



POSTER PRESENTATION

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# Human leukocyte antigen class I supertypes and viral control in HIV-1 infected former plasma donors from China

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## Background

The role of human leukocyte antigen (HLA) class I supertypes in controlling human immunodeficiency virus type 1 (HIV-1) infection in Chinese has not been established. The aim of this study is to examine the frequency of HLA-A and HLA-B alleles and supertypes of 222 HIV-1 infected former plasma donors in central China and to investigate their impact on HIV-1 viral control.

## Methods

HLA-A and HLA-B alleles were genotyped with PCR-SSP and sequence-based typing assay to four-digit resolution. The HLA alleles were classified functionally to 4 HLA-A supertypes and 6 HLA-B supertypes according to their shared peptide binding properties. Plasma viral load was determined using the Roche Amplicor ultrasensitive assay which has a lower detection limit of 50 copies HIV-1 RNA per ml.

## Results

HLA-A03 supertypes(A03s) and HLA-B62 supertypes (B62s) were associated with lower viral load ( $P=0.0206$ ,  $P=0.0483$ ), whereas HLA- A24 supertypes(A24s) appeared to have an association with higher viral load ( $P=0.0483$ ). There was a highly significant correlation between the genotypic supertypes(GS) and viral load (Kendall's tau  $b = 0.180$ ,  $P=0.000$ ). The median viral load was lower among A\*3001( $P=0.0139$ ), A\*1101( $P=0.0096$ ), B\*5101( $P=0.0025$ ), B\*3501( $P=0.0091$ ) or B\*4601( $P=0.001$ ) carriers and higher in A\*2301( $P=0.0106$ ) carriers.

## Conclusion

HLA-A03s and -B62s may be associated with favorable HIV-1 viral control, A24s associated with unfavorable viral control; HLA-B\*4601 within B62s and HLA-A\*2301 within A24s might contribute to the outcomes of HIV-1 viral control.

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