Frequency anti-V1V2 Responses Induced by HIV-DNA Followed by HIV-MVA with or without CN54gp140/GLA-AF in Healthy Tanzanian and Mozambican Volunteers


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CONCLUSION

Anti-V1V2 responses were frequently detected after HIV-DNA prime followed by HIV-MVA boosting. Co-administration of CN54gp140/GLA-AF with HIV-MVA did not increase the frequencies of anti-V1V2 or ADCC-mediating antibodies.

BACKGROUND

We evaluated the impact of co-administration of CN54gp140/GLA-AF with HIV-MVA after HIV-DNA priming on anti-V1V2 responses and antibody-dependent cellular cytotoxicity (ADCC)-mediating antibodies, shown to be associated with reduced risk of HIV acquisition in the RV144 trial (1).

METHODS

Healthy HIV-uninfected adults (N=191) in the TaMoVaC II phase IIa trial were randomized twice; first to one of three HIV-DNA intradermal priming regimens by needle-free ZetaJet® device at weeks 0, 4 and 12 (Group I: 2x0.1mL [3mg/mL] plus electroporation (EP), Group II: 2x0.1mL [3mg/mL] plus EP). Second the same volunteers received 10^6 pfu HIV-MVA twice, alone or combined with CN54rgp140/GLA-AF in Healthy Tanzanian and Mozambican Volunteers. Co-administration of Anti-V1V2 responses were frequently detected after HIV-DNA priming on anti-V1V2 responses and antibody-dependent cellular cytotoxicity (ADCC)-mediating antibodies, shown to be associated with reduced risk of HIV acquisition in the RV144 trial (1).

RESULTS

High anti-V1V2 total IgG response rates to A244 and CN54 were detected in both groups of vaccinees; HIV-MVA alone and HIV-MVA +rgp140. Anti-V1V2 A244 responses were predominantly IgG1. Anti-V1V2 IgG3 responses to A244 were more frequent in HIV-MVA than in HIV-MVA+rgp140 recipients. Anti-V1V2 IgG1 and anti-V1V2 IgG3 responses to CN54 were rare. Placebos were negative.

The magnitude of anti-V1V2 total IgG and IgG1 responses to A244 and CN54 was not significantly different between the two boost groups.

For graphing, plasma samples with no V1V2 IgG1 and V1V2 IgG3 antibody responses at 1:100 dilutions were arbitrarily assigned a value of 20. The dotted line indicates the cut off for positive values.

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