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IMMUNE ACTIVATION PROFILE OF T CELLS FROM COLOMBIAN MSM WITH HIGH-RISK SEXUAL BEHAVIORS AND HIV-1 SPECIFIC CYTOTOXIC T-LYMPHOCYTES (CTL) RESPONSE

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Background: Men who have sex with men (MSM) still being a key population on HIV-1 epidemiology. Better intervention strategies are urgently needed, such as biomedical research to develop new options for prevention and treatment. The study of seronegative MSM with high-risk behaviors represents an opportunity to better understand HIV-1 infection and immune response.

Methods: Analysis of sociodemographic data and basal activation profile and functional response of T lymphocytes against stimuli with HIV-1, in two groups of MSM from Medellín-Colombia, South America.

Results: We included 39 MSM with high and low risk of exposure (9 and 30, respectively). The high-risk group presented a higher frequency of sexual partners in the three months prior to the inclusion of the study (Me=31 vs. Me=2; p<0.05), sexual partners throughout life (Me=900 vs. Me=30, p<0.005) and unprotected anal intercourses. All subjects are negative for anti-HIV-1 antibodies, HIV-1 proviral DNA and delta 32 mutation in the CCR5 gene in a homozygous state. The individuals at high risk showed a lower percentage of CD4+CD38+ and CD8+CD38+ T cells (p<0.05); a higher percentage of CD4+HLA-DR+ (p<0.05) and higher CD4+CD69+/CD8+CD69+ T cells (p<0.05). Moreover, we found four individuals who exhibited a specific response to HIV-1 by production of TNF α , IFN or both, after overnight stimuli with HIV-1 Gag peptides.

Conclusions: MSM with greater sexual exposure showed different profile of CD4+ and CD8+ T cell activation compared with the group of low risk. Some MSM showed specific CTL response to HIV-1 peptides without evidence of infection. Taking together, our results can show a protective profile of HIV-1 infection in MSM with high-risk behaviors. It is necessary to continue the study of MSM in high risk of exposure to HIV-1 to better understand their natural response to the virus and improve the prevention and therapy strategies against HIV-1.

Biography

Ana Claudia Ossa Giraldo is a Microbiologist with a specialization in Clinical Microbiology, and a PhD student in Biomedical Basic Sciences (Immunology), from Universidad de Antioquia. Currently, she is a Professor and Researcher at Universidad Cooperativa de Colombia's School of Medicine. She has different distinctions and awards, such as: Award to the First Best Research Project (XXIX National Congress of General and Social Medicine, 2017, ASMEDAS); Second Best Research Project (XXVII National Congress of General and Social Medicine, 2015, ASMEDAS). She got scholarship as Trainee in International Infectious Diseases and Global Health IIDGHTP (currently, University of Manitoba).

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