

POSTER PRESENTATION

Open Access

Cost-effectiveness of atazanavir-ritonavir versus lopinavir-ritonavir in HIV patients initiating first-line antiretroviral therapy

MS Broder¹, T Juday^{2*}, J Uy², EY Chang¹, TGK Bentley¹

From Tenth International Congress on Drug Therapy in HIV Infection
Glasgow, UK. 7-11 November 2010

Purpose of the study

Selection of initial antiretroviral therapy (ART) may be informed by factors such as efficacy, adverse effects, and cost. This study assessed the lifetime cost-effectiveness of atazanavir-ritonavir (ATV/r) versus lopinavir-ritonavir (LPV/r) in HIV patients initiating first-line ART.

Methods

A Markov microsimulation model was developed to project lifetime health-related outcomes, costs, quality-adjusted life years (QALYs), and cost-effectiveness of ATV/r versus LPV/r, both with tenofovir-emtricitabine, as first-line ART. Virologic suppression, baseline characteristics, state transition probabilities, cholesterol changes, and adverse effects were based on 96-week

CASTLE results. HIV-related mortality, opportunistic infection (OI) and AIDS rates, coronary heart disease (CHD) risk, treatment adherence, costs, and utilities were obtained from published sources. Costs were reported in 2009 US dollars. Sensitivity analyses were conducted to assess the robustness of study results.

Summary of results

Compared with patients initiating LPV/r, patients initiating ATV/r were estimated to have longer time in first-line therapy, fewer cases of AIDS, OI, CHD, and diarrhea, more cases of hyperbilirubinemia (HB), and higher costs. While absolute survival was similar, patients initiating ATV/r were predicted to have longer quality-adjusted survival. Overall, ATV/r added 0.26 QALYs at

Table 1

Health-Related Outcomes							
	Time on First-Line Treatment (months)	AIDS cases (per 1000 patient years)	OI cases (per 1000 patient years)	CHD cases (per 1000 patient years)	Diarrhea cases (per 1000 patient years)	HB cases (per 1000 patient years)	Absolute Survival (life years)
LPV/r	70.7	20.054	0.519	5.511	6.262	0.247	18.51
ATV/r	97.3	19.081	0.443	5.437	1.272	6.986	18.52
Cost, QALY, and Cost-Effectiveness							
	Cost	Incremental Cost	Quality-Adjusted Survival (QALY)	Incremental QALY	Incremental Cost-Effectiveness		
LPV/r	\$269,160	–	10.761	–	–		
ATV/r	\$275,986	\$6,826	11.020	0.258	\$26,421		

²Bristol-Myers Squibb, USP Medical, Plainsboro, USA
Full list of author information is available at the end of the article

a cost of \$6,826, producing an ICER of \$26,421 per QALY gained. Sensitivity analyses indicated that at a willingness to pay threshold of \$50,000 per QALY, ATV/r was cost effective 94% of the time. Table 1

Conclusions

Accounting for both lifetime costs and QALYs, ATV/r is cost effective (less than \$50,000 per QALY) compared with LPV/r in HIV patients initiating first-line ART.

Author details

¹Partnership for Health Analytic Research, Beverly Hills, USA. ²Bristol-Myers Squibb, USP Medical, Plainsboro, USA.

Published: 8 November 2010

doi:10.1186/1758-2652-13-S4-P234

Cite this article as: Broder *et al.*: Cost-effectiveness of atazanavir-ritonavir versus lopinavir-ritonavir in HIV patients initiating first-line antiretroviral therapy. *Journal of the International AIDS Society* 2010 **13** (Suppl 4):P234.

**Submit your next manuscript to BioMed Central
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit

