Abstract Title:
Time to Triple Drug Class Failure after Initiation of HAART

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Background After exposure to the three main classes of antiretrovirals treatment options in patients with HIV may be limited due to difficulties in maintaining undetectable levels of viraemia, decreasing CD4 counts and clinical disease progression. We sought to describe the incidence of and time to virologic triple drug class failure (failure) and the factors related to it after starting HAART.

Methods 3538 patients from the pan-European observational study, EuroSIDA, were followed from the date of starting HAART (baseline) until failure. Rates of failure were described using incidence rates. Cox proportional hazards models were used to describe factors related to failure in both treatment naïve (TN) and treatment experienced (TE) patients.

Results 469 patients (13.3%) failed 3 drug classes; of these, 400/2430 (16.5%) were TE and 69/1108 (6.2%) were TN. At 6 years after baseline, 24.1% of TE patients were estimated to have failed (95% CI 21.6-26.6) compared to 11.9% of TN patients (95% CI 8.6-15.2) while the prevalence of failure among patients under follow-up at/after 2002 was 16.1% in TE patients and 5.5% in TN. Among TN patients, there was an increase in the incidence of failure with increasing time from baseline from 1.2 per 100 PYFU (95% CI 0.7-1.7) in the first 2 years to 4.7 per 100 PYFU (95% CI 2.1-8.9) at/after 5 years from baseline (33% per year increase (95% CI 12-58%, p=0.030), similar to the rate seen in TE patients treated for the same period of time (5.4 per 100 PYFU, 95% CI 3.5-7.3). Patients who were TN with higher CD4 count and lower viral load at baseline were at a decreased risk of failure, but there was no clear cut-off value at which the risk started to increase. In addition, TE patients who also started 2 new nucleosides at baseline had almost a 50% reduced risk of failure (95% CI 0.34-0.77, p=0.0012), while each additional 12 months exposure to nucleosides before baseline was associated with a 6% increased risk of failure (95% CI 2-11%, p=0.0016).

Conclusion We found a low rate of triple drug class failure among patients starting HAART, particularly among TN patients; this rate increased with time from starting HAART in TN patients. Low CD4 counts and high viral loads at baseline were associated with an increased risk of triple drug class failure in TN patients. The longer term consequences of triple class virologic failure on the durability of HAART and how best to manage this situation deserves further focus.