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Effectiveness of a dual therapy based on DTG/3TC on reduction of the viral reservoir, immune recovery and immune activation compared with a triple antiretroviral therapy based on DTG/TAF/FTC in patients with HIV infection without prior treatment.

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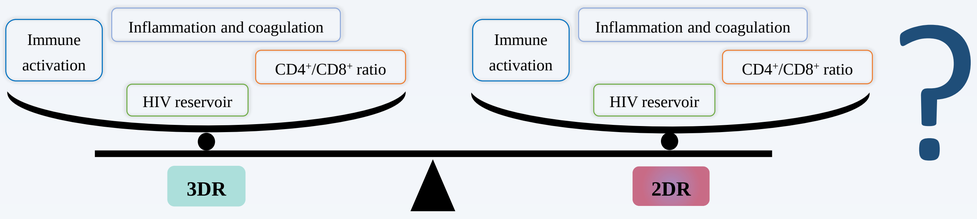
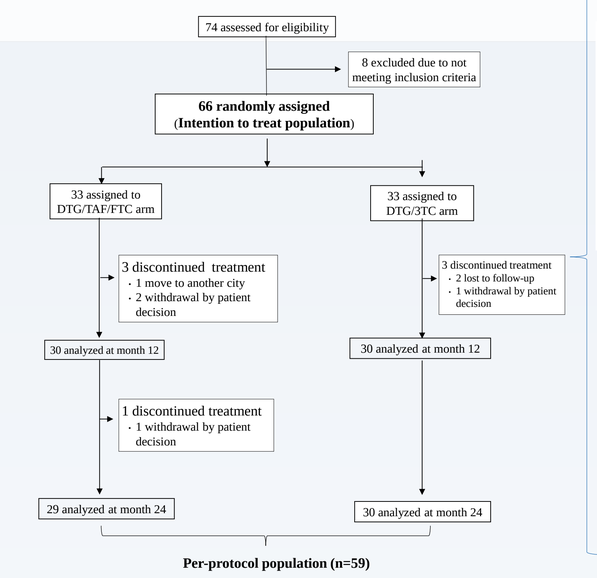
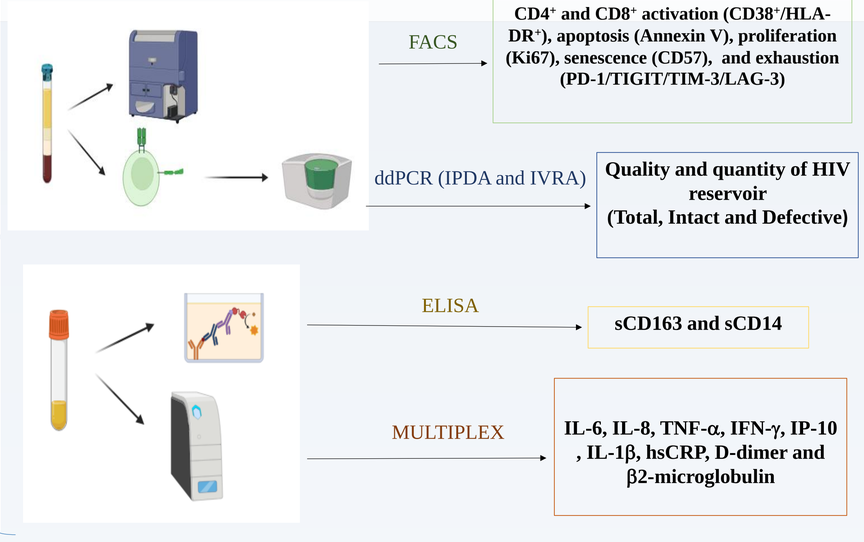
Background

In different clinical trials, DTG/3TC (2DR) has demonstrated, similar efficacy and immune reconstitution than triple antiretroviral treatments (3DR) in treatment-naïve and virologically suppressed people with HIV-1 (PWH). However, there is limited evidence that 2DR is as effective as 3DR in reducing the viral reservoir and chronic immune activation and inflammation (cIA/I) in treatment-naïve PWH.



Methods





Results

Seventy-four treatment-naïve PWH were enrolled. Sixty-six PWH were evaluable, of whom 33 started ART with DTG/3TC and 33 with DTG/TAF/FTC (3DR). Ninety-seven percent of the members of each group were male, with a median age of 31 years in 3DR group and 30 years in 2DR group. The 2DR group started treatment with a median $CD4^+$ count of 394 cells/mL, a $CD4^+/CD8^+$ ratio of 0.57 and a viral load of 57300 copies/mL, while the 3DR group had a median $CD4^+$ count of 421 cells/mL, a $CD4^+/CD8^+$ ratio of 0.47 and a viral load of 53900 copies/mL. None of the baseline characteristics were significantly different. There were no differences between both treatment arms (3DR vs. 2DR) after 12-month follow-up in quality and quantity of viral reservoir, immune recovery, immune activation, apoptosis, proliferation, senescence, exhaustion in $CD4^+$ and $CD8^+$ T-cells, and inflammatory profile.

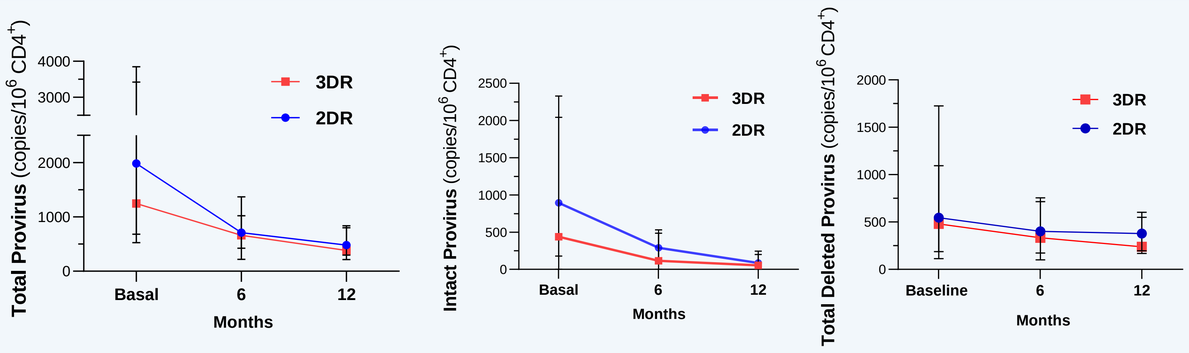


Figure 1. Viral reservoir dynamics

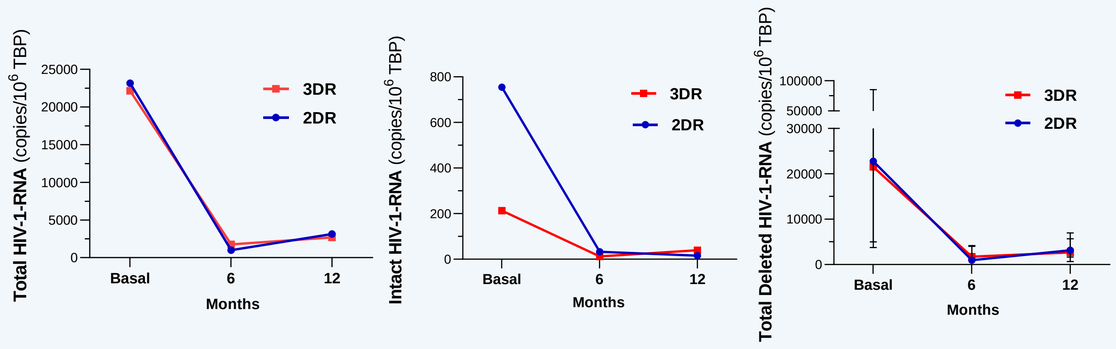


Figure 2. Transcriptional activity

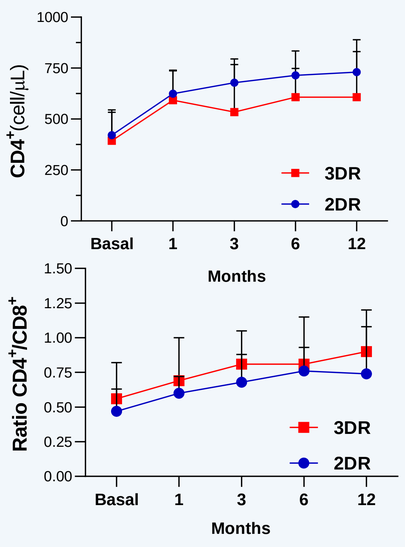


Figure 3. Immune Recovery

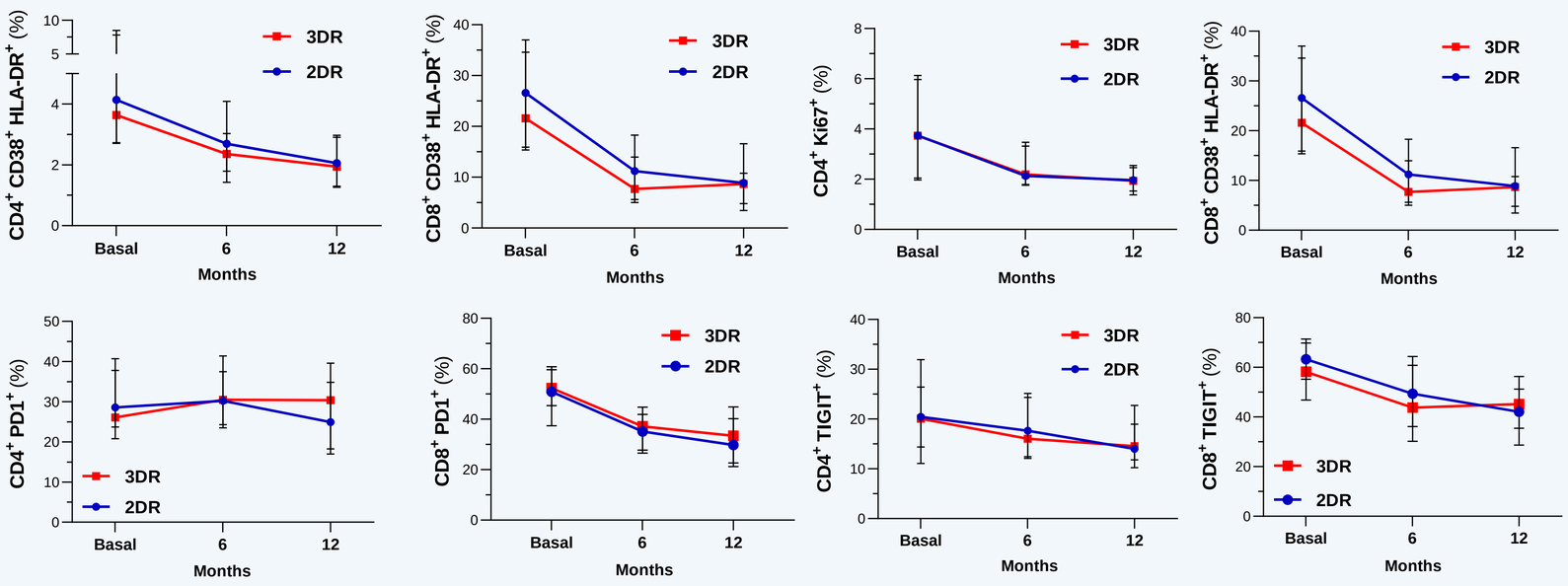


Figure 4. Phenotypic changes

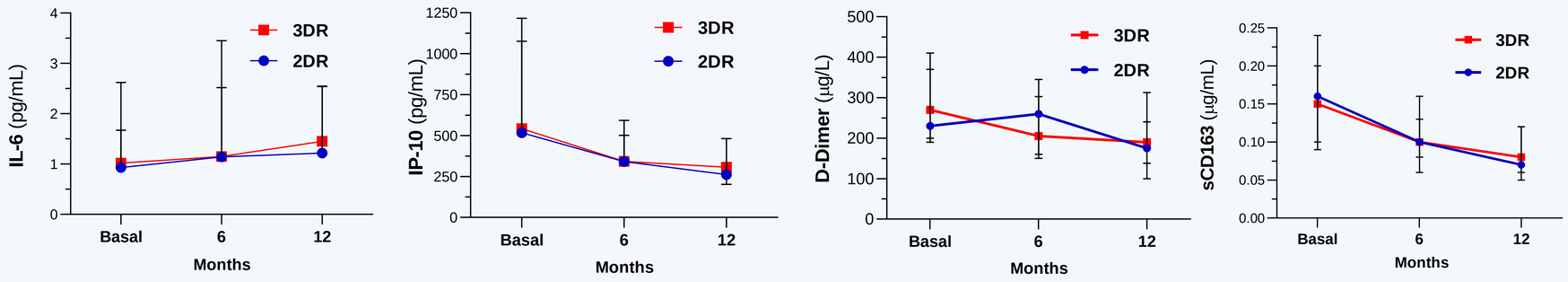


Figure 5. Inflammatory profile

Conclusions

Our results suggested that there are no differences in the quantity and quality of HIV-1 reservoir decay, transcriptional activity, and other immunological and inflammatory parameters in treatment-naïve PWH starting 2DR compared to 3DR.