Results from EV01 HIV Vaccine trial, London and Lausanne, June 7th, 2004

Safety and immunogenicity results of a phase I clinical trial, EuroVacc 01 (EV01) are now available. The vaccine investigated, called NYVAC-HIV C, was developed by a European consortium called EuroVac, funded through the EU Fifth Framework Programme for Research and Development. Aventis Pasteur, the vaccine division of Aventis, produced the vaccine which expresses *gag, pol, nef* and *env* synthetic genes of HIV-1 clade C. These novel gene inserts were co-developed by the Institute for Medical Microbiology (RIMMH) and GENEART GmbH, Regensburg within the EuroVac cluster. EV01 comprised scientists and clinicians from France, Holland, Germany, Italy, Spain, Sweden, Switzerland and the UK. This group has been working together for more than five years, and has developed a comprehensive pipeline of potential vaccines –of which NYVAC-HIV C is the first one to enter clinical evaluation.

The EuroVacc Foundation

As an evolution of the original EuroVac Network, the EuroVacc Foundation, a non profit organization, was created in 2002. The EuroVacc Foundation aims at facilitating European collaboration in vaccine development, coordinating European efforts and raising funds for fundamental and clinical research so as to accelerate the development of a safe and effective vaccine against HIV infection. The Foundation also promotes educational and training programmes relevant to vaccine development worldwide. Thus the first trial EV01 was a jointly run by both the EuroVac network and the EuroVacc Foundation.

The EV01 trial

EV01 was sponsored by Imperial College London, and the trial was designed and coordinated by the UK Medical Research Council Clinical Trials Unit. The clinical trial took place in Centre Hospitalier Universitaire Vaudois (CHUV) in Lausanne, Switzerland and in St Mary's Hospital, Imperial College, London, UK. The clinical trial has evaluated the safety and immunogenicity of the NYVAC-HIV C vaccine. NYVAC C is a highly attenuated recombinant vaccinia virus bearing the *gag, pol, nef* and *env* genes of HIV-1 clade C, the most commonly transmitted HIV strain worldwide. The study recruited 24 healthy volunteers: 12 in Lausanne and 12 in London. All volunteers, either men or women, were between 18 and 55 yrs, HIV-negative and at low risk of acquiring infection. Twenty-four (13 male) of 32 volunteers screened have been enrolled and received both immunisations. 20 volunteers received the vaccine, and there were 4 volunteers who served as laboratory blinds, 2 in each centre.

There have been no unexpected adverse effects. The blinded results accumulated to date clearly indicate that the vaccine has been well tolerated with only mild local or systemic adverse events. With regard to the analysis of the immunogenicity of the NYVAC-C vaccine, the vaccine-induced immune response in the 12 volunteers recruited in Lausanne were assessed immunologically. Vaccine-induced anti-HIV T-cell responses were observed in 5/12 (45%) of the vaccine recipients using stringent quality controlled clinical lab assays. *Env*-specific responses were found in all 5 responding subjects but additional responses against other proteins of HIV (e.g. Gag and Nef) were detected in 40% of the responders. Anti-env antibodies, analysed at the University of Oxford, have been detected in 5/24 (20%) of volunteers at week 4.

In conclusion, these preliminary, blinded data indicate that the NYVAC-HIV C vaccine is safe and immunogenic and support further trials of this vaccine in combination with other vaccine candidates. In this respect pre-clinical trials at the BPRC in Holland are ongoing and reveal promising results.

The EV02 trial

EV02, a new HIV vaccine trial, will evaluate the safety and immunogenicity of NYVAC-HIV C boosting with or without DNA-C vaccine prime which contains identical HIV components. EV02 will commence at the same clinical sites in London and Lausanne in Q3, 2004 with 40 healthy volunteers.

In addition to planning EV02, the EuroVacc Foundation has recently taken a series of important initiatives to propel its strategic goals:

- A Memorandum of Understanding has been signed in December 2003 with the National Institute of Allergy and Infectious Diseases (NIAID) through its Division of AIDS (DAIDS). NIAID and EuroVacc share a common goal to accelerate the development of vaccines against HIV and move the best candidate vaccines into clinical trials in relevant populations, utilizing available diverse trial sites and host country expertise, and ensuring data are acceptable to regulatory agencies in the U.S., Europe and participating developing world countries. Both NIAID and EuroVacc recognize that the combined experience, resources and strengths of the respective programmes will contribute to the efficient achievement of their common goal.
- A memorandum of understanding has been signed on April 2004 with the Chinese Centre for AIDS/STD Control and Prevention (NCAIDS). The purpose is to establish a collaborative relationship to further shared goals for the planning, development, production and preclinical and clinical evaluation of candidate HIV vaccines in China.
- Licensing agreements have been signed and/or being finalized with Aventis Pasteur and the German biotech company GENEART, for the use of four vaccine candidates that were developed by the EuroVacc consortium and the two companies within the 5th framework programme for Research and Development of the European Union. The vaccines consist of two recombinant attenuated pox viruses (NYVAC) and two DNA vaccines encoding the major proteins of HIV-1.
- Organization of the AIDS Vaccine 2004 Conference that will take place in Lausanne on August 30 to September 1, 2004. The Conference will emphasize the role of emerging countries in the universal fight against HIV.

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