



Malaria vaccines undergo clinical trials

Two new malaria vaccines which have undergone a clinical trial in humans, carried out by researchers at RCSI (Royal College of Surgeons in Ireland) in Dublin, have been proven to be well tolerated and produce a strong immune response. The results of the clinical trial are published in the current issue of the journal PLOS ONE. The clinical trial was conducted by researchers at RCSI's Department of International Health & Tropical Medicine at the RCSI Clinical Research Centre in Beaumont Hospital, Dublin, in collaboration with the Jenner Institute at the University of Oxford. The project is funded by the European Vaccine Initiative (EVI) with the support of Irish Aid.

This is the first time the new vaccines were trialled in humans and the first human clinical trial of any malaria vaccine to be carried out in Ireland. Completion of this type of "first in human" study (phase one) in Ireland is significant not only for malaria vaccine research, but also for translational research in general in Ireland.

The clinical trial involved 24 Irish volunteers who received the vaccines to assess safety and the immune responses. The vaccines were found to have an excellent safety profile and produced the appropriate immune response, generating specific T cells that are primed to respond to malaria proteins. Combining these vaccines with others in development may lead to a vaccine that could prevent malaria, which would have a huge impact on human health as a result. The vaccines have now progressed to the next phase of clinical trials at the University of Oxford.

The first author on the study is Dr Eoghan De Barra, Research Fellow, RCSI Department of International Health & Tropical Medicine, who worked with collaborators at RCSI and senior author Professor Adrian Hill, Director of the Jenner Institute at University of Oxford.

The two new malaria vaccines (ChAd63 CS and MVA CS) were developed at University of Oxford and use the gene for malarial circumsporozoite protein inserted into a weakened adenovirus.

EVI is a leading European non-profit Product Development Partnership that has the principal objective to develop effective, accessible, and affordable vaccines against malaria and other diseases of poverty. Since its inception in 1998 it has contributed to the development of 32 malaria vaccine candidate formulations with 16 vaccine candidates being advanced into phase I clinical trials, three of which have been transitioned for further clinical development in sub-Saharan Africa. EVI leads global efforts in the development of vaccines against diseases of poverty, while also acting as coordinator of several initiatives/consortia to create harmonisation between all global stakeholders in vaccine research. EVI is co-founder of the Malaria Vaccine Funders Group and is hosted by Heidelberg University in Germany. EVI is currently funded by Irish Aid, the European Commission, EDCTP, and the German Federal Ministry of Education and Research (BMBF).