

POSTER PRESENTATION

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Resistance to HIV-1 infection among HIV-exposed seronegative partners in HIV-discordant couples is associated with higher frequency of CD8+ T cells expressing CD107a and b molecules

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Background

Some individuals remain persistently HIV-seronegative despite multiple high-risk exposures to the virus (HIV-exposed seronegatives or ESN). Different mechanisms may influence host resistance to HIV infection. HIV-specific CTL has been suggested to play a role in HIV-1 protection.

Methods

Ten HIV-1 ESN in HIV-discordant couples were enrolled at the Fann University hospital, Dakar, Senegal. Thirty HIV-1 infected patients (10 HIV-1 non transmitted partners in discordant couples and 20 HIV-1 infected partners in HIV-concordant couples) and 10 HIV-negative unexposed subjects were included as controls. Levels of CD107a and b, and CD107a/b+IFN- γ + in CD8+ T cells sub-set were measured in fresh PBMC by flow cytometry, in the presence or absence of stimulation with SEB.

Results

HIV-negative subjects (10 ESN subjects and 10 HIV-negative controls) showed significantly lower percentages of CD107a/b+ expression on CD8+ T-cells than did HIV-1 infected patients (2.9% vs. 11.6%, $P = 0.016$). Similar conclusions were reached when expression of CD107a/b+ IFN- γ + were analyzed. Interestingly, HIV-1 ESN subjects showed higher frequency of CD8+ T cells expressing CD107a and b compared with unexposed HIV-negative

controls (11.6% vs. 1.3%, $P = 0.018$), concordant with production of intracellular IFN- γ .

Conclusions

Taken together, our data suggest that resistance to HIV-1 infection among ESN partners in HIV-discordant couples may be associated with HIV-specific CTL responses.

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