Enferm Infecc Microbiol Clin. 2018;36(6):391–392

Enfermedades Infecciosas y Microbiología Clínica

www.elsevier.es/eimc

Letters to the Editor

## Hepatic safety of maraviroc in HIV-1-infected patients with hepatitis C and/or B co-infection☆

### *Seguridad hepática de maraviroc en pacientes coinfectados con VIH y hepatitis C y/o B*

*Dear Editor,*

The publication by Crespo et al.[1] entitled "Hepatic safety of maraviroc in HIV-1-infected patients with hepatitis C and/or B co-infection. The Maraviroc Cohort Spanish Group." was read carefully. The article mainly compares the risk of hepatotoxicity in HIV mono-infected individuals and HIV co-infected individuals, and hepatotropic viruses, using transaminase levels and, as a secondary outcome, the progression of hepatic fibrosis through the use of the FIB-4 index.

Broadly speaking, we agree with the safety of the drug, which is consistent with the results of other studies.[2–5] However, we found some discrepancies between the conclusions and the results presented. In this section, a higher risk of elevation, more than five-fold the upper limit of normal, for transaminases is shown (RR: 4.77; 95% CI: 2.35–10.5; $p < 0.01$) and of elevated transaminases 3.5 times the baseline level (RR: 1.94; 95% CI: 1.09–3.50; $p = 0.012$) in co-infected patients compared to mono-infected patients. Moreover, the multivariate Cox regression analysis found an increase of 4.5 times more than the five-fold increase of the upper limit of normal in co-infected patients (HR: 4.53; 95% CI: 2.15–9.54). This increase is relevant and could involve a greater risk of hepatotoxicity associated with the use of the drug in co-infected patients with hepatotropic viruses. However, this contrasts with the article's conclusion, which states that co-infection is not associated with an increase of more than 3.5 times the baseline levels.

Another finding that merits discussion is the apparent protective effect against the risk of a five-fold increase in transaminase levels of the 300 mg/day dose compared to the 150 mg/day dose. Although it is possible that it is a spurious relationship, due to the effect of multiple comparisons, this effect should be discussed in terms of its plausibility and contrasted with the literature. Furthermore, the significance of the relationship between doses (independent variable) and risk of hypertransaminasaemia (dependent variable) should be assessed using a test which evaluates the different dose categories overall. The technique usually recommended is the 'likelihood ratio', comparing the models which include or do not include the variable of interest.

In conclusion, we believe that, in accordance with the results of the study, there is a greater risk of hypertransaminasaemia in patients co-infected with hepatotropic viruses and HIV treated with maraviroc compared to HIV mono-infected patients. This risk of hepatotoxicity should be considered by clinicians when indicating this treatment, and prospectively assessed on a larger scale.

## References

1. Crespo M, Navarro J, Moreno S, Sanz J, Márquez M, Zamora J, et al. Hepatic safety of maraviroc in HIV-1-infected patients with hepatitis C and/or B co-infection. The Maraviroc Cohort Spanish Group. Enferm Infecc Microbiol Clin. 2017;35:493–8 [in English, Spanish].
2. Lazzarin A, Than S, Valluri SR, Heera J, Makuwaya G. Safety profile of maraviroc in patients coinfected with HIV-1 and hepatitis B or C included in the maraviroc expanded access program. HIV Clin Trials. 2012;13:83–9.
3. Ayoub A, Alston S, Goodrich J, Heera J, Hoepelman A, Lalezari J, et al. Hepatic safety and tolerability in the maraviroc clinical development program. AIDS. 2010;24:2743–55.
4. Soriano V, Poveda E. Maraviroc: farmacocinética, interacciones y mecanismos de acción. Enferm Infecc Microbiol Clin. 2008;26:12–6.
5. Rockstroh JK, Plonski F, Bansal M, Fätkenheuer G, Small CB, Asmuth DM, et al. Hepatic safety of maraviroc in patients with HIV-1 and hepatitis C and/or B virus: 144-week results from a randomized, placebo controlled trial. Antivir Ther. 2017;22:263–9.

María P. Requena-Herrera[a,*], Enrique O. Bedoya-Ismodes[a], Alonso Soto[a,b]

[a] *Escuela de Medicina, Universidad Peruana de Ciencias Aplicadas, Lima, Peru*
[b] *Departamento de Medicina, Hospital Nacional Hipólito Unanue, Lima, Peru*

* Corresponding author.
*E-mail address:* mari.requen@gmail.com (M.P. Requena-Herrera).

2529-993X/


DOI of original article: https://doi.org/10.1016/j.eimc.2017.11.011
☆ Please cite this article as: Requena-Herrera MP, Bedoya-Ismodes EO, Soto A. Seguridad hepática de maraviroc en pacientes coinfectados con VIH y hepatitis C y/o B. Enferm Infecc Microbiol Clin. 2018;36:391.