P071

COST/EFFICACY ANALYSIS OF PREFERRED SPANISH AIDS STUDY GROUP REGIMENS AND THE DUAL THERAPY WITH LPV/r + 3TC FOR INITIAL ART IN ADULTS HIV INFECTED

Gatell JM[1,2], Arribas J[3], Lázaro P[4], Blasco AJ[4]

[1]Hospital Clinic-IDIBAPS, Head Infectious Diseases and AIDS Units, Barcelona, Spain. [2]University of Barcelona, Barcelona, Spain.
[3]La Paz Hospital, IdiPAZ, HIV Unit, Madrid, Spain. [4]Advanced Techniques in Health Services Research (TAISS), Madrid. Spain.

BACKGROUND

The National AIDS Plan (NAP) and the Spanish AIDS study group (GESIDA) panel of experts propose, every year, “preferred regimens” of antiretroviral treatment (ART) as initial therapy for HIV infected patients [1]. All the preferred regimens for the year 2013 are triple therapy regimens. After the publication of the 2013 GESIDA preferred regimens, the GARDEL Study was published [2]. The GARDEL trial assessed the efficacy and safety of a dual therapy combination of lopinavir/ritonavir (LPV/r) 400/100 mg BID + lamivudine (3TC) 150 mg BID.

OBJECTIVE

To evaluate the costs and the efficiency (cost/efficacy) of LPV/r + 3TC plus the ART regimens proposed by the GESIDA/NAP 2013 guidelines as “preferred regimens” for HIV-infected patients who have not received previous ART, i.e., treatment-naïve patients.

METHODS

Design: Economic assessment of the costs and efficiency by building decision trees.

