conferenceseries.com

Sarah Joseph, J AIDS Clin Res 2017, 8:6(Suppl)
DOI: 10.4172/2155-6113-C1-016

5th World Congress on
Control and Prevention of
# HIV/AIDS, STDs & STIs

June 19-20, 2017 London, UK

## Sarah Joseph

*Senior Scientist, UK*

## Vaccination strategies to maximize immune responses using DNA, MVA and adjuvanted gp140

We have been exploring vaccination strategies employing DNA, pox and adjuvanted envelope protein in an effort to optimize immunogenicity in the context of overall feasibility. We assessed the impact of combining MVA-C and GLA adjuvanted gp140 after DNA-C priming; giving them together or sequentially to healthy HIV-uninfected adults. We expected Env-specific antibodies in 100%, hypothesized that Env-specific CD4+ T-cells might induce functional antibodies and that combining vaccines, shortening the schedule by 8 weeks would not compromise safety or immunogenicity. 40 volunteers were recruited at 2 UK sites, given 3 IM doses of DNA plasmids encoding env and gag-pol-nef at weeks 0/4/8, then 2 doses of MVA IM (encoding env and gag-pol-nef) and 2 of recombinant CN54gp140 protein with GLA-AF; randomized to receive these during the same visit at weeks 16/20 (accelerated) or sequentially at weeks 16/20/24/28 (standard). Primary outcomes included ≥ grade 3 safety events and a four-fold difference in CN54gp140-specific binding IgG. 2 participants experienced ≥ grade 3 asymptomatic raised liver enzymes leading to discontinuation of vaccinations. 100% made CN54gp140 IgG, but combining vaccines did not significantly alter the response. Neutralization of a tier 1 pseudovirus was superior in the standard group, T-cell ELISPOT responses were CD4 and Env-dominant and comparable; 85% and 82.4% responded in the accelerated and standard groups, but poly-functional T-cells appeared less frequent in the accelerated group. Combining MVA and gp140/GLA-AF shortened the schedule by 8 weeks without impacting the titer of gp140-specific antibodies. Neutralizing antibody responses were modest despite the induction of Env-specific $CD4^+$ T-cells and inferior in the accelerated group. There was also a trend toward lower T-cell responses in the accelerated group, although it remains possible that the timing of vaccinations was not optimal. Results will be discussed in the context of other relevant trials.

### Biography

Sarah Joseph has a background in the immunology of infectious diseases living and working in Africa on schistosomiasis, TB and malaria. She joined the MRC Clinical Trials Unit at UCL in 2008 as an Epidemiologist in HIV prevention, focusing on a range of Phase I/II HIV vaccine trials. In June 2017, she joined the International AIDS Vaccine Initiative.

sarah.joseph@ucl.ac.uk

**Notes:**