Cochrane Systematic Review: Raltegravir for the Treatment of HIV infection in Adults and Children

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Background: HIV still affects millions of people in both high- and low-income countries. Due to the development of viral resistance to antiretroviral therapy, new classes of drugs with different drug resistance profiles are constantly needed. Raltegravir is an antiretroviral agent from the integrase inhibitor class, which acts by inhibiting the integration or viral DNA into the human cellular genome. This review investigated the role of raltegravir in antiretroviral naive and experienced adults and children.

Objectives: To assess the effectiveness and safety of raltegravir as part of combination ART for the treatment of HIV infected ART naive as well as ART experienced adults and children.

Search methods: We attempted to identify all relevant studies regardless of language or publication status by using a comprehensive and exhaustive search strategy in electronic databases and conference proceedings from 2005 to February 2015.

Selection criteria: Randomised controlled trials comparing raltegravir to other ART regimens in HIV-1 positive adults and children, were included in this review. The outcomes of interest were proportion of participants with undetectable viral loads, all-cause mortality, mean CD4 cell count change from baseline, viral load change from baseline, new HIV-related events, and adverse events.

Data collection and analysis

Two authors independently assessed search result records for inclusion and extracted data from included records, using a standardised data extraction form. All data analysis was on an intention to treat basis.

Main results: Seventeen randomised controlled trials, representing more than 8900 participants followed up over a range of 24 to 240 weeks, were included in this review. One trial included participants from 12 years of age and adults but did not report data for children separately. We found that raltegravir had similar efficacy to other ART agents, except for dolutegravir which performed better over 24 weeks. Mortality rates were also similar for all our comparisons, except in ART experienced participants taking other integrase inhibitors, who had a significantly lower mortality rate than raltegravir. The quality of the evidence was moderate to high for these findings. Raltegravir had a good adverse events profile with less adverse events of all grades than efavirenz and less gastro-intestinal adverse events than NRTIs and elvitegravir.

Authors' conclusions: Raltegravir's efficacy and mortality risk are similar to other ART agents, except for the other drugs in its own class. Trials of raltegravir use in children are needed.