

Switching antiretroviral therapy: reasons and associated costs in a cohort of HIV-infected patients

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Background

Several factors such as toxicity, virological failure or a low adherence can lead to a switch of antiretroviral therapies (ART) in HIV patients.

Purpose

To study the reasons for switching ART in a HIV unit from a tertiary hospital. The secondary objectives were to study the evolution of the switches over time and their estimated annual related cost (EAC).

Study design

ART switches performed from January 2012-June 2014 in our cohort of 1,550 HIV-infected patients with ART were recorded. Collected data: previous and new ART, reason for switching and EAC (the difference in the daily acquisition cost between the new and the previous ART adjusted for 365 days of therapy). A Spearman test was used for bivariate correlations.

Results

685 switches were performed: 117 (19.5%), 98 (16.3%), 130 (21.7%), 157 (26.2%) and 183 (30.5%) in each semester. A positive relation over time was observed (Spearman rho: 0.9; $p < 0.05$). The total number of switches was only correlated to those due to toxicity (Spearman rho: 0.95; $p < 0.05$).

Table 1. Reasons for switching and estimated annual related cost (euros)

Year	2012	2013	First semester 2014
Switches/EAC	215/-10,851	287 ¹ /-59,725	183 ¹ /20,616
Annual acquisition cost of ART	10,318,403	10,325,638	5,063,660
	Reasons for switching/EAC		
Toxicity	125/-12,189	180/-73,508	107/1,175
Virological failure	37/102,712	33/53,084	24/34,997
Simplification	45/-103,271	49/-68,650	35/-35,371
Drug interaction	8/1,898	22/25,551	14/24,754

¹Three due to pregnancy

Conclusions

- An increase over time in the switch rate per semester was observed. Total number of switches per semester was correlated to those associated with toxicity. The availability of new and less toxic ARTs may explain these results.
- Toxicity remained the most frequent reason for switching, representing between 58-63% depending on the year.
- Switches due to virological failure entailed an increase in the EAC, while those due to simplification brought cost savings. Overall, the economic impact of this strategy on the annual acquisition cost of ARTs seems to be minimal.