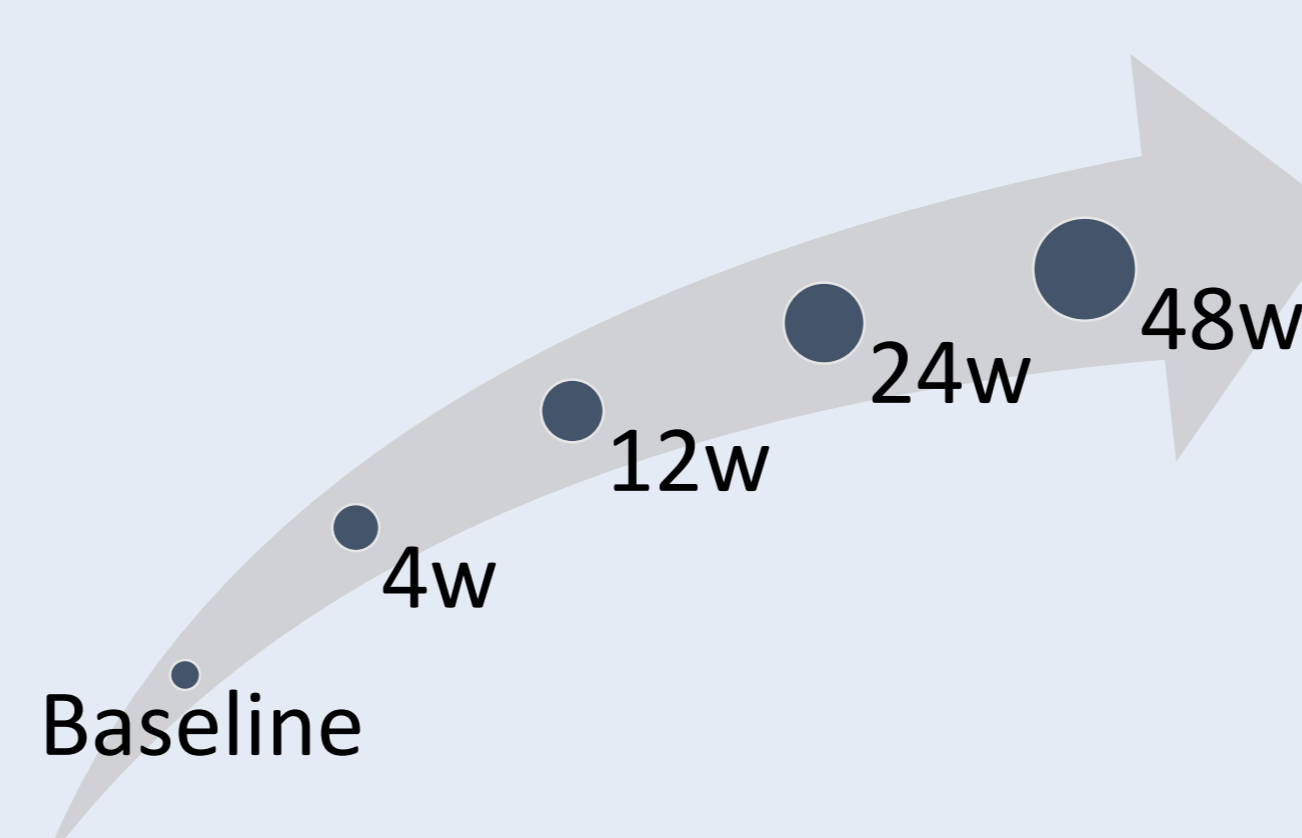
MATERIAL AND METHODS

227 patients starting DTG (May 15 - May 17)

