IRIS AperTO

UNIVERSITÀ DEGLI STUDI DI TORINO

AperTO - Archivio Istituzionale Open Access dell'Università di Torino

Triple or dual therapy for HCV-1 naive patients? Optimizing selection tools.

This is the author's manuscript

Original Citation:

Availability:

This version is available http://hdl.handle.net/2318/146592 since 2021-05-01T07:25:48Z

Published version:

DOI:10.1016/j.jhep.2014.02.035

Terms of use:

Open Access

Anyone can freely access the full text of works made available as "Open Access". Works made available under a Creative Commons license can be used according to the terms and conditions of said license. Use of all other works requires consent of the right holder (author or publisher) if not exempted from copyright protection by the applicable law.

(Article begins on next page)

20 April 2024

IRIS AperTO

UNIVERSITÀ DEGLI STUDI DI TORINO

This Accepted Author Manuscript (AAM) is copyrighted and published by Elsevier. It is posted here by agreement between Elsevier and the University of Turin. Changes resulting from the publishing process - such as editing, corrections, structural formatting, and other quality control mechanisms - may not be reflected in this version of the text. The definitive version of the text was subsequently published in JOURNAL OF HEPATOLOGY, 61 (1), 2014, 10.1016/j.jhep.2014.02.035.

You may download, copy and otherwise use the AAM for non-commercial purposes provided that your license is limited by the following restrictions:

(1) You may use this AAM for non-commercial purposes only under the terms of the CC-BY-NC-ND license.

(2) The integrity of the work and identification of the author, copyright owner, and publisher must be preserved in any copy.

(3) You must attribute this AAM in the following format: Creative Commons BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/deed.en), 10.1016/j.jhep.2014.02.035

The publisher's version is available at:
http://linkinghub.elsevier.com/retrieve/pii/S0168827814002001

When citing, please refer to the published version.

Link to this full text:
http://hdl.handle.net/2318/146592

This full text was downloaded from iris - AperTO: https://iris.unito.it/

iris - AperTO

University of Turin's Institutional Research Information System and Open Access Institutional Repository

Letter to the Editor:
Triple or dual therapy for HCV-1 naive patients? Optimizing selection tools

Lucio Boglione, Amedeo De Nicolò, Giovanni Di Perri, Antonio D'Avolio

We read with interest the paper by Andriulli et al. [1] about the identification of naïve HCV-1 patients who can be treated with dual therapy according to baseline and on-treatment parameters. Important predictive factors of sustained virological response (SVR) are the IL28B single-nucleotide polymorphisms (SNPs), however the authors considered only the rs12979860 SNP, forgetting the more important rs8099917 [2–4]; this is, in our opin-ion, not just an academic discussion, because the role of rs8099917 has been clarified and deepened in several studies and we think it should be included as best SVR predictor in the genotype 1 [2–4]. The major impact of rs12979860 has been documented on the early response [5], while rs8099917 in a recent meta-analysis evidenced the best predictive effect on the SVR (OR = 5.171 vs. 4.473) [6]. In fact, the effect of this SNP explains the higher rate of relapse in patients who achieved both RVR and ETR with the CC rs12979860 genotype, but with the presence of a G allele for the rs8099917 SNP [5]. Conversely, patients without the CC genotype for rs12979860 retain good probability to reach SVR if they have the TT genotype for rs8099917; this issue could underlie the high rate of SVR in non-CC patients reported by Andriulli et al. [1] and according with the TT prevalence in the Italian population. Therefore, we consider it essential to get both rs12979860 and rs8099917 SNPs as predictors on SVR and, in more detail, we could select the patients with CC/TT or CT/TT, but not with CC/TG or CC/GG genotype, for dual therapy. Another not considered issue in the analysis is the role of therapeutic drug monitoring (TDM) of ribavirin (RBV) as useful early on treatment predictor of response and toxicity. Ribavirin shows a wide inter-individual variability in plasma concentrations (_25–30%) and weight-based dose results often inadequate without TDM support [3,4,7]. Interestingly, RBV concentrations are related both with EVR and SVR [3,4,8,9] or treatment failure in HCV-1 infected patients, according to different plasma concentrations at different time-points. The optimal therapeutic range of RBV could maximize the SVR achievement and it should be comprised between 2–2.5 mg/L (at week 4 of therapy), according to the majority of the reviewed studies [10]. In conclusion, we suggest that both IL28B SNPs should be considered in order to refine the selection of candidate patients for dual therapy and then the TDM of RBV should be used to improve the on-treatment management.

References

[1] Andriulli A, Di Marco V, Margaglione M, Ippolito AM, Fattovich G, Smedile A, et al. Identification of naive HCV-1 patients with chronic hepatitis who may benefit from dual therapy with peg-interferon and ribavirin. J Hepatol 2014;60:16–21.
[2] Suppiah V, Moldovan M, Ahlenstiel G, Berg T, Weltman M, Abate ML, et al. IL28B is associated with response to chronic hepatitis C interferon-alpha and ribavirin therapy. Nat Genet 2009;41:1100–1104.
[3] D'Avolio A, Ciancio A, Siccardi M, Baietto L, Simiele M, Cariti G, et al. Ribavirin pharmacokinetics and interleukin 28B plus cytochrome P450 27B1 single-nucleotide polymorphisms as predictors of response to pegylated interferon/ribavirin treatment in patients infected with hepatitis C virus genotype 1/4. Hepatology 2011;54:2279.
[4] D'Avolio A, Ciancio A, Siccardi M, Smedile A, Simiele M, Cusato J, et al. Negative predictive value of IL28B, SLC28A2, and CYP27B1 SNPs and low RBV plasma exposure for therapeutic response to PEG/IFN-RBV treatment. Ther Drug Monit 2012;34:722–728.
[5] Stattermayer AF, Stauber R, Hofer H, Rutter K, Beinhardt S, Scherzer TM, et al. Impact of IL28B genotype on the early and sustained virologic response in treatment-naive patients with chronic hepatitis C. Clin Gastroenterol Hepatol 2011;9:e342.
[6] Luo Y, Jin C, Ling Z, Mou X, Zhang Q, Xiang C. Association study of IL28B: rs12979860 and rs8099917 polymorphisms with SVR in patients infected with chronic HCV genotype 1 to PEG-INF/RBV therapy using systematic meta-analysis. Gene 2012;513:292–296.
[7] Porte CJL la, Back D, Blaschke T, Boucher CAB, Fletcher CV, Flexner C, et al. Updated guideline to perform therapeutic drug monitoring for antiretroviral agents. Rev Antivir Ther 2006;2006:4–14.

[8] Arase Y, Ikeda K, Tsubota A, Suzuki F, Suzuki Y, Saitoh S, et al. Significance of serum ribavirin concentration in combination therapy of interferon and ribavirin for chronic hepatitis C. Intervirology 2005;48:138–144.
[9] Loustaud-Ratti V, Alain S, Rousseau A, Hubert IF, Sauvage FL, Marquet P, et al. Ribavirin exposure after the first dose is predictive of sustained virological response in chronic hepatitis C. Hepatology 008;47:1453–1461.
[10] Morello J, Rodriguez-Novoa S, Jimenez-Nacher I, Soriano V. Usefulness of monitoring ribavirin plasma concentrations to improve treatment response in patients with chronic hepatitis C. J Antimicrob Chemother 2008;62:1174–1180.