Department of Health
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# Dolutegravir plus Lopinavir/ritonavir as a Second-Line Two-Drug Regimen in PLHIV: A Case Series of Clinical Success

CAS-002

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## BACKGROUND

The 2021 WHO guidelines recommend Dolutegravir (DTG) combined with a nucleoside reverse transcriptase inhibitor (NRTI) backbone as the preferred second-line regimen following first-line antiretroviral therapy failure. **However, this approach may not adequately address prior drug-related toxicities or insufficient immunologic response.**

## CASE SERIES

| Patient | Sex/Age | Reason for Switching Regimen | Previous Issues | Outcomes after 24 Weeks | | |
|---|---|---|---|---|---|---|
| | | | | CD4 | VIRAL LOAD | CLINICAL OUTCOME |
| **1** | M/34 | Transfusion-refractory anemia following Zidovudine regimen | Anemia | 439 | 20 | Anemia resolved |
| **2** | M/24 | Transfusion-refractory anemia following Zidovudine regimen | Anemia | 408 | UNDETECTABLE | Anemia resolved |
| **3** | M/36 | Transfusion-refractory anemia following Zidovudine regimen | Anemia | 501 | UNDETECTABLE | Anemia resolved |
| **4** | F/42 | NRTI resistance, Tenofovir-induced renal impairment | Nephrotoxicity, NRTI resistance | 435 | <40 | AKI resolved |
| **5** | M/60 | NRTI resistance, Tenofovir-induced renal impairment | Nephrotoxicity, NRTI resistance | 692 | <40 | AKI resolved |
| **6** | F/52 | Persistent CD4 depletion, recurrent OI (including leprosy) | Low CD4, recurrent OIs (lepromatous leprosy) | 499 | 20 | Regression of lesions of leprosy |

**Table 1. Clinical outcomes of patients switched to Dolutegravir plus Lopinavir/ritonavir as second-line regimen after 24 weeks**

## DISCUSSION

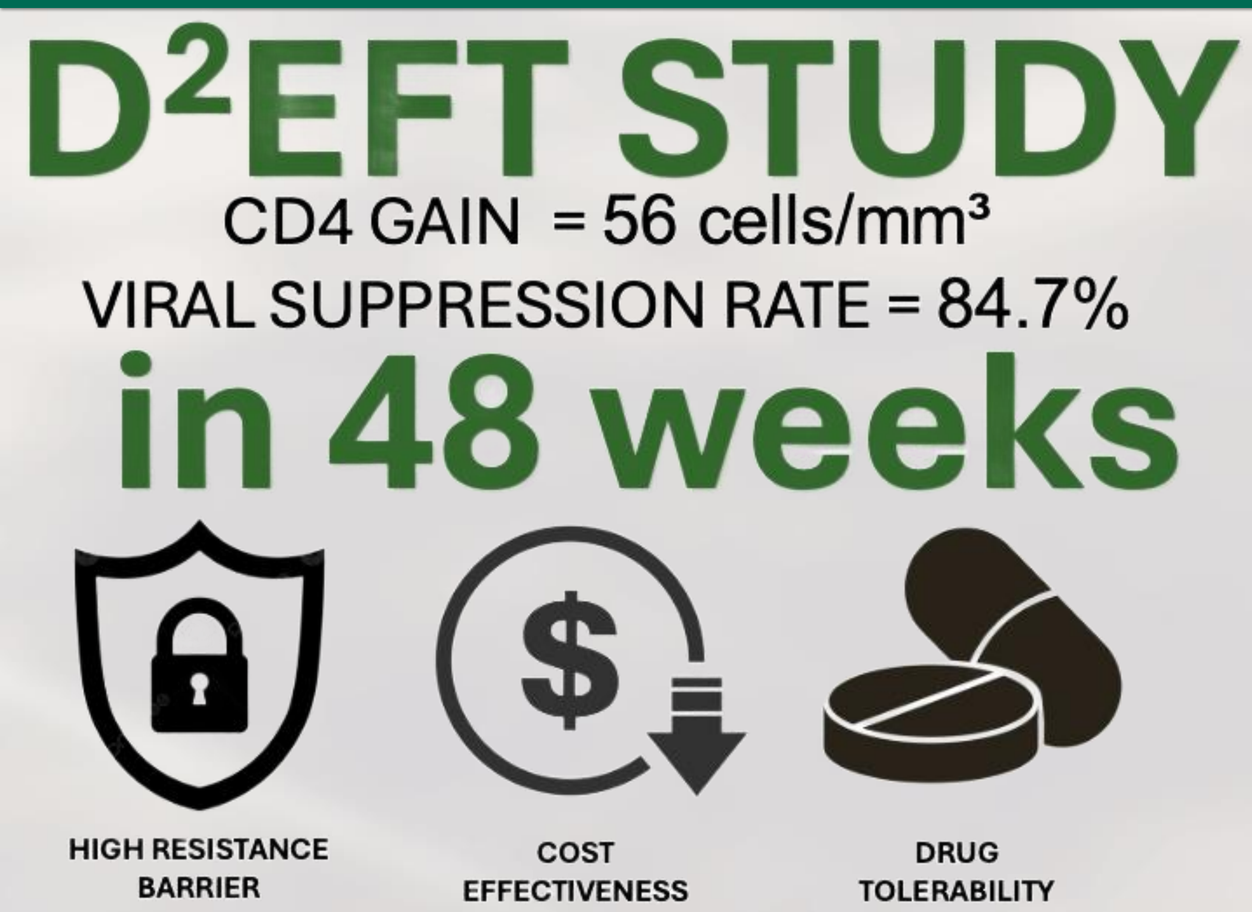


**Figure 1. Advantages of D²EFT study**
CD4 gain of 56 cells/mm³ and a viral suppression rate of 84.7% at 48 weeks; high resistance barrier, cost effective, and good drug tolerability

The D²EFT study demonstrated the non-inferiority of an integrase strand transfer inhibitor (INSTI) combined with a ritonavir-boosted protease inhibitor (PI) regimen in achieving viral suppression and robust CD4 recovery, despite the absence of an NRTI backbone.

**The study reported an average CD4 gain of 56 cells/mm³ and a viral suppression rate of 84.7% at 48 weeks.**[1] In our case series, similar results were observed, notably within just 24 weeks. DTG + LPV/r offers a cost-effective alternative with a high resistance barrier.

**Despite the recognized gastrointestinal side effects and pill burden associated with LPV/r, the regimen was well-tolerated, with no gastrointestinal side effects reported in this cohort**. This further underscores its safety and efficacy in complex clinical scenarios.

## CONCLUSION

In our setting, DTG + LPV/r is the available regimen, and our experience demonstrated favorable virologic and immunologic outcomes while also addressing adverse drug reactions. Although large-scale data are still limited, these results indicate promising clinical outcomes with DTG + LPV/r. This NRTI-sparing two-drug regimen may be considered for patients failing first-line ART.

SCAN ME

**REFERENCES:**
[1]Matthews, G. et al, Dolutegravir plus boosted darunavir versus recommended standard-of-care antiretroviral regimens in people with HIV-1 for whom recommended first-line non-nucleoside reverse transcriptase inhibitor therapy has failed (D2EFT): An open-label, randomised, phase 3b/4 trial. The Lancet HIV, 11(7), e436–e448. https://doi.org/10.1016/S2352-3018(24)00089-4
[2]Consolidated Guidelines on HIV Prevention, Testing, Treatment, Service Delivery and Monitoring: Recommendations for a Public Health Approach (1st ed). (2021). World Health Organization.