

Poster presentation

Open Access

Anti-CD4-gp120 complex antibodies in long-term non-progressors HIV-1 positive patients: a role in slowing disease progression?

Samuele Burastero¹, Claudio Casoli², Chiara Paolucci¹, Paola Breda¹, Chiara Alberti¹, Claudia Pastori¹ and Lucia Lopalco*¹

Address: ¹Infectious Diseases Clinic, San Raffaele Scientific Institute, Milan, Italy and ²Department of Clinical Medicine and Nephrology, University of Parma, Parma, Italy

* Corresponding author

from 2006 International Meeting of The Institute of Human Virology
Baltimore, USA. 17–21 November, 2006

Published: 21 December 2006

Retrovirology 2006, **3**(Suppl 1):P36 doi:10.1186/1742-4690-3-S1-P36

© 2006 Burastero et al; licensee BioMed Central Ltd.

Background

Exposure to HIV-1 does not necessarily result in infection and progression toward disease. Discovery of individuals who, despite multiple exposures to HIV remain uninfected (ESN) or do not progress toward disease (Long term Non Progressors) (LTNP), have confidently revealed that the better control of viral infection may be achieved through mechanisms of natural resistance. Antibodies (Abs) to CD4/gp120 complex have been detected in ESN, which could be involved in HIV protection.

Materials and methods

To assess whether these Abs may also contribute to slow HIV-disease progression, we searched for anti-CD4/gp120 complex Abs in 132 subjects, including 72 Long Term Non Progressors (LTNP), 30 Fast Progressors, and 30 seronegative donors.

Results

We found that these antibodies are present at higher titers in LTNP as compared to Fast Progressors ($p < 0,001$). In single patients, an association between the presence of CD4/gp120 complex antibodies and neutralizing activity against R5 dependent strains was found. Noteworthy, competition with soluble CD4 prevalently inhibited binding to CD4-gp120 complex in LTNP (-46,0% [60,9–34,8 IQR]) as compared to FP (-12,7% [33,7–5,4 IQR])($p < 0,001$), further suggesting a major contribution of anti-complex antibodies in the anti-CD4 activity detected in

the former. As these antibodies recognize conformational epitopes within the CD4/gp120 complex, they may be involved in modulation of HIV entry process.

Conclusion

These antibodies could represent a marker of disease progression. Moreover, our finding could be relevant for vaccine design and therapeutics.