HLA-C*07 allele group confers protection against cytomegalovirus retinitis development among Brazilian AIDS patients


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Background: Even though antiretroviral therapy has reduced the incidence of cytomegalovirus retinitis (R-CMV), this disorder continues to be a considerable cause of visual impairment among AIDS patients. The incidence of R-CMV is increasing in young patients outside the first world who, despite the control of HIV-1 viremia, are blind, either because retinitis has not been diagnosed or has incorrectly been treated. An insertion/deletion fragment at the 3’ untranslated region of the HLA-C gene has been associated with progression to AIDS after HIV infection. Thus, the search for genetic markers associated with disease susceptibility/morbidity may help to identify AIDS patients prone to develop R-CMV.

Methods & Materials: Four groups of patients were typed for HLA-C: GI (n=52), consisting of patients with AIDS and R-CMV; GII (n=170) patients with AIDS without R-CMV; GIII (n=222) encompassing GII and G1; and GIV (n=202), healthy HIV-individuals. HLA-C typing was performed using commercial kits. The allele frequencies were compared between groups and the etiologic and preventive typing was performed using commercial kits. The allele frequencies passing GI and GII; and GIV (n=202), healthy HIV-individuals. (n=170) patients with AIDS without R-CMV; GIII (n=222) encompassing the coding and 3’UTR segments may help on discriminating AIDS patients prone to develop R-CMV.

Results: The HLA-C*07 allele group was underrepresented in AIDS patients with R-CMV (OR: 0.4192, 95% CI 0.2246–0.7822, P=0.0063), conferring preventive fraction of 0.1553 and 0.1531, respectively.

Conclusion: The HLA-C*07 allele group was associated with protection against R-CMV, and the study of HLA-C*07 haplotypes encompassing the coding and 3’UTR segments may help on discriminating AIDS patients prone to develop R-CMV.

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