PA-045 IMMUNOGENICITY OF MALARIA-VECTORED VACCINES IS NOT AFFECTED BY CO-ADMINISTRATION WITH ROUTINE EPI VACCINES IN A RANDOMISED CONTROLLED TRIAL IN GAMBIAN INFANTS AND NEONATES

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Background Recent global estimates show that *P. falciparum* malaria still constitutes an enormous public health concern. Chief amongst desirable interventions is an effective vaccine that could complement existing control measures. Heterologous prime-boost vaccinations involving chimpanzee adenovirus 63 (ChAd63) and modified vaccinia Ankara (MVA) encoding ME-TRAP have consistently shown acceptable safety, excellent immunogenicity and substantial efficacy in African adult and paediatric populations. When licensed, malaria vaccines would preferably be given to infants receiving routine childhood immunisations. Nevertheless, no studies have evaluated the interference of ChAd63/MVA ME-TRAP when co-administered with routine Expanded Programme Immunisation (EPI) vaccines.

Methods We enrolled 65 Gambian infants and neonates in an age de-escalating fashion, priming at 4 months, 8 weeks or 1 week of age, and randomised them to vaccine or control (EPI vaccines only) arm. Safety was assessed by the description of vaccine-related adverse events ascertained through clinical assessments, biochemical and haematological tests. Immunogenicity was evaluated by IgG ELISA, interferon-gamma ELISPOT, intra-cellular cytokine staining and flow cytometry. Antibody testing was performed to assess any interference of the EPI vaccines with responses to ChAd63/MVA ME-TRAP.

Results Overall, the vaccination regimes were well tolerated in all age groups with no vaccine-related serious adverse events. High level IgG and antigen-specific T cell responses were generated after boosting with MVA, with T cell responses highest in the infants 8 week old at priming dose. EPI vaccines retained unchanged antibody levels in all age groups.

Conclusions Potent humoral and cellular immunity induced by heterologous prime-boost immunisation with ChAd63 and MVA ME-TRAP did not interfere with the immunogenicity of co-administered routine EPI vaccines in infants and neonates. Potent T cell induction was again observed with the vectored malaria vaccines despite co-administration with EPI vaccines.