# EFFICACY AND DURABILITY OF RALTEGRAVIR-BASED DUAL THERAPY

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## BACKGROUND AND OBJECTIVE

In the last few years, the interest in two-drug antiretroviral regimens has substantially increased. Ideally, these regimens should achieve and maintain viral suppression and immunologic control while increasing tolerability and safety by reducing short- and long-term adverse effects. Our aim was to evaluate the efficacy and durability of treatment switch to raltegravir-based dual therapies, since few data are available on these regimens from clinical practice.

## METHODS

This was a retrospective observational study within the multicentre ARCA Cohort. We enrolled treatment-experienced virologically-suppressed (HIV-RNA <50 copies/mL) patients, treated with a 3-drug combination, switching to a raltegravir-based dual therapy. Patients were followed from treatment switch (baseline, BL) to regimen discontinuation or last available follow-up. Incidence and predictors of virological failure (VF, defined as two consecutive HIV-RNA >50 copies/mL or a single HIV-RNA >1000 copies/mL), treatment discontinuation (TD, defined as regimen stop or changing/adding any drug) and treatment failure (TF, defined as VF or TD) were evaluated.

## RESULTS

**TAB 1: Patients characteristics (n=428)**

| | |
|---|---|
| Age, median (IQR) | 50 (46-55) |
| Male gender, n (%) | 303 (70.8) |
| Non-Italian born, n (%) | 24 (5.6) |
| Risk factor, n (%) | |
| Heterosexual | 162 (37.9) |
| Homo/bisexual | 72 (16.8) |
| IDU | 144 (33.6) |
| Other/unknown | 50 (11.7) |
| HIV subtype B, n (%) | 279 (65.2) |
| Years from HIV diagnosis, median (IQR) | 18.7 (12-24.1) |
| Years from first ART initiation, median (IQR) | 14.3 (8.3-17.6) |
| Years from last ART regimen initiation, median (IQR) | 2.5 (1-4.5) |
| CD4 at BL, cells/mmc, median (IQR) | 581 (407-779) |
| Pre-BL InSTI drug resistance mutations (DRM) | 0 |
| Pre-BL PI DRM, n (%) | 61 (21.1*) |
| Pre-BL NNRTI DRM, n (%) | 125 (43.3*) |

