Viral Suppression Among Adults with HIV Receiving Dolutegravir-Based Antiretroviral Therapy and 3-Months Isoniazid-Rifapentine

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BACKGROUND

Safety and effectiveness of 3HP, a short-course TB preventive therapy (TPT) regimen, co-administered with once-daily dolutegravir (DTG)-based ART, is unclear

- Prior studies have showed conflicting results

Study Objectives:

- Assess safety of 3HP among PWH receiving once-daily DTG-based ART
- Compare 6- and 12-month viral suppression between PWH receiving DTG-based ART with and without 3HP in routine care

METHODS

Study design: Analysis of data from a Phase 3 RCT comparing two TB screening strategies (NCT04557176)

Participants: Outpatients (≥18 years) initiating routine ART in Kampala, Uganda, 11/2020-02/2023

Study procedures:

- 3HP initiated 2 weeks after ART initiation for eligible TB screen-negative participants
- 3HP was self-administered with monthly in-person visits for adherence and adverse event monitoring
- HIV viral load (VL) measured at 6- and 12-months as part of routine care

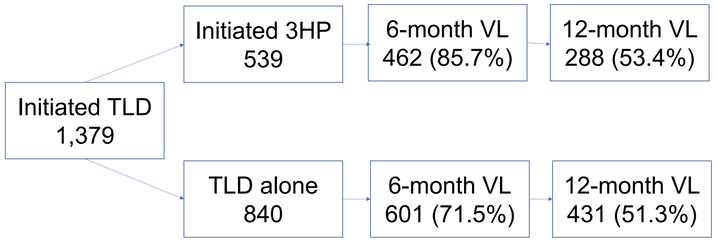
Inclusion criteria: Initiated once-daily DTG-based ART (TDF/3TC/DTG [TLD])

Exclusion criteria: Prevalent TB at baseline

Analysis:

- Safety: 3HP discontinuation due to drug toxicity among those who received TLD+3HP
- Viral suppression: 6- and 12-month viral suppression (VL ≤50 and ≤200 copies/mL) among participants who received TLD+3HP vs. TLD alone

Figure 1. Participant follow-up



3HP co-administered with once-daily DTG-based ART is *safe* and *well-tolerated*.

3HP+TLD is not associated with increased risk of viremia >50 copies/mL at 6-months.

RESULTS

Table 1. Characteristics of participants initiating TLD

	Total N=1,379	TLD+3HP N=539	TLD N=840	p-value
Female sex	931 (67.5%)	348 (64.6%)	583 (69.4%)	0.06
Median age (IQR)	29 (25-36)	29 (24-36)	30 (25-37)	0.35
Median pre-ART CD4 (IQR)	257 (136-403)	296 (172-477)	238 (120-365)	<0.01
Median BMI (IQR)	22.9 (20.5-25.8)	22.8 (20.7-25.7)	23.0 (20.4-25.9)	0.89

Table 2. 3HP completion and safety

Outcome	TLD+3HP N=539
Completed 3HP	509 (94.4%)
Self-discontinued 3HP	22 (4.1%)
Diagnosed with TB[1]	3 (0.6%)
Became pregnant	3 (0.6%)
Experienced adverse event[2]	2 (0.4%)

[1]TB diagnoses were not microbiologically confirmed
[2]One developed rash after 10 doses; one experienced chest pain, diarrhea, and vomiting after 3 doses

Table 3. Viral suppression at 6- and 12-months

6-months	Total N=1,063	TLD+3HP N=462	TLD N=601	p-value
Median log_{10} VL (IQR)	1.70 (1.70-1.76)	1.70 (1.70-1.75)	1.70 (1.70-1.76)	0.89
VL ≤50 copies/mL	776 (73.0%)	337 (72.9%)	439 (73.0%)	0.97
VL ≤200 copies/mL	948 (89.2%)	420 (90.9%)	528 (87.9%)	0.11

12-months	Total N=719	TLD+3HP N=288	TLD N=431	p-value
Median log_{10} VL (IQR)	1.70 (1.70-1.70)	1.70 (1.70-1.70)	1.70 (1.70-1.70)	0.94
VL ≤50 copies/mL	557 (77.7%)	223 (77.4%)	334 (77.5%)	0.98
VL ≤200 copies/mL	671 (93.3%)	272 (94.4%)	399 (92.6%)	0.33

Table 4. Risk of viremia >50 copies/mL at 6-months

	Adjusted Risk Ratio (95% CI)	p-value
3HP	1.08 (0.88-1.31)	0.46
Female sex	0.71 (0.58-0.87)	<0.01
Age, years	0.99 (0.98-1.01)	0.30
Pre-ART CD4 count	0.99 (0.99-0.99)	<0.01

CONCLUSIONS

- 3HP co-administered with TLD was safe and well tolerated; only 2 (<0.5%) participants discontinued 3HP due to possible drug toxicity
- Contrary to our interim results (which described an association between 3HP+TLD and a higher probability of 6-month viremia), we found no difference in 6- or 12-month viral suppression between groups
- Our full results support the continued global scale-up of 3HP and once-daily DTG-based ART

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