

Poster presentation

## Cost-effectiveness analysis of HLA-B\*5701 screening in preventing abacavir hypersensitivity in Spain

D Nieves\*<sup>1</sup>, O de la Calle<sup>2</sup>, JA Iribarren<sup>3</sup>, A Rivero<sup>4</sup>, L García-Bujalance<sup>5</sup>, I Pérez-Escolano<sup>5</sup> and M Brosa<sup>1</sup>

Address: <sup>1</sup>Oblikue Consulting, Barcelona, Spain, <sup>2</sup>Hospital de la Santa Creu i Sant Pau, Barcelona, Spain, <sup>3</sup>Hospital de Donostia, San Sebastián, Spain, <sup>4</sup>Hospital Reina Sofía de Córdoba, Córdoba, Spain and <sup>5</sup>GlaxoSmithKline, Madrid, Spain

\* Corresponding author

from Ninth International Congress on Drug Therapy in HIV Infection  
Glasgow, UK. 9–13 November 2008

Published: 10 November 2008

*Journal of the International AIDS Society* 2008, 11(Suppl 1):P314 doi:10.1186/1758-2652-11-S1-P314

This abstract is available from: <http://www.jiasociety.org/content/11/S1/P314>

© 2008 Nieves et al; licensee BioMed Central Ltd.

### Purpose of the study

The nucleoside reverse transcriptase inhibitor abacavir is prescribed, in combination with other drugs, for the treatment of HIV-1. Roughly 4–8% of patients receiving abacavir experience a hypersensitivity reaction (HSR), which usually appears within 6 weeks of treatment initiation. Several studies have demonstrated the association between abacavir HSR and the human leukocyte antigen (HLA)-B\*5701. Therefore, systematic HLA-B\*5701 screening prior to abacavir prescription enables clinicians to establish individual HSR susceptibility, and consequently increase the safety profile of HIV treatment. The objective of this study was to analyse if systematic HLA-B\*5701 screening to prevent abacavir HSR is a cost-effective option in the Spanish National Health System (NHS).

### Methods

A decision analytical model was built to compare if systematic HLA-B\*5701 screening to prevent abacavir HSR is a cost-effective option compared to no screening, from the NHS perspective. Clinical parameters of the model and health resources use during HSR were derived from PRE-DICT-1 study and local clinical expert opinion. The primary result of the study was incremental cost per HSR avoided. All costs were expressed in 2007 euros. Model uncertainty was assessed through a sensitivity analysis which included different scenarios depending on antiretroviral regimens, and univariate sensitivity analysis to

study the influence of key parameters in the model like as HLA-B\*5701 test cost.

### Summary of results

The analysis showed that total direct health costs (drug costs, test cost and HSR management costs) were 1,344 € and 1,322 € for HLA-B\*5701 screening and no screening, respectively (an additional cost of 22 € per patient), with a reduction of approximately 36 HSR per 1,000 patients screened (42 and 78 HSR/1,000 patients, respectively). These results yielded to a cost per HSR avoided of 630 €. Results were not sensitive to drug regimen changes, but they were influenced by test cost, causing cost savings or a maximum additional cost per patient of 150 € (based on a test cost of 29 €–183 €). Using extreme values for antiretroviral regimens and test costs, the incremental cost per HSR avoided of systematically testing all patients ranged from cost savings (when test cost is 29 €) to 4,234 € (when test cost is 183 €).

### Conclusion

Systematic HLA-B\*5701 screening prior to abacavir prescription in HIV patients is associated with a limited additional cost that could be offset by its benefits in terms of lower HSR incidence.