*Percentage calculated on the number of pre-baseline GRT available

**FIG 1: drug classes used before switch to dual therapy**

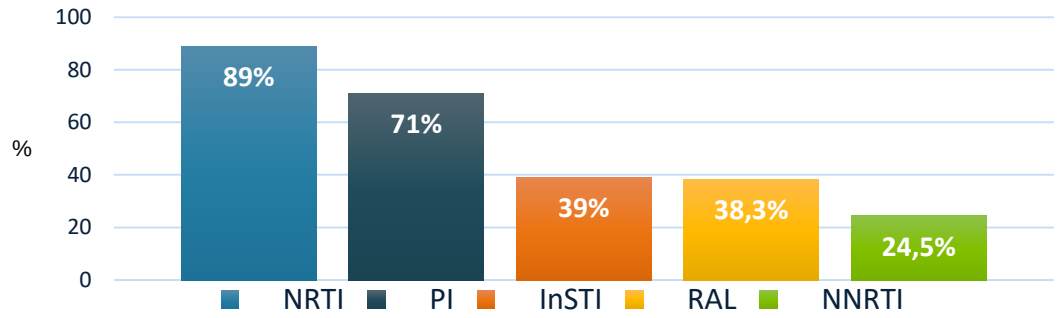



**FIG 2: type of two-drug regimens**

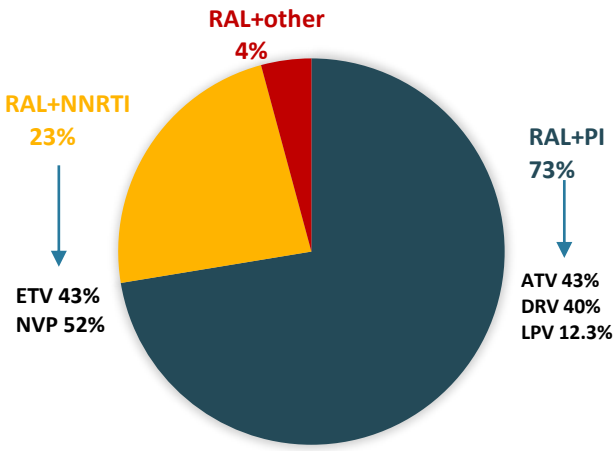
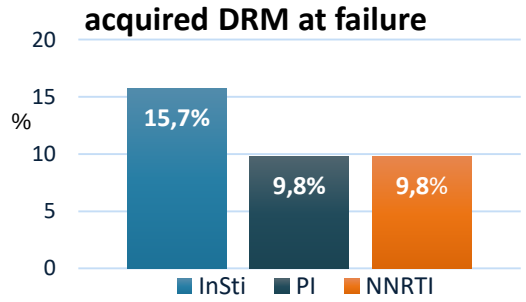
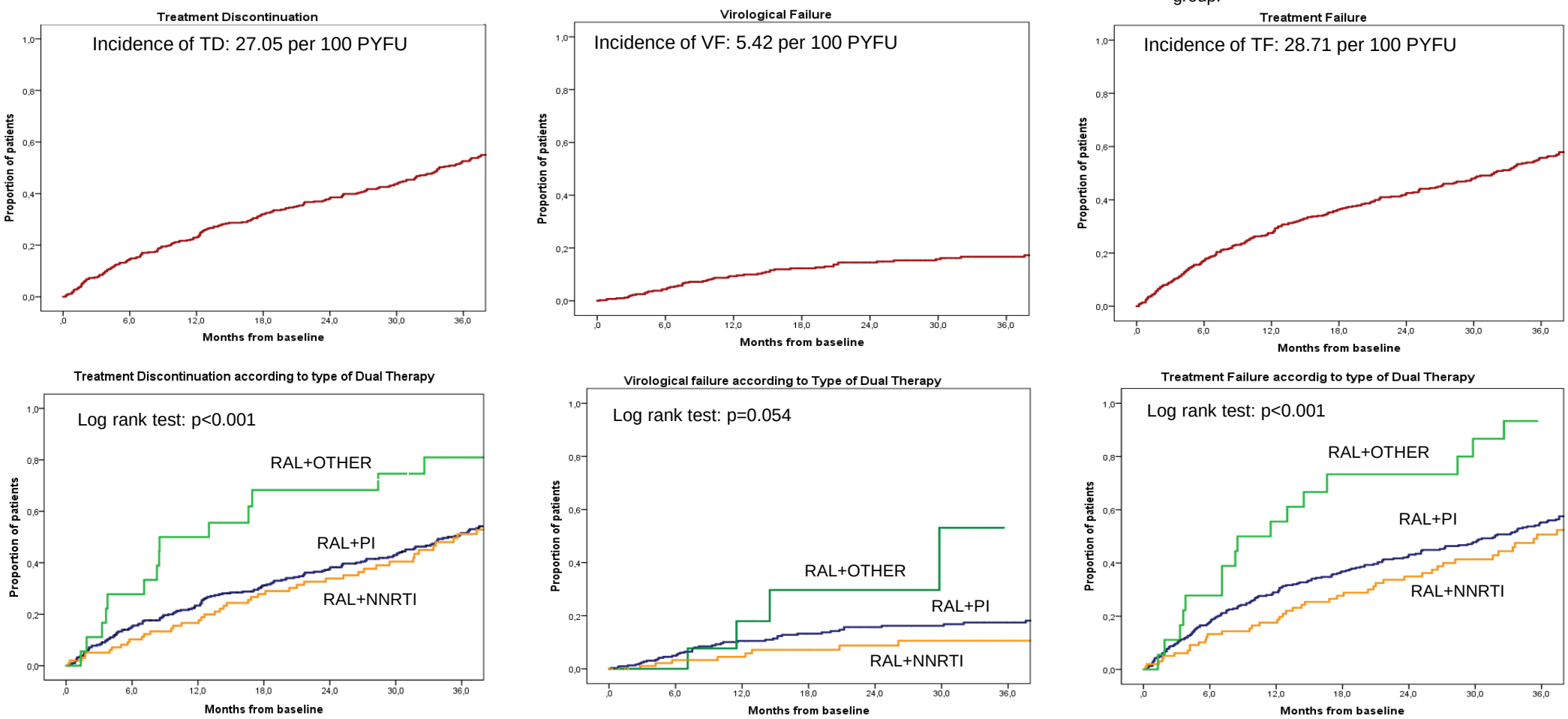



**FIG 3: proportion of patients with newly acquired DRM at failure**




The percentage of newly acquired DRM, calculated in the subgroup of patients with both pre-BL and post-VF GRT available, was 15.7% for InSTI, and 9.8% for PI and NNRTI. DRM influencing DTG susceptibility (Q148H) were acquired by 1/9 (11.1%) patients in the RAL+NNRTI group, 1/5 (20%) in the RAL+OTHER group, and no patient in the RAL+PI group.

**FIG 4: Estimated probability of TD, VF, TF in the total population and according to type of dual therapy**




Kaplan-Meier estimates of VF, TD and TF were 9.3%, 22.9% and 27.5% at 12 months and 14.5%, 38%, 42.5% at 24 months, respectively. When compared to RAL+PI group, RAL+NNRTI group showed a lower risk of TD (aHR 0.67, CI95% 0.46-0.96, p=0.029) and TF (aHR 0.67, CI95% 0.46-0.96, p=0.030), together with a trend toward a lower risk of VF (aHR 0.42,CI95% 0.18-1.01, p=0.053). The higher risk of TD, VF and TF was observed when RAL was combined with drug classes other than PI or NNRTI. Non-B subtype was associated to a higher risk of VF (aHR 2.62, CI95% 1.02-6.76 p=0.046).

## CONCLUSIONS

Raltegravir-based dual therapies have a substantial TD rate, particularly raltegravir+PI. VF accounts for a low proportion of TF, however DRM impacting dolutegravir can occasionally emerge, preferentially in the absence of PI.