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HIV tropism test in treatment-experienced patients from São Paulo and Santos cities, Brazil

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Background: New antiretroviral agents have been introduced for treatment-experienced patients; one of them is Maraviroc (MVC). MVC is an efficacious entry inhibitor and well tolerated, but it is restricted to patients infected by CCR5 tropic virus. Thus, before using MVC, a tropism test must be performed, as HIV can use the co-receptor CXCR4. The aim of the study was to analyze the genotypic tropism of the variants infecting thirty-six patients failing HAART, receiving multiples regimens and naïve to MVC.

Materials and Methods: Thirty-six treatment-experienced patients were enrolled in the study. The average age was 39 years old, the average T CD4+ count was 216 cells/mm^3 and the median viral load was 4,63log copies/mL. Nineteen patients live in São Paulo city and seventeen live in Santos city, which has the most important seaport of Latin America. The V3 region of gp120 region was amplified using nested PCR, sequenced and analyzed using the geno2pheno/co-receptor tool (false positive rate cutoff of 10%).

Results: Of the 36 patients, 75% (27) were infected with CCR5 tropic variants, while 25% (9) of the patients were infected with CXCR4 variants. Analyzing cities separately, 79% (15) of the patients from São Paulo were infected with the CCR5 tropic virus, while 70% (12) of the patients from Santos city were infected with the CCR5 variants.

Conclusions: The genotypic tropism assay is the standard assay for tropism testing and improves the management of treatment in clinical practice. It is known that the use of the CXCR4 co-receptor leads to a rapid disease progression. A high frequency of CCR5 tropic virus were observed among patients on a failing HAART, which indicate that MVC is a good option for treat heavily treatment-experienced patients and that tropism test continue to be a feasible and low cost method to evaluate the tropism of HIV-1 and improve the treatment response.

Biography

Shirley Komninakis completed her Ph.D. in 2003 and his post-doctorate in 2008. Since then studies the HIV and viral hepatitis. In addition to studying the diversity of viruses currently studying the genome, transcriptome, miRNA and epigenetic of infected patients. Dr. Komninakis is associate professor at the Federal University of São Paulo and Associate Professor at Faculty of Medicine Lusiada Foundation / Santos. These universities have students graduate and undergraduate. In the research laboratory, has expertise in the development of molecular tests involving the Real Time PCR and others.

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