

Efavirenz Plasma Concentrations in Portuguese HIV Infected Subjects

S. A. Pereira¹, R. M. Côrte-Real¹, T. Branco², F. Lampreia², I. Germano², U. Caixas² & E. C. Monteiro¹.
¹Faculty of Medical Sciences, Lisbon, Portugal ; ²Hospital do Desterro, Lisbon, Portugal.



Background

Variability of efavirenz (EFV) plasma concentrations is multifactorial and could be one of the pharmacological causes of therapeutic failure. It has been shown that EFV plasma concentrations is dependent on P-gp and CYP450 polymorphisms (Fellay et al, 2002, Lancet, 359:30-36) present in different ethnic groups (Ameyaw et al, 2001, Pharmacogenetics, 11: 217-21).

In the present work, EFV plasma concentrations were quantified in Portuguese HIV-1 infected subjects in order to assess its inter-individual variability.

Methods

This study included 16 adult subjects receiving 600 mg EFV, once a day, in combination with other antiretroviral drugs, for more than 1 month.
 Age Range: 39 ± 2.4 years
 BMI Range: 23 ± 0.7 Kg/m²
 81% of the Individuals were naive (n =13)

Written informed consent was obtained from all patients in accordance with the Helsinki Declaration and the study was approved by the "Hospital do Desterro" Ethics Committee.

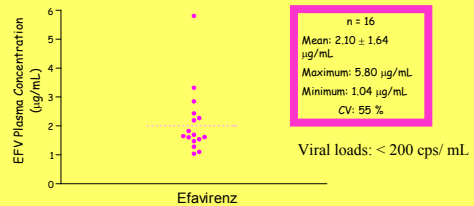
Plasma samples were obtained 8-13 h after EFV administration and were used to measure viral load, CD₄⁺ cell count, EFV concentrations and other laboratory parameters.

EFV plasma concentrations were quantified by HPLC with UV detection.

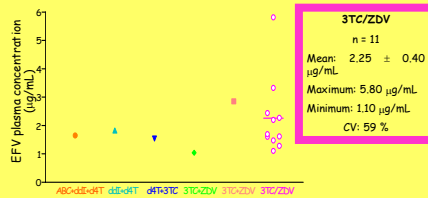
This method, validated in the Laboratory of Pharmacology was further submitted to an International Quality Control Program (KKGIT, The Netherlands).

Results

Inter-individual Variability in Efavirenz Plasma Concentrations



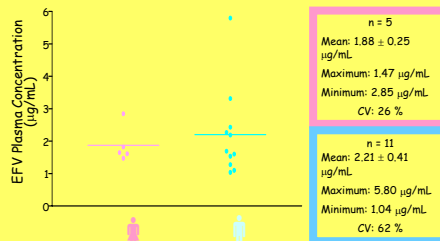
Antiretroviral Therapeutics



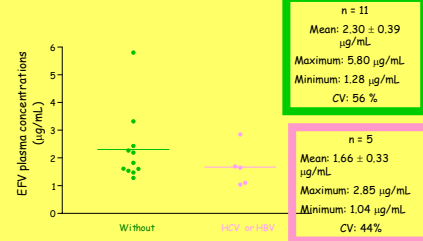
Effect of Food Intake



Gender Distribution



Co-infection HIV-HCV/HBV



Conclusions

From the present results it is concluded that the inter-individual variability observed in EFV plasma levels supports the interest of a concentration-controlled therapy.

These are preliminary results. Inclusion of more subjects and time course of their viral loads are needed to establish reliable correlations.

Correspondence to:
 Sofia Pereira
 Faculty of Medical Sciences, New University of Lisbon
 Campo Mártires da Pátria, 130
 1169-056 Lisboa, Portugal
 e-mail: sofia.pereira@nsl.iscmlp.ucp.edu.pt