

Poster presentation

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Chemokine and chemokine gene polymorphisms in exposed but uninfected partners of HIV-1 infected individuals in North India

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Background

Repeated exposure to human immunodeficiency virus (HIV) does not always result in acquiring infection. Understanding the mechanisms that protect against progressive infection with HIV is important in understanding correlates of protective immunity. We carried out this study to determine the influence of host genetic factors resistance to HIV infection and looked for established polymorphisms in chemokine (SDF-1, and RANTES) and chemokine receptor genes (CCR5, CCR2, and CX3CR1).

Materials and methods

We studied 35 exposed but uninfected (EU) partners of HIV-1 infected individuals for established polymorphisms in the above chemokine and chemokine receptor genes by PCR-RFLP and compared the results with those for 75 HIV-1 seronegative normal healthy controls (HC).

Results

There was no CCR5-32 deletion in any individual. Heterozygous defects, in EU's, were seen in 32% for CCR2-64I, 34.3% for CX3CR1-280M, 20% for CX3CR1-249I, 31.4% for SDF-3'A, 2.8% for RANTES-28G and 31.4% for RANTES-403A. Homozygous inheritance of these mutations was seen in less than 5% for all the above sites. There was no significant difference between the prevalence of these mutations between EU's and healthy individuals.

Conclusion

While several genetic aberrations in chemokine genes and their receptors exist among EU's, there must be other

mechanisms that confer resistance to HIV infection in these individuals.