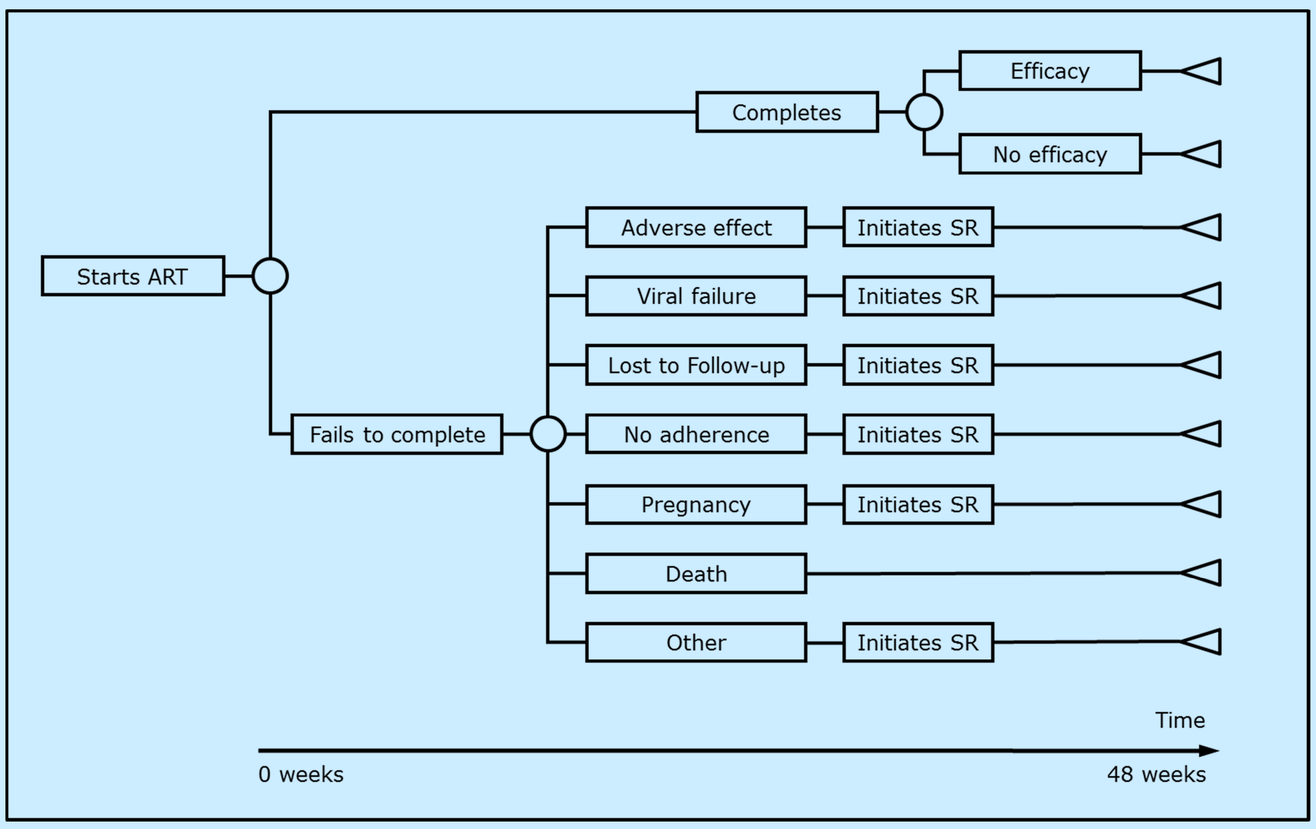

Figure 1. Structure of the economic evaluation model for each regimen of antiretroviral treatment (ART). SR: substitution regimen.

Perspective: The Payer (Spanish National Health System) perspective was applied. Only differential direct costs were considered:

- ART (Laboratory sale price + 4% VAT - 7.5% obligatory legal reduction).
- Adverse events (AE) management (drug treatment, emergency room visits, additional visits to the HIV specialist, visits to other specialists, diagnostic tests, and hospital admissions). Each unitary cost was calculated as the official prices mean of the Autonomous Communities (regions) Health Services.
- Genotypic study of drug resistance and HLA B*5701 testing.

Cost of initiating a regimen: Cost of ART and all the consequences (adverse effects, changes of ART regimen and drug resistance tests) incurred in 48 weeks due to the decision of initiating ART with that regimen.

Efficacy: Quotient of the number of patients with undetectable viral load(<50 copies/mL) at week 48 post-ART (i.e., responders) (numerator) and the number of patients initiated on ART (denominator). It was estimated based on an intention-to-treat analysis of the exposed (“Intent-to-treat exposed” [ITT-E]), “missing or non-completer = failure”).

Efficiency: Defined in terms of cost/efficacy and calculated for each regimen as the quotient of the cost of initiating treatment with that regimen (numerator) and efficacy (denominator). It represents the cost of achieving one responder by week 48.

Sources of information:

- Clinical trials (CTs): Data on efficacy, AE and withdrawals. Data of CTs included in a previous study [3] and the GARDEL Study [2].
- Expert opinion: Used when scientific evidence was not available (substitution regimens and resources used in AE management).

Uncertainty management: Deterministic sensitivity analysis, building scenarios with 95% confidence intervals for efficacy and AE probability, and ± 15% for costs.

RESULTS

Cost, efficacy, efficiency (cost/efficacy) and relative efficiency of initiating treatment with each regimen (using the regimen 3TC + LPV/r as the reference). Sensitivity Analysis.

Initial regimen	Base case scenario				Most favourable scenario				Least favourable scenario			
	Cost[a] (Euros)	Efficacy	C/E[b]	Relative C/E	Cost[a] (Euros)	Efficacy	C/E[b]	Relative C/E	Cost[a] (Euros)	Efficacy	C/E[b]	Relative C/E
TDF/FTC/EFV	7,651	0.80	9,556	1.643	7,623	0.82	9,322	1.694	7,684	0.78	9,807	1.590
ABC/3TC + EFV	6,894	0.68	10,135	1.742	6,845	0.71	9,602	1.745	6,950	0.65	10,731	1.739
TDF/FTC/RPV	6,965	0.83	8,396	1.443	6,902	0.87	7,941	1.443	7,035	0.79	8,907	1.444
TDF/FTC + NVP	6,747	0.73	9,218	1.585	6,734	0.75	8,921	1.621	6,762	0.71	9,535	1.546
TDF/FTC + ATV/r	9,660	0.79	12,155	2.089	9,643	0.81	11,855	2.154	9,680	0.78	12,473	2.022
TDF/FTC + DRV/r	9,619	0.84	11,456	1.969	9,576	0.88	10,900	1.981	9,670	0.80	12,075	1.957
TDF/FTC + LPV/r	9,026	0.75	12,092	2.079	9,011	0.77	11,778	2.140	9,042	0.73	12,427	2.014
ABC/3TC + ATV/r	8,891	0.66	13,512	2.323	8,892	0.70	12,680	2.304	8,891	0.61	14,462	2.344
ABC/3TC + LPV/r	8,419	0.66	12,718	2.186	8,365	0.70	12,035	2.187	8,479	0.63	13,480	2.185
TDF/FTC + RAL	12,059	0.87	13,930	2.395	12,056	0.89	13,579	2.468	12,067	0.84	14,303	2.319
ABC/3TC + RAL	11,413	0.87	13,181	2.266	11,379	0.92	12,395	2.253	11,457	0.81	14,080	2.282
3TC + LPV/r	5,138	0.88	5,817	1.000	5,097	0.93	5,503	1.000	5,183	0.84	6,169	1.000

