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O333 Treatment discontinuation and virological failure amongst HIV-positive individuals starting second-line combination antiretroviral therapy (cART)

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Background

Although much research has investigated treatment discontinuation and virologic failure (VF) to first-line ART regimens, less is known about second-line responses.

Methods

We included patients at the Royal Free Hospital, London, who were ARV-naïve when starting their first ART regimen (>=3 ARVs) and who: (i) experienced VF to their first ART regimen (at least one viral load >400 cps/ml after >4 months continuous exposure to an ARV); (ii) started second-line ART (defined by the first date on which at least one PI/NNRTI and/or at least two new NRTIs were started after VF to the first-line regimen occurred) with a latest viral load >400 cps/ml. Time to VF (the first of two consecutive viral loads >400 cps/ml more than 4 months after starting their second-line regimen; ARV changes/discontinuations ignored) was calculated using survival analysis.

Summary of results

166 patients started second-line ART with a median (IQR) CD4 count and viral load of 256 (120–358) cells/mm3 and 4.3 (3.3–5.0) log cps/ml. Twenty-five (15%), 48 (29%) and 93 (56%) patients second-line regimen included one, two and >=3 antiretrovirals they had not previously received. The median (95% CI) time to discontinuing at least one ARV was 15 (12–19) months, and 24 (17–41) months for discontinuing a PI/NNRTI. Few factors were associated with time to first discontinuation of any ARV: compared to those starting a second-line regimen containing one new ARV, the adjusted hazard ratios were 0.56 (0.33–0.95) and 0.50 (0.30,0.83; p = 0.001) for those receiving two and >=3 new ARVs. Each additional year in time from first VF to start of second-line regimen was associated with a 19% reduced hazard of discontinuing (0.66–0.99; p = 0.04). 29% (22–36%) and 44% (36–52%) experienced VF by 12 and 36 months after starting second-line cART. This compares to 14% and 27% amongst those on first-line cART. The only factors associated with VF in multivariable analysis were the inclusion of fewer new ARVs in the second-line regimen (compared to one: HR = 0.1; 0.13–0.75 for two, and 0.26; 0.12–0.60; p = 0.01 for >=3 new ARVs), lower CD4 count (HR = 0.73 per 100 cells/mm3; 0.59–0.96; p = 0.03), and higher viral load at the start of the second-line regimen (HR = 2.56 per 1 log cps/ml; 1.33–4.94; p = 0.005).

Conclusion

The median time to making at least one ARV switch on a second-line regimen was comparable to that seen on first-line regimens. Although VF appeared more common on second-line than on first-line regimens, perhaps because this is a group who are more predisposed to VF, response rates were still excellent.