Pandemic Influenza Vaccine Clinical Trial Abstract

Minimum information:

Title of Trial: A Phase I Open-Label Study of the Safety and Immunogenicity of a Recombinant DNA Plasmid Vaccine, VRC-VIDNA036-00-VP, Encoding for the Influenza Virus H5 Hemagglutinin Protein Administered Intradermally in Healthy Adults.

Clinical Trial registration site if applicable (e.g. ClinicalTrials.gov): NCT00489931

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Study Design (including the phase of clinical trial): VRC 305 is a Phase I study to evaluate safety, tolerability, and immunogenicity of a recombinant DNA vaccine against the influenza virus H5 hemagglutinin by intradermal (ID) delivery. The hypothesis is that this vaccine will be safe for human administration by ID delivery by either needle/syringe or Biojector and will elicit antibody and T cell responses against the H5 protein. Primary objectives are to evaluate safety and tolerability of the vaccine at 500 µg ID administered by needle and syringe or by Biojector and at 1 mg ID administered by Biojector as two injections in the same or in different arms in healthy adults. Secondary and exploratory objectives are related to immunogenicity.

Vaccine subtype: H5
Virus: DNA plasmid encoding H5, Indonesian strain
Manufacturer: NIH USA
Type (whole virus/subvirion/subunit/live/recombinant/DNA/vector): DNA vaccine
Adjuvant: None
Delivery system/site: ID by needle/syringe or Biojector
Doses (antigen and adjuvant, number of doses, intervals between administrations): 500;1000 µg. Three injections at days 0, 28 and 56 (at least 21 days in between).

Study population: Adults
Number of subjects involved: 44
Age range: 18-60 years old
Health status: Healthy volunteers
Special inclusion/exclusion criteria: None

Clinical Endpoints Assessed: The primary endpoint is safety and tolerability of the regimen. The secondary immunogenicity endpoint is H5-specific antibody as measured by hemagglutination inhibition (HAI) assay and H5 neutralizing antibody assay at Study Week 12. Other immunogenicity assays at timepoints throughout the study may also be completed as exploratory evaluations.

Safety assessments:
- Local reactogenicity signs and symptoms
- Systemic reactogenicity signs and symptoms
- Laboratory measures of safety
- Adverse and serious adverse experiences

Immunogenicity assessments:

- **Immunooassay type**
  - HI (type of RBC used): horse erythrocytes
  - NT (type of neutralization assay): pseudotyped lentivirus reporter assay
  - SRH: not done
  - ELISpot: to determine frequency of Tcells producing IFNγ in response to pools of overlapping peptides representing H5 antigens
  - ICS: to determine frequency of CD4+ and CD8+ cells that produce IL-2 or IFNγ in response to pools of overlapping peptides representing H5 antigens

Results need info

Safety:
Reactogenicity: The vaccine was well tolerated by all routes of administration (doses included 0.5 mg and 1 mg) with no vaccine related SAEs.

SAEs:

Immunogenicity: Results are not yet available

HI or NT:
GMTs:
GMT Ratios (post:pre):
Per cent responding (4 fold increase):
Per cent responders at specified titer:
HAI was measured pre-vaccination and post-final vaccination for all groups. Results are listed for the post-final vaccination time point. There were no HAI responses ≥ 1:40 in any group. 3 subjects who received 1 mg at 3 time points had titers = 1:20.

AEs:

SRH:
Per cent with titre (in mm²)

Current status of the clinical trial (completed, ongoing, in preparation): Completed

Date envisaged for availability of results, if not yet available: 3Q2009

Planned time schedule for next phase of development: Currently evaluating DNA prime-split product boost