ABC: abacavir; ATV: atazanavir; COBI: cobicistat; DRV: darunavir; EFV: efavirenz; EVG: elvitegravir; FTC: emtricitabine; LPV: lopinavir; NVP: nevirapine; /r: ritonavir-boosted; RAL: raltegravir; RPV: rilpivirine; TDF: tenofovir DF; 3TC: lamivudine.
[a] Cost of initiating a regimen including all potential consequences of deciding to initiate ART with that regimen that may occur within 48 weeks.
[b] Efficiency or cost/efficacy. Cost (Euros) of achieving one responder for the NHS.

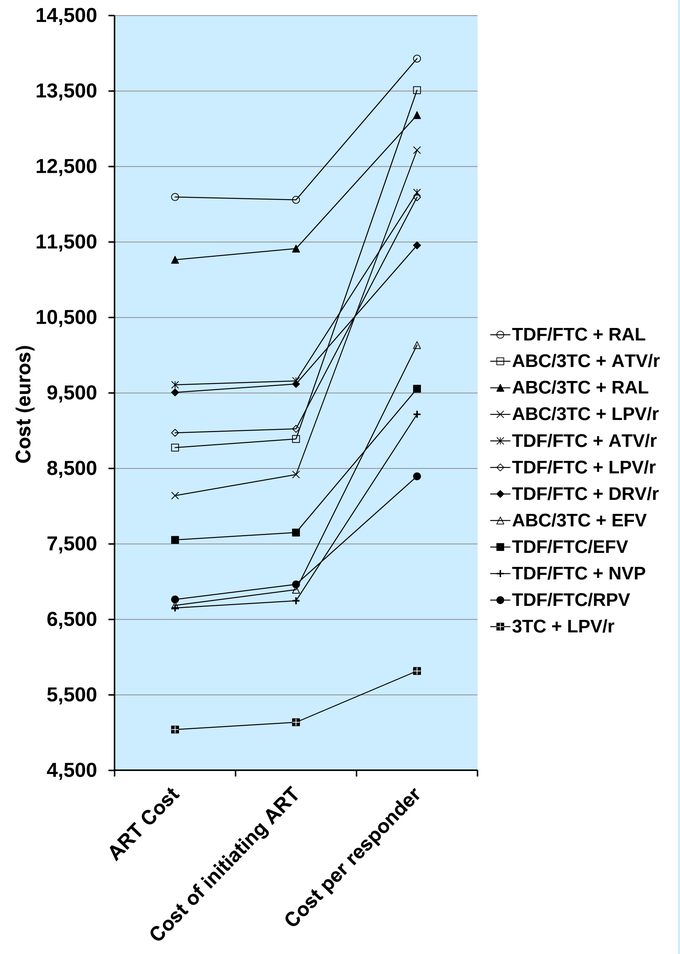

Figure 2. Base case scenario.

CONCLUSION

Considering the ART official Spanish prizes, the most efficient regimen was LPV/r + 3TC , followed by the triple therapy with non-nucleoside containing regimens. The sensitivity analysis confirms the robustness of these findings.

REFERENCES

1. Panel de Expertos de GESIDA y Plan Nacional sobre el Sida. [Consensus Statement by GeSIDA/National AIDS Plan Secretariat on antiretroviral treatment in adults infected by the human immunodeficiency virus (Updated January 2013)].. Enferm Infecc Microbiol Clin. 2013;31:602.e1-602.e98.
2. Cahn P, Andrade-Villanueva J, Arribas JR, Gatell JM, Lama JR, Norton M, et al. Dual therapy with lopinavir and ritonavir plus lamivudine versus triple therapy with lopinavir and ritonavir plus two nucleoside reverse transcriptase inhibitors in antiretroviral-therapy-naive adults with HIV-1 infection: 48 week results of the randomised, open label, non-inferiority GARDEL trial. Lancet Infect Dis. 2014;14:572-80.
3. Blasco AJ, Llibre JM, Arribas JR, Boix V, Clotet B, Domingo P, et al. Analysis of costs and cost-effectiveness of preferred GESIDA/National AIDS Plan regimens for initial antiretroviral therapy in human immunodeficiency virus infected adult patients in 2013. Enferm Infecc Microbiol Clin. 2013;31:568-78.