

A CD4+ Cell Count <200 Cells per Cubic Millimeter at 2 Years After Initiation of Combination Antiretroviral Therapy is Associated with Increased Mortality in HIV-Infected Individuals with Viral Suppression

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Objective

This study assessed the clinical implications of long-term immunologic discordance after the initiation of combination antiretroviral therapy (cART) in antiretroviral-naïve HIV positive individuals.

Main Finding

Immunologic discordance after 2 years of cART in antiretroviral-naïve individuals was significantly associated with an increased risk of death.

Background

Immunologic discordance – A situation in which virologic suppression is not accompanied by an increase in CD4+ count after the start of cART.

Importance of this Study

- Immunologic discordance has been reported in between 7 and 36% of patients on cART.
- Few studies have examined the clinical impact of immunologic discordance on antiretroviral naïve patients.
- These individuals represent a growing proportion of patients with HIV, and a better understanding of the long-term outcomes of immunologic discordance is required to better inform treatment guidelines.

How this Study was Conducted

- Data were analyzed from the CANOC collaboration, an interprovincial collaborative cohort of HIV-positive individuals on cART in Canada.
- CANOC compiled HIV clinical, virological, immunologic, and demographic data from cohorts across British Columbia, Ontario, and Quebec.
- 2,028 and 1,721 individuals met the inclusion criteria for the 1-year and 2-year analyses, respectively.
- This study defined immunologic discordance as a viral load < 50 copies/mL and a CD4+ count ≤ 200 cells/mm³.

Study Results

- Immunologic discordance was observed in 19.9% and 10.2% of individuals at 1 and 2 years after cART initiation, respectively.
- 2-year immunologic discordance was associated with a 2.69 times increased risk of death.
- 2-year immunologic discordance was associated with older age, male gender, injection drug use, lower baseline CD4+ count, and lower baseline viral load.

Implications

- Future research on antiretroviral-naïve patients should pursue the most appropriate course of action for preventing and reversing immunologic discordance.
- Earlier cART initiation and starting therapy at a younger age should be evaluated as strategies to limit immune destruction.

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