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Cost-effectiveness of Maraviroc plus Optimized Background Therapy in Treatment-Experienced Patients with R5 HIV-1 in Portugal

M.S. Inês, V. Conde, Pfizer - Portugal, PORTUGAL;

L.S. Miguel, C.G. Pinto, CISEP/Technical University of Lisbon, PORTUGAL;

N. Janeiro, Infecciology Unit, Sta Maria Hospital, PORTUGAL;

Objectivos (Objectives):

Maraviroc (MVC) is a first-in-class oral CCR5 antagonist, which prevents CCR5-tropic (R5) HIV-1 from entering CD4+ cells. Phase 3 pivotal studies (MOTIVATE 1 & 2) of MVC 300mg administered twice daily (BID) added to optimized background therapy (OBT) in viremic, treatment-experienced patients with CCR5-tropic (R5) HIV-1 showed a clinically and statistically significant reduction in viral load and increase in CD4+ cell count compared to placebo (PBO) plus OBT at 48 weeks. MVC was well tolerated, resulting in a low rate of discontinuation due to adverse events (AEs). The objective of this study was to evaluate the cost-effectiveness in the Portuguese setting of MVC + OBT vs PBO + OBT in a treatment-experienced patient population similar to that recruited to the MOTIVATE studies.

Metodologia (Methodology):

A 5 year deterministic cohort model from the hospital perspective was developed based on combined data from MOTIVATE 1 & 2. In the base case, treatment duration reflects the clinical trial follow-up - ie, a 5 year effect of 1 year's treatment is assessed. Clinical data, cohort characteristics, probability of treatment success, rate of CD4+ cell increase, and the link to disease states and probability of AEs (both opportunistic infections and drug associated) were taken from the trials and published literature, as appropriate. Other input parameters were taken from published sources. Antiretroviral (ARV) regimen, utilization of non-ARV drugs and resource utilization were obtained trough expert panel elicitation. Unit costs (including drug costs) were extracted from official data sources. All costs were expressed in 2008 euros (€). The annual discount rate for both costs and effects was set to 5.0%. The main outcomes were cost per life years gained (LYG) and cost per quality-adjusted life years (QALY) gained. To assess the uncertainty of the results, one-way sensitivity analyses and a probabilistic sensitivity analysis (PSA) were performed.

Resultados (Results):

The results of the economic analysis showed that adding MVC to OBT increases LYG by 0.177 years and QALY by 0.237. Total cost were 115 075€ for MVC plus OBT and 116 198€ for PBO + OBT alone with a saving of 1 123 €. The resulting cost per LYG was -6 337€ and the cost per QALY gained was -4 749€. The reference case results indicate that adding MVC

to OBT is a dominant therapeutic strategy. The model seemed robust for variation in key parameters and the results from the PSA indicate that there is a probability of 90% of achieving a cost per QALY below 23 000€.

Conclusões (Conclusions):

Based on the superior clinical efficacy results from the combined analysis of MOTIVATE 1 & 2 trials, our analysis indicates that maraviroc 300mg BID in combination with OBT is a clinically valuable and dominant option for the treatment of ARV-experienced patients infected with R5 HIV-1 in Portugal.