Retrovirology

Poster presentation

P04-15. Prevalence of broadly neutralizing antibody responses during acute/early HIV infection

I Mikell*[1], D Sather[1], S Kalams[2], M Altfeld[3] and L Stamatatos[1]

Address: [1]Seattle Biomedical Research Institute, Seattle, WA, USA, [2]Department of Microbiology and Immunology, Vanderbilt University Scho, Nashville, TN, USA and [3]Partners AIDS Research Center, Massachusetts General Hospital, Harvard, Boston, USA

* Corresponding author

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Background

Determining how cross-reactive neutralizing antibody (NAb) responses develop during natural HIV-1 infection may provide key information to understand the role they play in controlling the infection and in disease progression. Here we investigated the frequency and breadth of broadly NAb responses during acute and early infection in a well controlled cohort, and attempted to characterize the factors associated with the development of such responses.

Methods

The plasma of 38 clade B acutely-infected, antiretroviral-naive subjects from two cohorts was screened for breadth of neutralization against a panel of heterologous isolates in an Env pseudovirus neutralization assay. Clade A, B and C variants were chosen from reference panels of viruses, created to evaluate the NAb responses elicited during infection or immunization.

Results

Our preliminary screening strategy demonstrated that broadly neutralizing antibodies can be detected in a third of the infected subjects. Breadth of neutralization can develop as early as one year during natural HIV infection, however the majority of breadth was observed at over two years post infection.

Conclusion

Cross-reactive NAbs are developed more frequently during early infection than previously thought. The consequences of this 'early' development of cross-reactive NAbs on plasma viremia and disease progression are under investigation.

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