55 ART-naïve

164 ART-experienced suppressed at switch

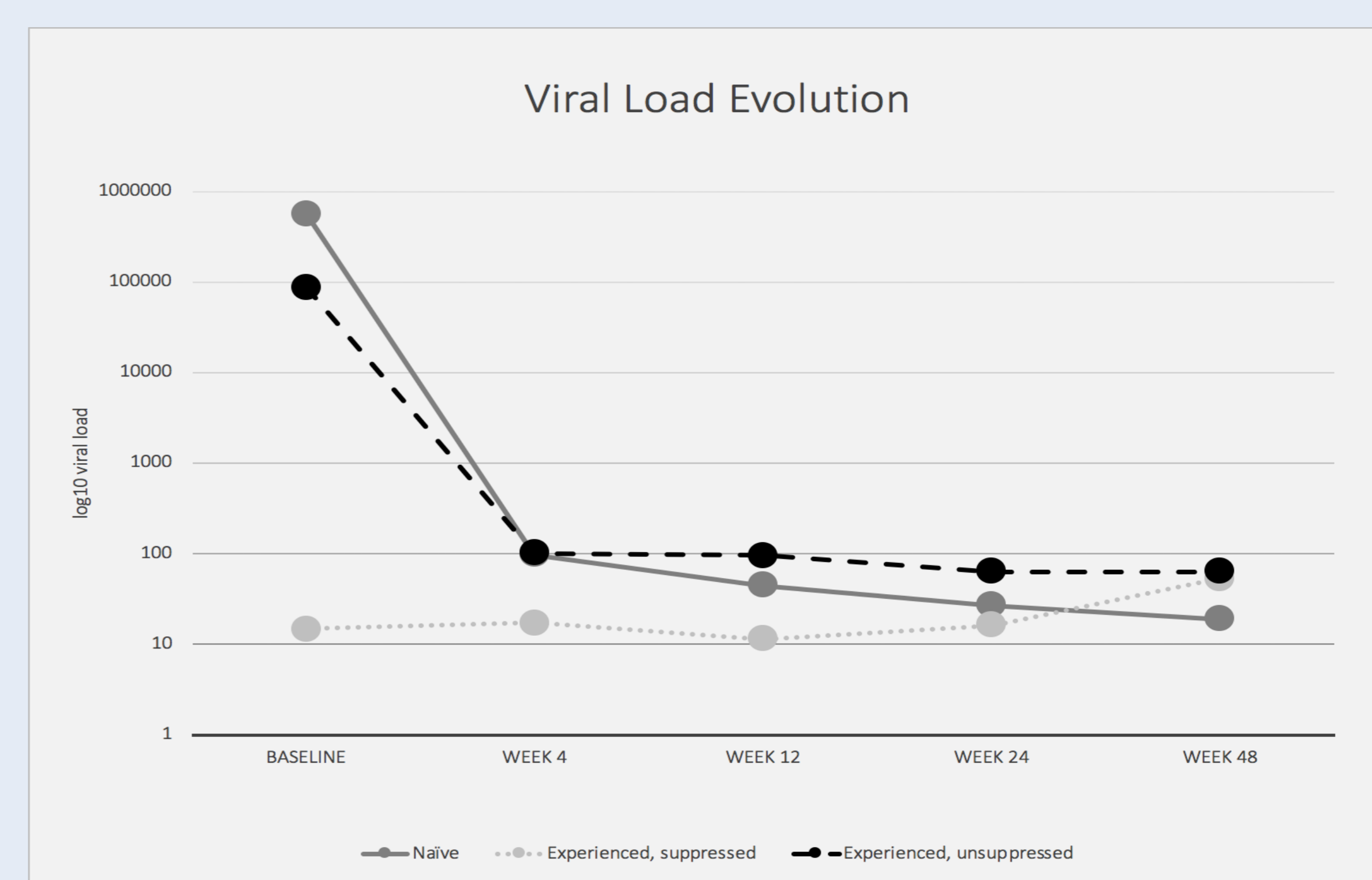
8 ART-experienced not suppressed at switch (VL >200 copies/mL)



- Virologic response and immunological progression
- Incidence of blips
- Incidence of low-level viremia (LLV)
- Tolerability

