Polymorphisms of Lactoferrin Gene and Susceptibility to Vertical Transmission of HIV

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Despite recent advances against AIDS, the number of HIV positive patients and AIDS-related deaths are continuously growing, in part related with to vertical transmission (VT). The susceptibility to HIV infection depends on environmental, viral and host factors. Interindividual differences on infection outcome and progression to AIDS could be partially explained by variation on genetic profiles of Innate Immunity components, which act as the first line of human defense. Lactoferrin is an important Innate Immunity component, encoded by the *LTF* gene, with antiviral activity against HIV. Our objective was to evaluate the association of functional Single Nucleotide Polymorphisms at exon 1 of *LTF* gene (the T11A A→G and R29K C→G, polymorphisms) and the susceptibility to VT of HIV. The study population consists of 192 perinatally infected newborns (exposed-infected), 72 HIV-negative children born from infected mothers (exposed-uninfected) and 96 healthy newborns (control group). Genotyping was performed using real time PCR through TaqMan probes. We found that R29K G/G genotype was significantly more frequent in HIV positive subjects when compared to healthy controls (*pvalue*=0.021). In addition, the presence of the G allele is associated to an increased susceptibility to HIV infection (OR=1.8233). However no association was predicted with T11A polymorphism and VT. In conclusion, our results ratify the important role of Lactoferrin gene polymorphism, previously described to affect protein expression and function, in the protection against the VT of HIV on Brazilian child population.

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