Reviewer's report

Title: Durability of switch regimens based on rilpivirine or on integrase inhibitors, both in association with tenofovir and emtricitabine, in HIV-infected, virologically suppressed patients

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Reviewer: David Rey

Reviewer's report:

The authors did a retrospective analysis, in a single cohort of HIV-infected patients in virologic success on ART (mostly PI-based), to (try to) answer 2 important questions in clinical practice, while switching a previous successfull treatment : between a NNRTI (rilpivirine as a matter of fact) and an InSTI, combined to tenofovir/emtricitabine, which one is the better choice (for efficacy and safety), if any ? More precisely, they wanted to define the durability of virological control of both strategies, and the determinants of either choice of drugs.

Even if well presented, the study is retrospective, which introduces bias and makes difficult to draw strong conclusions. For the first point, they concluded that durability of virologic control was not different after switch for rilpivirine or an InSTI-based treatment. Such a result was highly anticipated, given the data of randomized clinical trials, even if we don't have a clinical trial with a head to head comparison. In addition, as both groups are not comparable (specifically on past virological failures, therefore potential resistance mutations), it is hardly difficult to draw any conclusion, and this is the advantage of randomized clinical trials.

For the second point, I think that a retrospective analysis cannot answer the question. In addition to the hypothesis formulated in the discussion : InSTI might be better options in HCV co-infected subjects because of less drug-drug interactions compared to NNRTIs ; and other medications are probably not taken into account in this paper ; the price of the third ARV drug can also be the reason of the choice, as well as the adherence to the treatment, not clearly available in a retrospective study ; it might be empirically more interesting to use an InSTI, rather than a NNRTI, in an experienced subject already treated by a NNRTI, fearing a resistance to this class of ARV (even if not documented). In other words, only a prospective trial, could clearly answer this question, asking the clinician to justify the choice at the time of switch.
Number of ARV discontinuations for reasons other than VF, are not clear:

- there were discontinuations for simplification: 0 and 11, in the rilpivirine and InSTI groups respectively;
- but in the very next sentence, there are 37 raltegravir discontinuations.

If the link between treatment failure and eGFR is rationale, and probably tenofovir-related, I don't understand the role of Hb level (the studied population is rather young, mostly male, and Hb results in table 1 appear to be almost normal).

Some specific comments:

- dates of analysis on the database are not indicated.

- it could be specified which PIs or NNRTIs were included in the strategy at the time of switch (the authors speculate that the switch from a PI regimen has better efficacy because of a greater improvement in adverse effects, but tolerability of PIs is type of drug-related).

- discontinuations for toxicity could be specified: degree of tenofovir-related toxicity? details on non-tenofovir related toxicity?

- table 1 could be shortened

Are the methods appropriate and well described?  
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?  
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?  
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