

Evidence Summary of a Systematic Review

Who is this summary for?

For Doctors and Health Personnel, Administrators and Managers of health facilities, Community Health Workers and the partners involved in the care of people with HIV

Interleukin-2 as an adjunct to antiretroviral therapy for HIV positive adults

Background

Human immunodeficiency virus (HIV) is a leading cause of morbidity and mortality, particularly in sub-Saharan Africa. Although antiretroviral drugs have helped to improve the quality of life and life expectancy of HIV-positive individuals, there is still a need to explore other interventions that will help to further reduce the disease burden. One potential strategy is the use of interleukin-2 (IL-2) in combination with antiretroviral therapy (ART). IL-2 is a cytokine that regulates the proliferation and differentiation of lymphocytes and may help to boost the immune system.

Questions

What are the effects of interleukin-2 (IL-2) as an adjunct to antiretroviral therapy for HIV-positive adults?

Type of systematic review

This is a Cochrane systematic Review which included 25 parallel-design RCTs. All participants were HIV-positive adults either ART experienced or who were commenced on ART during the trial, with CD₄ cell counts of at least 50 cells/mm³. The number of participants per trial ranged from nine participants to 4111 participants.

Key findings

- There was no significant difference in mortality whether IL-2 was added to the ART regimen or not (high certainty evidence).
- There was a significant increase in CD₄ cell count in the IL-2 group in most of the included trials (high certainty evidence).
- There was no statistically significant difference between viral load in both groups for measures less than 50 copies/mL or 500 copies/mL.
- IL-2 probably causes an increase in adverse effects, particularly grade 3 or 4 adverse effects (moderate certainty evidence). Most of the included trials reported similar adverse events, neutropenia, and myalgia were most commonly reported.
- There is probably no difference in the incidence of opportunistic infections in the IL-2 and control groups.

Best practice recommendations

- The trials were conducted in different settings: including high- and middle-income countries. However, there is no plausible biological reason why the findings may not be applicable to low-income settings.
- Further RCTs on the use of IL-2 as adjunct to ART in HIV infected adults are not justifiable based on the findings of this Cochrane review. However, further basic research may be helpful to explore why IL-2 causes increases in CD4 cell count.

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