1. **AZT impairs immunological recovery on first-line ART: collaborative analysis of cohort studies in Southern Africa.**

Wandeler G, Gsponer T, Mulenga L, Garone D, Wood R et al, AIDS. 2013 May 8.

Abstract:

OBJECTIVES: Zidovudine (AZT) is recommended for first-line antiretroviral therapy (ART) in resource limited settings. AZT may, however, lead to anemia and impaired immunological response. We compared CD4 counts over 5 years between patients starting ART with and without AZT in Southern Africa.

DESIGN: Cohort study. METHODS: Patients aged =16 years who started first-line ART in South Africa, Botswana, Zambia or Lesotho were included. We used linear mixed-effect models to compare CD4 cell count trajectories between patients on AZT-containing regimens and patients on other regimens, censoring follow-up at first treatment change. Impaired immunological recovery, defined as a CD4 count below 100cells/µl at 1 year, was assessed in logistic regression. Analyses were adjusted for baseline CD4 count and hemoglobin level, age, gender, type of regimen, viral load monitoring and calendar year.

RESULTS: 72597 patients starting ART, including 19758 (27.2%) on AZT, were analyzed. Patients on AZT had higher CD4 cell counts (150 vs.128cells/µl) and hemoglobin level (12.0 vs. 11.0g/dl) at baseline, and were less likely to be female than those on other regimens. Adjusted differences in CD4 counts between regimens containing and not containing AZT were -16cells/µl (95% CI -18 to -14) at 1 year and -56?cells/µl (95% CI -59 to -52) at 5 years. Impaired immunological recovery was more likely with AZT compared to other regimens (odds ratio 1.40, 95% CI 1.22-1.61).

CONCLUSIONS: In Southern Africa AZT is associated with inferior immunological recovery compared to other backbones. Replacing AZT with another NRTI could avoid unnecessary switches to second-line ART.

2. Dramatic increase in HIV prevalence after scale-up of antiretroviral treatment

Zaidi, Jaffera; Grapsa, Erofilia; Tanser et al, AIDS: 10 September 2013 - Volume 27 - Issue 14 - p 2301-2305

Abstract

Objectives: To investigate HIV prevalence trends in a rural South African community after the scale-up of antiretroviral treatment (ART) in 2004.

Methods: We estimated adult HIV prevalence (ages 15–49 years) using data from a large, longitudinal, population-based HIV surveillance in rural KwaZulu-Natal, South Africa, over the period from 2004 (the year when the public-sector ART scale-up started) to 2011. We control for selection effects due to surveillance nonparticipation using multiple imputation. We further linked the surveillance data to patient records from the local HIV treatment program to estimate ART coverage.

Results: ART coverage of all HIV-infected people in this community increased from 0% in 2004 to 31% in 2011. Over the same observation period adult HIV prevalence increased steadily from 21 to 29%. The change in overall HIV prevalence is nearly completely explained by an increase of HIV-infected people receiving ART, and it is largely driven by increases in HIV prevalence in women and men older than 24 years.

Conclusion: The observed dramatic increase in adult HIV prevalence can most likely be explained by increased survival of HIV-infected people due to ART. Future studies should decompose HIV prevalence trends into HIV incidence and HIV-specific mortality changes to further improve the causal attribution of prevalence increases to treatment success rather than prevention failure.

3. Impact of Late Presentation on the Risk of Death among HIV-Infected People in France (2003–2009)

Montlahuc, Claire MSc*, †; Guiguet, Marguerite PhD*, †; Abgrall, Sophie MD, PhD*, †; Daneluzzi, Vincent MD§; Salvador, Francine de MD JAIDS Journal of Acquired Immune Deficiency Syndromes: 1 October 2013 - Volume 64 - Issue 2 - p 197–203

Abstract

Objective: A recent consensus defines “late presentation” (LP) during the course of HIV infection as presentation with AIDS whatever the CD4 cell count or with CD4 <350 cells per cubic millimeter. Here, using this new definition, we examined the frequency and predictors of LP and its impact on mortality.

Methods: In antiretroviral-naive patients enrolled in the French Hospital Database on HIV between 2003 and 2009, we studied risk factors for LP by multivariable logistic regression. The impact of LP on mortality was analyzed according to the level of immunodeficiency by using Cox multivariable models adjusted for potential confounders, with follow-up categorized into 0–6, 6–12, and 12–48 months.

Results: There were 11,038 (53.9%) late presenters among the 20,496 patients included in the study. Compared with patients presenting for care with CD4 =350 cells per cubic millimeter, patients presenting with AIDS had a very high risk of death with crude hazard ratio ranging from 48.3 during the first 6 months of follow-up to 4.8 during months 12–48; the corresponding values among AIDS-free patients with CD4 =200 cells per cubic millimeter were 8.1 and 2.3. Importantly, patients presenting with CD4 between 200 and 350 cells per cubic millimeter also had a significantly increased risk of death beyond 6 months of follow-up (hazard ratio: 3.0 and 1.8 for months 6–12 and 12–48, respectively). Results were similar after adjustment.

Conclusions: LP with HIV infection is still very frequent in France and is associated with higher mortality, even among patients with only moderate immunodeficiency. Encouraging early testing and access to care is still urgently needed.