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Cost-minimisation analysis of the use of etravirine or raltegravir in treatment-experienced HIV-1-infected patients

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Purpose of the study

HIV treatment guidelines state that the goal of highly active antiretroviral therapy (HAART) is to achieve an undetectable viral load (VL; <50 copies/mL) in HIV-infected patients. Two new therapies, etravirine (ETR; TMC125) and raltegravir (RAL), have recently been approved in the US, both with similar indications for treatment-experienced HIV-1-infected patients. This analysis compared the relative cost of reaching this treatment goal for each therapy.

Methods

The proportion of patients achieving undetectable VL (<50 copies/mL) was reported in Phase III trials that compared ETR (DUET-1 & 2) or RAL (BENCHMRK 1 & 2) to placebo, both in the presence of a background regimen (BR). ETR and RAL have not been compared in head-to-head trials, so an indirect comparison of efficacy and cost of treatment at week 24 was made. In both sets of trials, patients were treatment-experienced, but the composition of the BR differed. In DUET, all patients received darunavir/ritonavir (DRV/r) as part of their BR, while in the BENCHMRK trials less than half of the patients received background DRV/r. Subgroup data from BENCHMRK provided a 'prior' estimate of the treatment effect modification due to DRV/r use. A Bayesian analysis was used, which adjusted for differences in background DRV/r use between trials. The current analysis estimated the treatment effect assuming that all patients received background DRV/r. After adjusting for differences in the trials, efficacy and US wholesale acquisition drug costs were analysed.

Summary of results

ETR and RAL demonstrated a similar treatment effect when adjusting for differences in the BR. Mean odds ratios (95% confidence interval) vs. placebo were 2.08 (1.64–2.6) and 1.92 (0.98–3.42) for ETR and RAL, respectively. Annual drug costs were calculated to be $7,957 for ETR and $9,855 for RAL.

Conclusion

Both ETR and RAL showed similar efficacy rates in achieving undetectable VL. As a result, a cost-minimisation approach can be taken when evaluating the addition of ETR or RAL to a HAART regimen for treatment-experienced HIV-1-infected patients.