Dolutegravir plus Lamivudine in People with HIV With and Without Prior Virologic Failure in Thailand

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BACKGROUND

- **Dolutegravir plus lamivudine (DTG+3TC)** is recommended for ART-naïve and VL suppressed PWH.
- Limited real-world data exist in treatment-experienced individuals **with prior failure/resistance**, especially in LMICs.
- Thailand scaled up DTG based ART nationally beginning in 2020
- **Objective:** To assessed real-world outcomes of DTG+3TC in Thailand's National AIDS Program (NAP)

METHODS

- **Study Design:** Retrospective cohort study using de-identified NAP data.
- **Inclusion:** ART-experienced PWH switching to DTG+3TC (Jan 1, 2020 – Dec 31, 2023), aged ≥15 years, ≥6 months follow-up.
- **Definitions:**
  - **Suspected 3TC resistance:** documented 3TC/FTC resistance, prior VF on FTC/3TC or boosted PI use after NNRTI/NRTI failure.
- **Primary Outcomes:** VL <50 copies/mL at 12 mos
- **Secondary Outcomes:** Virological failure (VF ≥1000 copies/mL), predictors of VF

DTG+3TC was highly effective in virologically suppressed PWH at switch including those with prior 3TC resistance or failure but performed poorly in individuals with ongoing viremia, underscoring the importance of careful patient selection.

RESULTS

Of 9,642 PWH initiating DTG+3TC, 6,460 met eligibility criteria.

- 60.5% male, 1.3% adolescent/young adults
- Median age: 52.9 years (IQR 46.3–59.6), Median ART duration pre-switch: 10 years, Median CD4: 538 cells/mm³
- **4.6% (n=299) had VL >50 copies/mL at switch**

Compared with suppressed participants, those viremic at switch were:

- Younger (48.9 vs 53.1 years), More likely prior LPV/r (30.8% vs 17.6%)
- Lower CD4 (354 vs 544 cells/mm³), Higher prior resistance/failure to 3TC, NRTI, NNRTI (30.8% vs 6.6%)
- VL outcome is present in Figure 1, predictor of VF: Figure 2

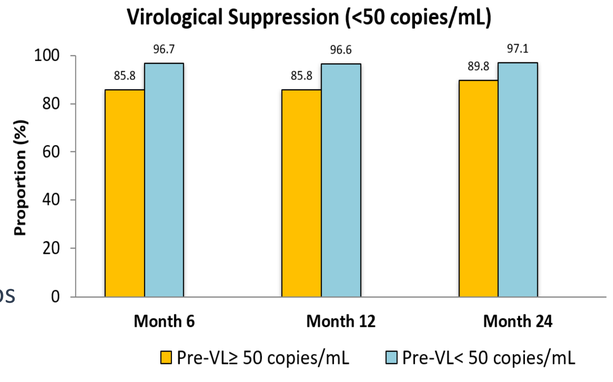


Figure 1. VL suppression after Dual switched

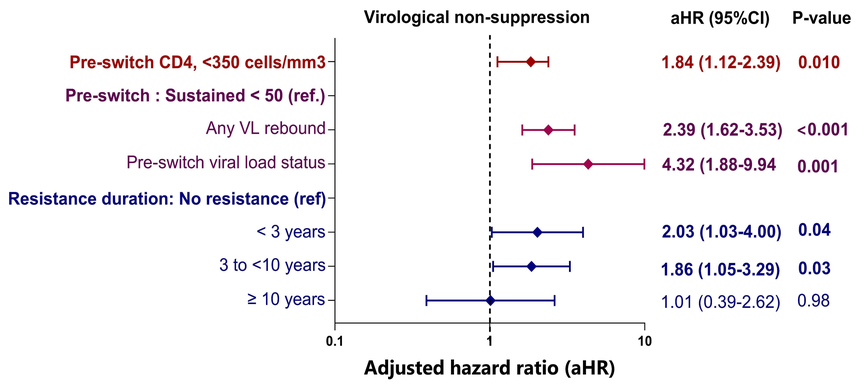


Figure 2. Factor associated with VL non-suppression

CONCLUSIONS

Highly Effective: DTG+3TC was durable for maintaining suppression in ART-experienced

PWH who were suppressed at switch, *even with 3TC resistance*.

Caution Required: Outcomes were markedly poorer in PWH with ongoing viremia or recent failure, prior switch

Implication: Careful selection based on virological status and ART history is essential for safe use in NAP programs.

Limitation and Future direction

- Observational design; potential residual confounding and selection bias.
- Historical resistance data only; no systematic proviral DNA testing; adherence not captured.
- Moderate follow-up, long-term durability unknown.
- Prospective studies needed to define safety in viremic patients and clarify impact of recent resistance.

Acknowledgements

The dataset used in this study was provided by the National Health Security Office (NHSO). We thank the Division of AIDS, Ministry of Public Health; the Thai AIDS Society; the National Health Security Office; and all physicians, nurses, and pharmacists at HIV clinics and hospitals across Thailand's 77 provinces for their dedicated care of people with HIV.