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Objective

Rates and reasons for ART modification or discontinuation have been investigated in a number of studies. Studies comparing the durability of older regimens with contemporary regimens in observational cohorts are few. The aim of this study was to determine the frequency, reasons and the predictors for modification and discontinuation of initial ART before and after the availability of better tolerated and less complex novel regimens.

Materials & Methods

A total of 3019 antiretroviral-naive adult patients (> 18 years of age) registered in the HIV-TR cohort who started ART between Jan 2011 and Feb 2017 were studied. Epidemiologic, clinical and laboratory data of all were recorded retrospectively by a web-based data collection system. Patients who were lost to follow up during the first year after initiating treatment were not eligible for the study.

Regimen modification was defined as a change in at least one antiretroviral drug in the regimen not including dose changes. Discontinuation is defined as discontinuation of all drugs in the regimen for at least 14 days. Since discontinuations in this study were noted only for a minority of patients, the term ‘regimen modification’ covers both modification and discontinuation. ART regimens were grouped in a non-nucleoside reverse transcriptase inhibitor (NNRTI), boosted protease inhibitor (PI), or integrase inhibitor ( INSTI) based regimen or an integrase inhibitor combined with a boosted protease inhibitor ( rINSTI). NNRTI INSTI and NNRTI PI-based regimens were categorized as INSTI-based and PI-based, respectively, according to the most potent component. Only the first modification for each patient within 1 year was included in the analyses.

Results

The initial regimen was modified in 379 out of 3019 patients (12.6%) within the first year. Baseline characteristics of patients who were shown in Table 1. The main reason for modification was intolerance/toxicity (41.7%), followed by treatment simplification (9%), death (7.4%), patient’s willingness (6.9%), poor compliance (6.5%), to prevent future toxicities (5.5%), virological failure (5%), and clinician’s preference (5%). The reasons for modification by study period were shown in Table 2.

In a multivariable Cox model, only predictor of modification was baseline AIDS diagnosis, (aHR=1.4, 95% CI 1.1-1.8); p=0.01 (Table 3).

Results modification rate was higher among PI- (17.8%) and NNRTI- (14.3%) compared to INSTI-based regimens (6.3%); (p<0.001). The rate of treatment modification for intolerance/toxicity was lower with INSTI-based regimens (2%) than with NNRTI-based (6.0%) and PI-based regimens (7.9%); (p<0.001). However, patients on INSTI-based regimens had less severe disease, indicated by fewer baseline AIDS diagnoses and lower HIV RNA levels than those on PI-based and NNRTI-based regimens. Similarly, those on INSTI-based STVs had fewer baseline AIDS diagnoses, but similar HIV RNA levels compared to those on non-INSTI-based regimens. The rate of modification for intolerance/toxicity decreased over time (6.3% for 2013-2014 vs. 4.4% for 2015-2017, while modification for treatment simplification displayed an increasing trend (0.7%, 0.9% and 1.4% during 2011-2012, 2013-4 and 2015-17, respectively. Patients who achieved HIV RNA <50 < 200 copies/mL within 12 months of ART initiation were 85% and 91% in the ART modified group vs. 87 and 93.9% in the continued group (p<0.05).

Conclusions

Drug intolerance/toxicity was the major reason for treatment modification during the first year of ART. While the incidence of modification of intolerance/toxicity declined over time simplification strategies became more frequent in recent years. INSTI-based regimens were less likely to be modified than PI and NNRTI-based ART. There was a relatively low rate of modification and discontinuation of ART regimens within the first 12 months as compared with other countries.1-4

References


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