NEW SESSION: SPOTLIGHT ON RV144, THE PHASE III THAI TRIAL

SS01-05

Phase III trial of HIV prime-boost vaccine combination in Thailand: result of final analysis

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Background: After ten years of continuing efforts to identify vaccine candidates appropriate for the HIV subtypes circulating in Thailand, a community-based, efficacy trial of a prime-boost HIV vaccine combination was initiated in 2003.

Methods: This is a randomized, double-blind, placebo-controlled, community trial to determine if the prime-boost vaccine strategy 1) prevents HIV infection, 2) reduces viral load at set-point among vaccinated participants who become infected. Vaccines were developed specifically for the predominant circulating HIV subtypes in Thailand (CRF01_AE and B) using a recombinant ALVAC-HIV (vCP1521) (sanofi pasteur) prime and AIDSVAX®gp120 B/E (GSID) boost.

Results: 16,402 HIV negative Thai adults, aged 18-30 were enrolled through the existing Thai MOPH facilities. The volunteers received either vaccine or placebo at 0,1, 3, and 6 months and were followed at 6 months intervals for an additional 3 years. Follow-up was concluded in June 2009, with interval retention rates exceeding 95%. To date, the vaccines have appeared to be safe. No deaths related to vaccination were recorded. Negative social events from volunteers participation were few and most resolved without sequelae. Independent DSMB reviews of interim data did not result in early stoppage of the trial for enhanced HIV acquisition rate or other safety concerns. The trial data are being prepared for statistical analysis.

Conclusion: The vaccines appear safe. The trial is scheduled for final analysis in September 2009. These results will be presented.

OA07-04 LB

Immunogenicity of ALVAC-HIV® (vCP1521) and AIDSVAX® B/E prime boost vaccination in RV144, the Thai phase III HIV vaccine trial

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Background: The Phase III trial of ALVAC-HIV®and AIDSVAX®B/E in Thailand began in October 2003 and concluded in June 2009. Both vaccine candidates express HIV-1 circulating recombinant form (CRF) 01_AE and subtype B antigens. This study assessed whether the Phase III vaccine lots show immunogenicity comparable to the previous Phase I/II study of the identical immunization regimen.

Methods: A list of blinded samples from persons completing all 4 injections with either placebo or vaccine and remained HIV negative at the end of the trial was provided. Peripheral blood mononuclear cells (PBMC) or plasma were tested to CRF 01_AE and subtype B vaccine antigens in the following validated assays: (1) Interferon-gamma (IFN-γ) ELISpot; (2) IFN-γ/interleukin-2 intracellular cytokine staining (ICS); (3) Binding antibody (BAb). ELISpot and ICS assays measured responses to Env (92TH023) and Gag (LAI) peptide pools prior to and 6 months following the completion of immunization. BAb was measured using reciprocal dilution EIA to A244 and MN gp120 and BH10 p24 prior to and at 2 weeks following the completion of immunization.

Results: Data will be un-blinded to treatment assignment by October 2009. Analyses of post-injection responses to Env and Gag by ELISpot revealed an overall frequency of 14%, with Env responses (11%) predominating over Gag (5%). The overall frequency of ICS responses to HIV peptides in samples studied to date was 35% and was greater for CD4 (26%) than CD8 (9%) T cells, with responses to Env again predominating: 26% versus 1% Gag for CD4 and 6% Env versus 2% Gag for CD8 T cells. The frequency of BAb responses to p24 was 37% and was identical for CRF01_AE and MN gp120 (70%).

Conclusion: Cellular and humoral immune responses to the ALVAC-HIV® + AIDSVAX® B/E regimen were predominantly to HIV Env and appear similar to those seen in the earlier Phase I/II study.