

General Principles of Antiretroviral Therapy for Chronic HIV Infection in Adults and Adolescents

Introduction

Taking antiretroviral therapy (ART) requires long-term commitment from a patient. Correct and consistent use required for drugs to be effective. Antiretroviral drugs (ARVs) have side effects that can make them difficult for some patients to take. Hence the decision about when to start therapy is an important one. Treating too early may lead to unnecessary toxicity and premature drug resistance; treating too late can increase risk of morbidity, mortality, and treatment failure. So there is always need for careful diagnosis in order to strike a balance.

Goals of Therapy

- Reduction of viral load (VL) as much as possible for as long as possible
- Restoration and/or preservation of immunologic function
- Improvement of quality of life
- Reduction of HIV-related illness and death
- Possible reduction in transmission to others

General principles of ART

- Use of combinations of at least 3 ARV drugs
- Maximize adherence to ARV regimen
- Rational sequencing of ARV drugs
- Avoid resistance

Prerequisites for administration of ART

- Appropriate drugs available
- Drug supply can be sustained
- Basic clinical and lab measures used to determine need for treatment
- Basic clinical and lab measures available to monitor for toxicity
- Patient understands importance of adherence
- Health care providers trained in use of ART

Factors Leading to Treatment Failure

- Poor adherence
- Prior exposure to ART with development of resistance
- Primary viral resistance (infection with resistant strain)
- Inadequate drug absorption
- Suboptimal dosing (e.g., sharing drugs, cutting dose because of side effects)
- Inadequate or inconsistent drug supply

On June 30, 2013, World Health Organisation (WHO) released its new HIV Treatment Guidelines to coincide with the start of the 7th International AIDS Society (IAS) Conference which opened in Kuala Lumpur, Malaysia. The following are the main highlights:

- The latest treatment guidelines recommend that treatment should be offered to anyone whose CD4 count is below 500cells/mm. CD4s are the white blood cells that the virus first attacks.
- The new guidelines also call for universal use of the simplest, most effective treatment with the least side effects: a once-daily pill containing three drugs — tenofovir, efavirenz and either lamivudine or emtricitabine.
- For diagnosis, the guidelines suggest that, in addition to CD4 counts, countries do more expensive viral load tests. Tracking viral loads is the best way to tell when a patient needs a new drug regimen.
- These guidelines follow hot on the heels of the evidence from the "top scientific breakthrough of 2011", the HPTN 052 study results, which showed that starting treatment at a CD4 cell count of between 250 and 550 reduced HIV transmission between serodiscordant, heterosexual couples by 96 per cent. (Reflecting on AIDS - April 1 2012 - "HIV Treatment is Prevention").
- Based on this evidence, the latest guidelines are recommending that anyone in a serodiscordant relationship (where one partner has HIV infection and the other is negative) should start on treatment whatever their CD4 count is, in order to protect their negative partner from infection.
- According to the new guidelines, pregnant women or those who are breastfeeding, as well as HIV positive children under five years old, should be started on HIV treatment immediately they are diagnosed.
- Children above five years should be started if their CD4 count is below 500 cells/mm.