Clinical outcomes of 2- drugs regimens vs 3 – drugs regimens in HIV

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Abstract Body

While 2DRs have shown good efficacy in clinical trials, there are limited data comparing longer term clinical outcomes to 3DRs.

Antiretroviral treatment (ART) experienced persons in RESPOND starting a new 2DR or 3DR from 1/1/12-1/1/18 were included (figure). Poisson regression compared prospectively collected AIDS and non-AIDS events (non-AIDS-defining cancer, cardiovascular disease, end stage liver/renal disease, diabetes, chronic kidney disease [CKD], fractures, non-AIDS related death) between 2DRs vs 3DRs.

Of 5211 persons included, 967 (18.6%) started 2DRs and 4244 (81.4%) started 3DRs. The most common 2DRs were dolutegravir plus lamivudine (18.7%) and boosted darunavir plus raltegravir (18.5%). The main reason for discontinuing the previous regimen before starting a 2DR/3DR was toxicity (33.3% and 36.3% 2DRs vs 3DRs respectively; p=0.14).

Persons on 2DRs were older (median 52 years [interquartile range 46-59] 2DRs vs 46 [39-53] 3DRs), had been on ART longer (14 years [6-18] vs 9 [4-15]), had higher CD4 counts (611 cells/μL [394-822] vs 590 [411-797]), and a lower CD4 nadir (170

[68-282] vs 205 [96-310]). A similar proportion had ≥1 comorbidity (63.1% vs 60.7%) and were virally supressed at baseline (86.6% vs 84.5%).

Overall, there were 99 AIDS and 548 non-AIDS events during 12717 person years of follow-up [PYFU] (1813 2DR, 10904 3DR). The most common events were diabetes (crude incidence rate [IR] 1.2/100 PYFU [95% CI 1.0-1.4]) and CKD (0.9 [0.7-1.1]; figure). In unadjusted analyses, there was a lower IR of AIDS events on 2DRs (0.4 [0.2-0.9] 2DRs vs 0.8 [0.7-1.0] 3DRs) and a higher IR of non-AIDS events (6.1 [5.1-7.4] vs 4.0 [3.7-4.4]). After adjustment there was no significant difference between 2DRs and 3DRs for non-AIDS events (IR ratio 1.19 [0.94-1.50], p=0.15). The small number of AIDS events precluded adjusted analyses. Sensitivity analyses excluding diabetes, CKD, and fractures showed similar results.

This is the first large, international cohort to assess clinical outcomes on 2DRs. After accounting for demographic and clinical characteristics, there was a similar incidence of non-AIDS events on 2DRs and 3DRs, however confounding by indication cannot be excluded. With a median follow-up of 1.7 years, 2DRs appear to be a viable treatment option with regard to clinical outcomes, although further research on long-term durability and potential toxicities of 2DRs is needed.