RESULTS

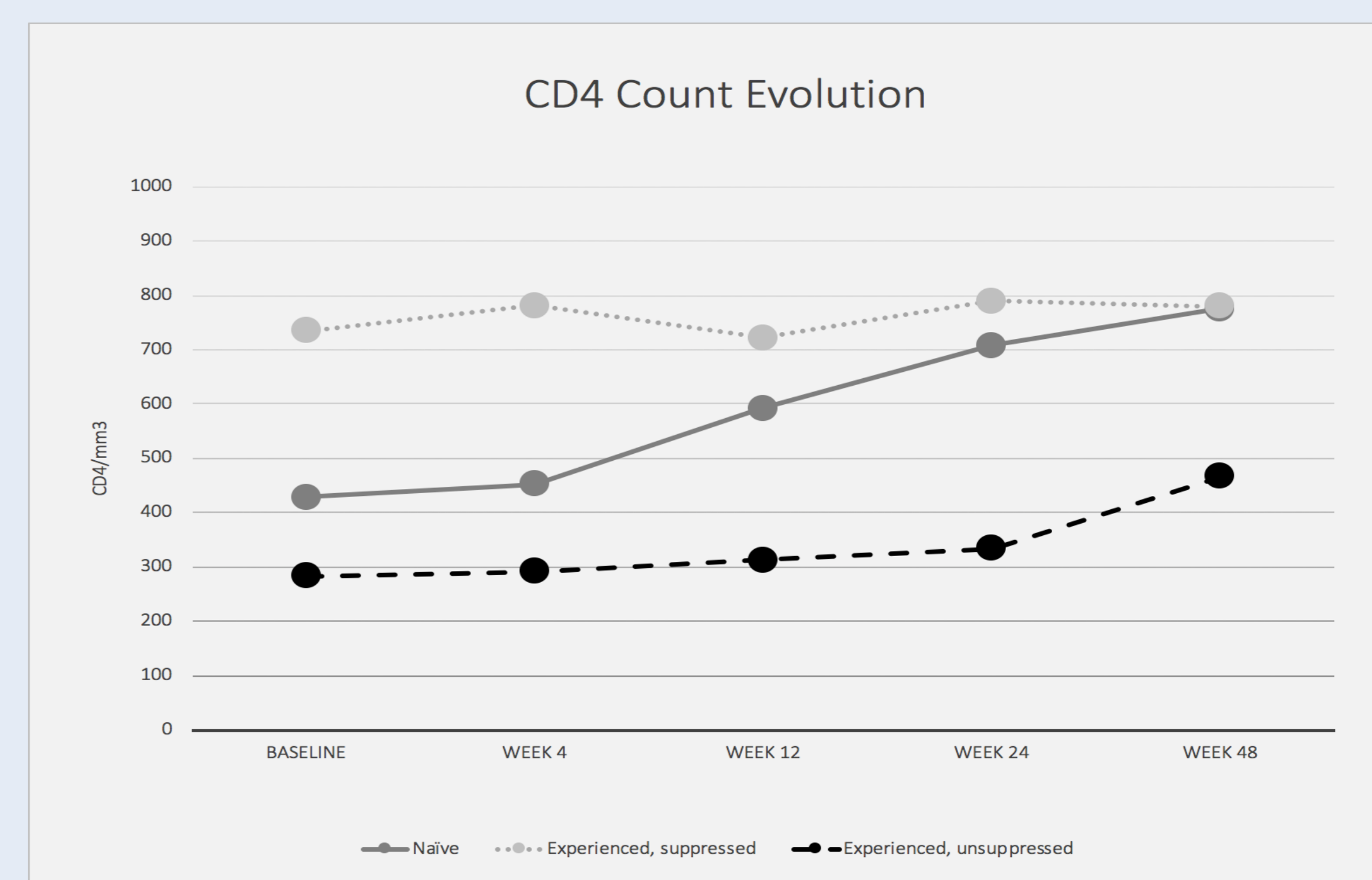
	ART-naïve	ART-experienced, virologically suppressed	ART-experienced not suppressed at switch
n	55	164	8
ABC/3TC + DTG	44 (80.0%)	113 (68.9%)	2 (25.0%)
TDF/FTC + DTG	9 (16.4%)	22 (13.4%)	1 (12.5%)
Other regimens	2 (3.6%)	29 (17.7%)	5 (62.5%)
Mean VL at baseline (copies/mL)	568,573	NA	87,977
VL <20 copies/mL at week 48	38 (70.3%)	137 (83.7%)	5 (62.5%)
VL <50 copies/mL at week 48	52 (94.3%)	156 (95.1%)	6 (75.0%)
Blips >20 copies/mL	NA	35 (21.3%)	NA
Blips >50 copies/mL	NA	9 (5.4%)	NA
LLV >20 copies/mL	NA	11 (6.7%)	NA
LLV >50 copies/mL	NA	3 (1.8%)	NA



Graphic 1. Viral load evolution.

26 patients with baseline VL > 100.000 copies/mL	
ART-naïve	24 (92.3%)
ART-experienced	2 (7.7%)
ABC/3TC based regimens	17 (65%)
VL <20 copies/mL at week 48	6 (23.1%)
VL <50 copies/mL at week 48	23 (88%)

Patients with baseline VL <100.000 copies/mL had a higher probability of suppressing below 20 copies/mL at week 48 ($p < 0.05$)



Graphic 2. CD4 lymphocytes evolution.

CONCLUSIONS

The use of DTG in naïve patients was associated with a 70.3% rate of viral suppression <20 copies/mL and 94.3% <50 copies/mL at week 48. Patients with a VL <100.000 copies/mL appeared to have a higher probability of suppressing <20 copies/mL. Experienced suppressed patients frequently developed intermittent viremia >20 copies/mL and >50 copies/mL (28.0% and 7.2%, respectively). Further investigations are needed to clarify its significance.

References

- [1] Todd S, Rafferty P, Walker E, et al. Early clinical experience of dolutegravir in an HIV cohort in a larger teaching hospital. International journal of STD & AIDS. 2017;28(11):1074-81.
- [2] Laprise C, de Pokomandy A, Baril JG, Dufresne S, Trottier H. Virologic failure following persistent low-level viremia in a cohort of HIV-positive patients: results from 12 years of observation. Clinical infectious diseases: an official publication of the Infectious Diseases Society of America. 2013;57(10):1489-96.
- [3] Zoufaly A, Kiepe JG, Hertling S, et al. Immune activation despite suppressive highly active antiretroviral therapy is associated with higher risk of viral blips in HIV-1-infected individuals. HIV medicine. 2014;15(8):449-57.