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Non-nucleoside-based antiretroviral regimens are most durable and cost-effective as first treatments in an urban setting from a developing country

E Bissio* and GD Lopardo

Address: FUNCEI, Buenos Aires, Argentina
* Corresponding author

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Purpose of the study

To study the durability of different antiretroviral regimens prescribed as first treatment (naive patients) and the reasons for discontinuation in a cohort of patients from an urban setting in a developing country.

Methods

Retrospective cohort study. We included a random sample of patients who attended an HIV clinic in Buenos Aires, Argentina, and started highly active antiretroviral therapy (HAART) as first treatment in 1998–2007. All antiretroviral regimens consisted of lamivudine plus a second nucleos(t)ide and a third drug which could be a non-nucleoside reverse transcriptase inhibitor (NN), a protease inhibitor (PI), or other nucleoside (3N). Patients starting monotherapy, bitherapy or regimens different from those described above were excluded.

Summary of results

We analyzed data for 123 patients. Mean age (± SD) was 39.8 ± 6.9 years, 92.7% were male. Risk factors were: 74.3% MSM, 21.9% heterosexual, and 3% IVDU. Mean follow-up was 3.2 ± 2.5 years. At HAART start, mean CD4 count was 264.4 ± 185.7 (180.8 ± 166 for PI group, 294.3 ± 176.3 for NN and 385 ± 310.8 for 3N, p = 0.005); mean viral load was 291,840.6 ± 372,843.3 (517,781 ± 498,755.8; 204,308.8 ± 261,678,2 and 35,550 ± 14,354.3; respectively, p = 0.006). In 399 person-years, there were 53 treatment changes: 13.4 per 100 patient-years (CI: 10.7–16.3). Main causes were: toxicity (73.5%), virologic failure (9.4%), and immunologic failure (4%). Discontinuation rate (regardless of the drug/s changed) in NN group was 10.7 (7.8–13.9) per 100 patient-years; and 28.45 (19.8–36.2) per 100 patient-years in the PI group. Drug-specific discontinuation rate per 100 person-years was 6.23 for efavirenz, 4.3 for nevirapine, 25.6 for protease inhibitors, 4.6 for AZT, 20 for d4T, and 0 for abacavir and tenofovir. Using Kaplan-Meier curves, 50% of the patients were still on the first regimen at 80 months. According to treatment group, these figures were 50% at 84 months for NN group (50% at 82 months for efavirenz and more than 50% at 120 months for nevirapine) and 50% at 22 months for PI group ($p < 0.05$).

Conclusion

In this population, patients starting with a NN-based regimen show a low rate of treatment change or discontinuation. This regimens proved to be durable and effective (even in patients starting with high viral loads or low CD4 counts), and have the advantage to be much cheaper than PI-based regimens, a key issue in developing countries. Toxicity is by far the most cause common for first treatment discontinuation.