Comparative virological efficacy, tolerance and immunological recovery at 3 years of different antiretroviral regimens initiated during acute/recent HIV infection.

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BACKGROUND AND OBJECTIVES

Background: Acute HIV infection is defined as infection of <30 days, and recent infection as <180 days post-infection. Antiretroviral treatment (ART) in this period reduces the viral reservoir, preserves the immune system, decreases transmission and optimizes immune recovery. Guidelines recommend starting ART in all patients; however, the optimal antiretroviral regimen in terms of immunological recovery and tolerability in this setting is unknown.

Objectives: To analyze the virological efficacy, tolerance and the immunological reconstitution at 1 and 3 years after starting ART during recent HIV infection. Regimens based on boosted-protease inhibitors (PI), integrase inhibitors (INSTI) and non-nucleoside reverse transcriptase inhibitors (NNRTI) were compared.

METHODS

- Retrospective study of 137 patients with confirmed acute/recent HIV infection who started ART within 6 months post-infection, between 2003 and 2017 (Figure 1). We compared regimens based on: rilpivirine boosted-PI (darunavir or atazanavir, N=28), INSTI (elvitegravir/ritonavir boosted, darunavir, rilpivirine, N=87) and NNRTI (efavirenz, rilpivirine, N=22), combined with two nucleoside reverse transcriptase inhibitors (abacavir/lamivudine or TDF/TAF/emtricitabine).
- Primary endpoints were virologic suppression (VL < 50 copies/mL) and immune reconstitution (CD4+ T cells >900 cells/µL and CD4/CD8 ratio > 1) at 1 and 3 years. Secondary endpoints were adverse events (AE) leading to ART discontinuation at 1 and 3 years. ITT and PP analysis were performed.

RESULTS

- Baseline characteristics were comparable among groups (Table 1).
- Viral suppression (overall suppression of >96% at 1 year and >99% at 3 years) was comparable in all ART regimens (ITT, table 2). Among the INSTI group, levels of viral suppression were comparable for doblegravir and elvitegravir-based regimens.
- At 1 year there was an increment of 350 CD4+ T cells/µL, which was comparable in all ART regimens. Overall 36% and 32% achieved CD4>900 cells/µL and 43% and 36% a CD4/CD8=1 at 1 and 3 years, respectively (Table 3).
- In a subanalysis of immune recovery comparing Fiebig stages I-V with Fiebig stage VI, starting ART during the earliest Fiebig stages was associated with higher rates of CD4>900 cells/µL at 3 years (p=0.027).
- Discontinuation due to AE was more frequent with NNRTI compared to other ART families (p=0.038 at 1 year, p=0.040 at 3 years) with high rates of neuropsychiatric AE (Table 4).
- Results were comparable by ITT and PP analysis.

CONCLUSIONS

- Viral suppression and immunological recovery were excellent in acute/recent patients, with no differences between ART regimens.
- Earlier ART initiation (<100 days) was associated with a higher proportion of immunological recovery, favoring Fiebig stages I to V compared to stage VI.
- NNRTI-based regimens were associated with higher treatment discontinuation rates due to AE.
- Among INSTI regimens, doblegravir and elvitegravir-based regimens showed comparable efficacy.